FINAL

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I. INTRODUCTION

This document presents and explains the financial basis for CAISO's operations and services for 2008. 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 CAISO budget.
- The 2008 Budget in summary form.
- Detailed discussions by CAISO division of the specific components of the 2008 Budget.
- An overview of the unbundled GMC (Grid Management Charge) rates for 2008
- An overview of the 2008 Capital/Project Budget.

II. CAISO's Planning Process and Foundational Elements for the Budget: Vision, Mission and Strategic Objectives for 2008

The CAISO's proposed 2008 budget is an integral component of the overall strategic planning process. The current planning process resulted in a 5-year business plan for years 2007-2011. The business plan, annual budget, corporate, departmental and individual goals, and risk management process all provide a roadmap to the achievement of CAISO's Vision and Mission. All CAISO personnel have performance plans that are linked to the corporate plan and goals.

ISO Vision:

A world-class organization built around a globally recognized and inspired team that is dedicated to providing cost-effective and reliable service, well-balanced market mechanisms and high-quality information for the benefit of our customers.

ISO Mission:

~ Operate the grid reliability and efficiently.
~ Provide fair and open transmission access.
~ Facilitate effective markets and promote infrastructure development through the provision of timely and accurate information.

Strategic Objectives

The following strategic objectives were identified in the 5-Year Business Plan. Details on specific initiatives aligned to the objectives are included in the Divisional budget discussions.

Tiers	*Strategic Objectives*
Deliverables	**Achieve Excellence in Grid & Market Operations** **Achieve Robust, Competitive Markets for Energy & Ancillary**
Enablers	**Develop Energy Infrastructure** **Develop People, Skills, and Environment**
Satisfiers	**Enhance Customer Service** **Align with State and Federal Environmental, Renewable, and**

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. The GMC goals set forth in the 5-Year Business Plan call for continued fiscal discipline, specifically maintaining the GMC in the mid 70 cent per MWh range throughout the planning horizon. This requires control of the discretionary items in our Revenue Requirement, specifically the O&M budget, where salaries & benefits of $87.2 million are 61% of the total 2007 O&M budget of $143.8 million. Guidance provided for the development of our 2008 Revenue Requirement included:

- Revenue Requirement is not to exceed $195 million (versus $189.9 million in 2007)
- Company goal of an O&M budget not to exceed $150 million, resulting in a Revenue Requirement of $187 million and a bundled GMC of $0.75/MWh.
- Annual 2007 bundled GMC goal of $0.72 /MWh (stretch) and $0.76 (target), equating to a Revenue Requirement of $183.7 million and $193 million, respectively.

The Revenue Requirement consists of four elements. The 2007 and 2008 goal amounts for these components are shown below:

$ in millions				
Element	**2007**	**2008 STRETCH GOAL**	**2008 COMPANY GOAL**	**Comments**
1. O&M budget	$143.8	$145.7 Maintain current O&M less $1.6 million of savings to be identified, and provide for 2008 merit adjustments of $3.5 million.	$150 Funds merit increases and $2.7 million of incremental O&M.	
2. Cash funded capital / project expenditures	$7.5	$0	$0	We expect 2008 Capital needs will be funded with a new 2008 bond offering.
3. Debt service	$71.6	$67	$67	Debt service on 2000 bonds decreases significantly in 2008, but we budget for interest costs on a new 2008 bond offering.
4. Operating Reserve/other	($33)	($29)	($29.8)	2007 operating reserve amount benefited from favorable one-time credits not likely to be available in 2008.
Total Revenue Requirement	$189.9	$183.7	$187	
Bundled pro-forma GMC	$0.76 ACTUAL	$0.72 “STRETCH”	$0.74 “COMPANY GOAL”	

Budget Process Assumptions

- The Budget will be prepared, reviewed and adjusted during July and early August, submitted to the Board in September, reviewed by Stakeholders during September/October, and approved by the Board in December.

- The Officers will be collectively responsible for achieving the targeted 2008 bundled GMC goal.

- The base budget submitted by each Division should include funding for the highest priority initiatives and core functions contemplated in the 2008 business plan. Further, the 2008 base budget submitted by each Division should not exceed the 2007 budget. To the extent that a Division needs additional funding to achieve the goals set forth in the strategic business plan for 2008, it should propose funding for such initiatives as an incremental ("INC") program that will be separately considered on a cost/benefit basis.

    - A key input into the budget process is each Division's FTE resource assumptions. At a June 1, 2007 meeting, CAISO's Executive Leadership Team discussed the staffing outlook and recognized the need for certain additions to provide support for ongoing MRTU functionality, but also recognized the need to carefully constrain such increases to the most critical needs. These and other staffing requests should be discussed with your Officer and should be proposed as Incremental programs.

- Departments may also propose "DEC" programs for consideration. Such programs would reduce spending provided for in the base budget with some impact on service levels. While this may not be a common occurrence, such DECs may be necessary to accommodate other important INC programs.

- Incremental and decremental programs should include a discussion of the benefits and costs of each program and its potential effects on other programs or departments. Further, we will tie such spending proposals to the Corporate Risk Inventory established by the CAISO's Enterprise Risk Management function. The Finance Department can answer questions you may have on this approach.

- Each Officer may establish additional budgeting guidelines for the managers and directors within their division.

Budget Process Description

This year each ISO department was directed to develop a base O&M budget consistent with the strategic plan for 2008, with funding generally not to exceed the 2007 level[1]. As in past years, additional requirements or enhancements that might warrant

[1] ISO staff prepared and the ISO Officers reviewed this budget during July - August 2007. The budget was prepared in significantly more detail than is presented in this package. The detailed information has been aggregated for discussion purposes in this document.

consideration by the Officer team or the Board could be presented as an "incremental program". Incremental programs might represent new programs, or current programs that might be less than of essential importance. Such incremental programs were to be, by definition, less critically important than the programs included in the base budget. In late July/early August, ISO Management and budget coordinators met to review the proposed budgets and to develop a "management recommended budget" that provides funding for the base budget and the accepted incremental/decremental programs.

The budget was presented to the Board in early September and posted for stakeholder review in mid-September. The budget was discussed with stakeholders on September 18. No changes have been made to the O&M budget since that date. The capital / project budget has been updated, with a proposed project list of $30 million, consistent with the range indicated in September which forecast capital/project spending of $20-$30 million for 2008.

IV. BUDGET THEMES AND OVERALL BUDGET RESULTS

2008 Budget Themes:

- Delivery of, transition to, and successful operation of MRTU.
- Execute initiatives defined in 5-Year Business Plan (2007-2011), including:
  - Enhance Market Monitoring Capabilities consistent with MRTU markets
  - Support necessary infrastructure upgrades, including reliable integration of renewable resources
  - Implement New Advanced Tools to Support Reliable Operations
  - Design and build enhancements to MRTU market structure: Capacity Market, Convergence Bidding, Scarcity Pricing Software, Wholesale Demand Response, Maintain and Enhance Market Initiatives Roadmap
  - Implement Settlement/Market Clearing Improvements including payment acceleration
  - Enhance CAISO Human Resource programs: ISO Academy, Career Management Program, Train Operators for New Market and Advanced Applications
  - Preparation for new headquarters facility (ready for occupancy in 2010).
- Continue focus on cost control. 2008 Bundled GMC Rate is within target established in 2005 (maintain bundled GMC at or below 76 cents);

2008 Budget Results

The 2008 budget provides for a Revenue Requirement of $191.6 million. This compares with $189.9 million in 2007, $180.5 million in 2006, $208.2 million in 2005 and $218.2 million in 2004[2]. The level of the Revenue Requirement has been reduced substantially since 2004 and is central to CAISO's commitment to maintain a GMC of approximately $0.76 per MWh for the next several years consistent with the 5-Year Business Plan.

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 X of this document outlines the determination of GMC

[2] Adjusted to $215.2 million as a result of the 2004 GMC Settlement filed with FERC on July 29, 2004 and approved by FERC on February 2, 2005.

rates. The GMC rate structure will be changed during 2008 related to the MRTU implementation of LMP/IFM/FNM. During 2008 prior to MRTU startup, the existing rate structure will be in effect[3].

This budget package provides an overview and detail of CAISO's cost of service. CAISO's cost of service (or "Revenue Requirement") for 2008 consists of:

- Operating & Maintenance (O&M) budget
- Debt service costs (on existing and new planned 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 the focus of this report. The O&M budget consists of the costs necessary for the ongoing operation of CAISO. 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 "Professional & Consulting Fees")

Debt service costs are the principal and interest payments related to repayment of CAISO's year 2000, 2004 and 2007 bond issuances. A planned 2008 bond offering will provide funding for 2008/2009 capital expenditures including Market Design Enhancements and other routine capital expenditures. There will be no impact on the 2008 Revenue Requirement of this bond offering.

The Revenue Requirement will also contain $8.5 million in direct funding for capital and other projects, up $1 million from 2007. This amount will be used to fund projects prior to the availability of funds from a bond issuance contemplated for second quarter 2008, and to fund project costs that can not be funded with bond proceeds (non-capitalizable amounts).

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 CAISO receives for certain costs apart from the Grid Management Charge. These include reimbursement to CAISO for the WECC security coordinators, the COI Path Operator Fee, and cost recovery for the Large Generator Interconnection Program (LGIP).

The Operating & Capital Reserves credit is a reduction or offset to CAISO's Revenue Requirement for 2008. In any year that CAISO'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 2008, CAISO forecasts a revenue credit of $21.2 million compared with $25.2 million in 2007 and $30.3 million in 2006. The Operating & Capital Reserves Account is calculated separately for each GMC category. As 2007 revenues are below budget for certain GMC rate categories, the Operating & Capital Reserves credit will vary by rate category.

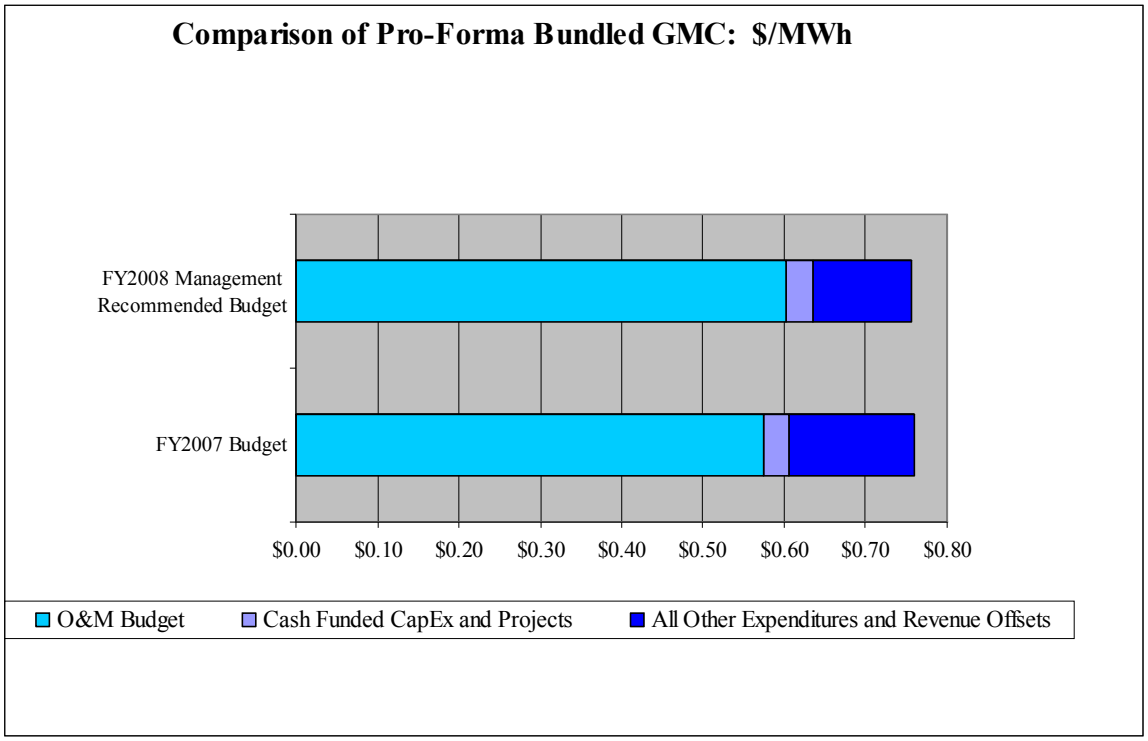
[3] CAISO will file with FERC to extend the 2004-2007 GMC rate settlement into 2008 prior to the transition to MRTU.

2008 will see the start-up of MRTU locational marginal pricing, full network model and the integrated forward market, and these changes will necessitate changes in the GMC rate structure, also presented for approval at the December 2007 Board of Governors meeting. As in 2007, the costs of CAISO staff dedicated full-time to MRTU and subsequent market design efforts and other capital projects[4] have been removed from the O&M budget, and will be capitalized, or charged to the capital projects and funded with bond proceeds. Other ISO staff engaged to a lesser extent on capital projects are budgeted in their respective or home cost centers in the O&M budget, but will be capitalized at year-end 2008.

2008 Budget Overview

The Exhibits in this section provide a high level overview of CAISO Revenue Requirement and GMC rates.

Exhibit: Charts- Pro Forma Bundled GMC and Revenue Requirement
2008 vs. 2007



[4] For 2008: 3 staff from the Program Office (cost center 2731) and all three staff in the MRTU Program (cost center 2741) are engaged on capital projects and accordingly costs are excluded from the O&M budget. For 2007 costs for three staff from the Program Office (cost center 2731) and all six staff in the MRTU Program (cost center 2741) were excluded from the O&M budget.

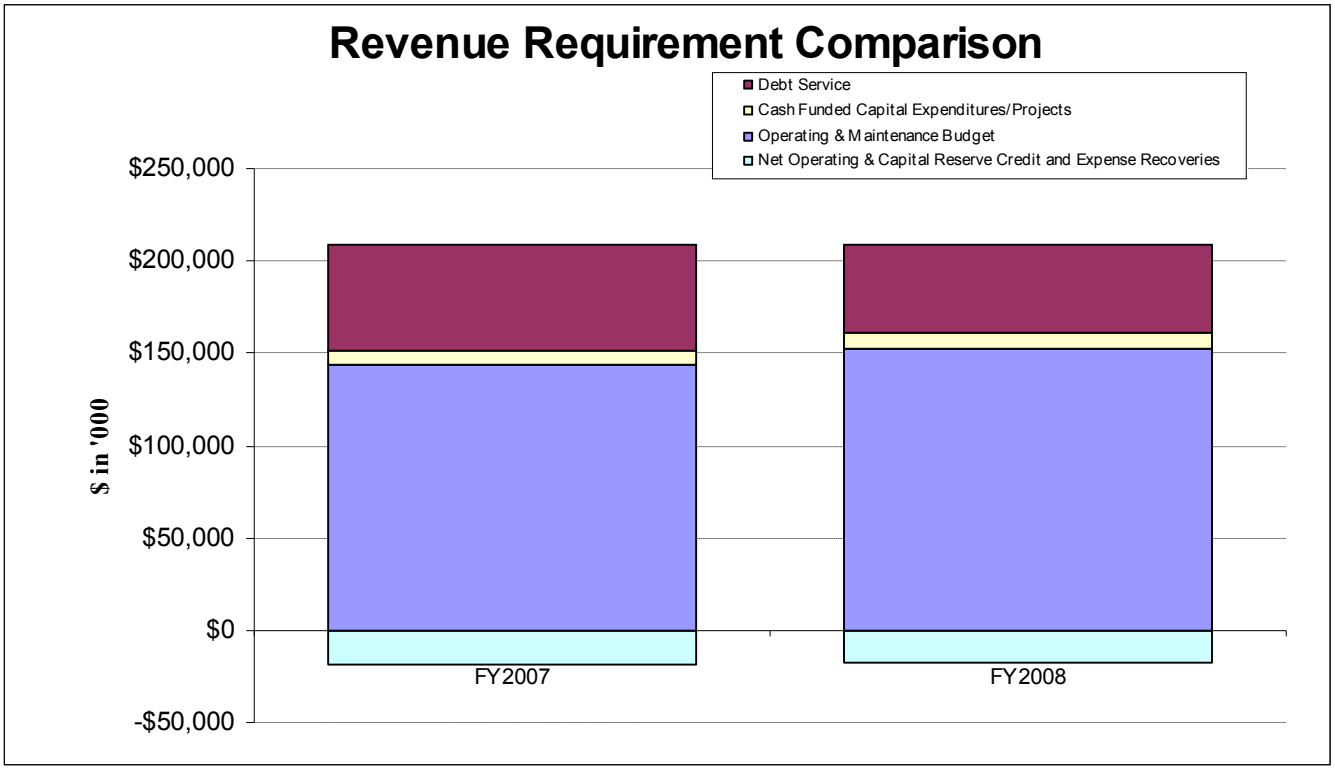

Revenue Requirement Comparison
Debt Service
Cash Funded Capital Expenditures/Projects
Operating & Maintenance Budget
Net Operating & Capital Reserve Credit and Expense Recoveries
$250,000
$200,000
$150,000
$100,000
$50,000
$0
-$50,000
$ in '000
FY2007
FY2008

Exhibit: Revenue Requirement 2007 vs. 2008

		FY2007 Budget	FY2008 Proposed Budget	Change	% Change
Revenue Requirement					
Core Operating & Maintenance Budget		$143,055	$151,954	$ 8,899	6.6%
Add: LGIP Program		$750	$701		
Total Gross O&M		$143,805	$152,655	$ 8,850	6.6%
Financing Budget:					
Subtotal, Financing Collection		71,485	59,520	$ (11,965)	-14.6%
Capital / Project Funding		7,500	8,500		
Subtotal, Revenue Requirement Prior to Credits		222,791	220,675	$ (2,115)	-1.0%
Less: Expense Recovery Budget:					
Subtotal, Expense Recovery Budget		(7,653)	(7,814)	$ (162)	3.1%
Subtotal, Revenue Requirement before Revenue Credit		$215,138	$212,861	$ (2,277)	-1.1%
Revenue Credit From Operating & Capital Reserve	Note 1	(25,248)	(21,226)	$ 4,022	-13.3%
Total Revenue Requirement		$189,890	$191,635	$ 1,745	1.0%

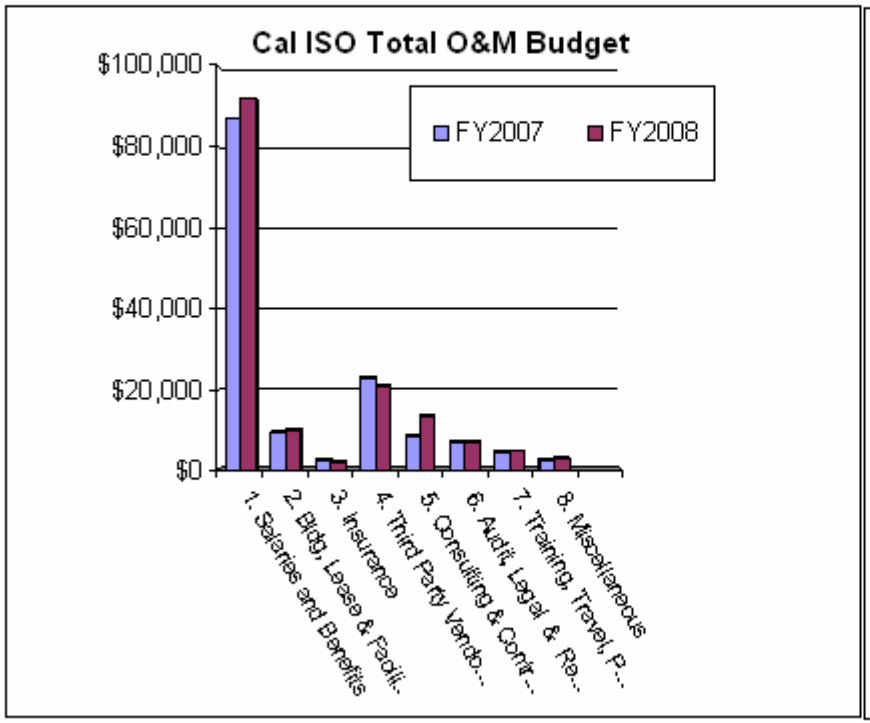
V. BUDGET DETAIL AND ANALYSIS

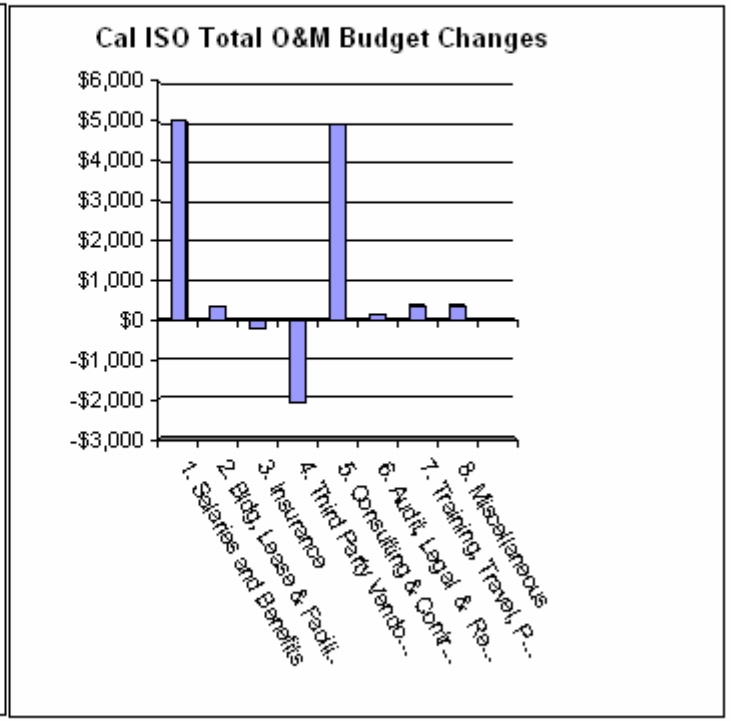
The Exhibits in this section provide additional detail regarding the 2008 Budget, including:

- Charts of budgeted expenses by type for 2007 and 2008
- Detailed table of 2007 / 2008 budgets by Department
- Reconciliation of 2007 vs. 2008 budget

Exhibit: Chart-Expenses By Category

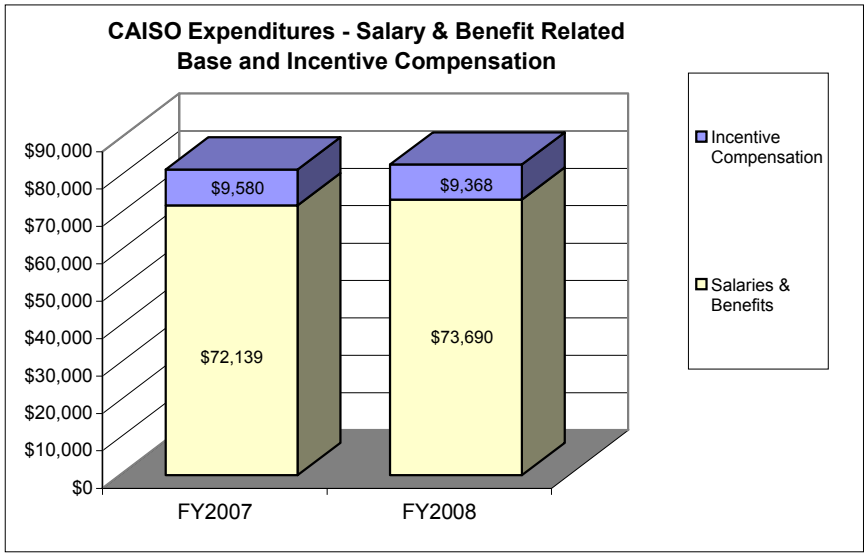
FY2008 Budget Overview
$ in 000's

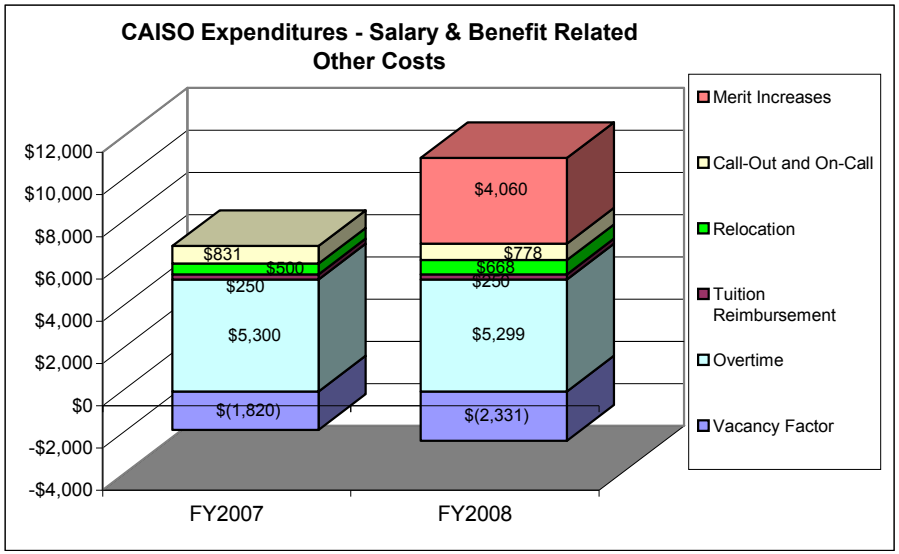




- Detailed explanatory charts follow.

Exhibit: Chart-Expenses By Category





Incentive compensation: program terms unchanged from 2007.

Salaries & Benefits includes payroll burden (benefits, employer payroll taxes)

Increase due to 8 additional funded staff positions in 2008 budget versus 2007. Three are related to capitalizing 6 positions in 2008 vs. 9 in 2007, while five are new positions added subsequent to the 2007 budget.

Merit increase represents staff salary cost adjustments from 2007 to 2008.
4% base increase, plus $400,000 promotion/equity adjustments.

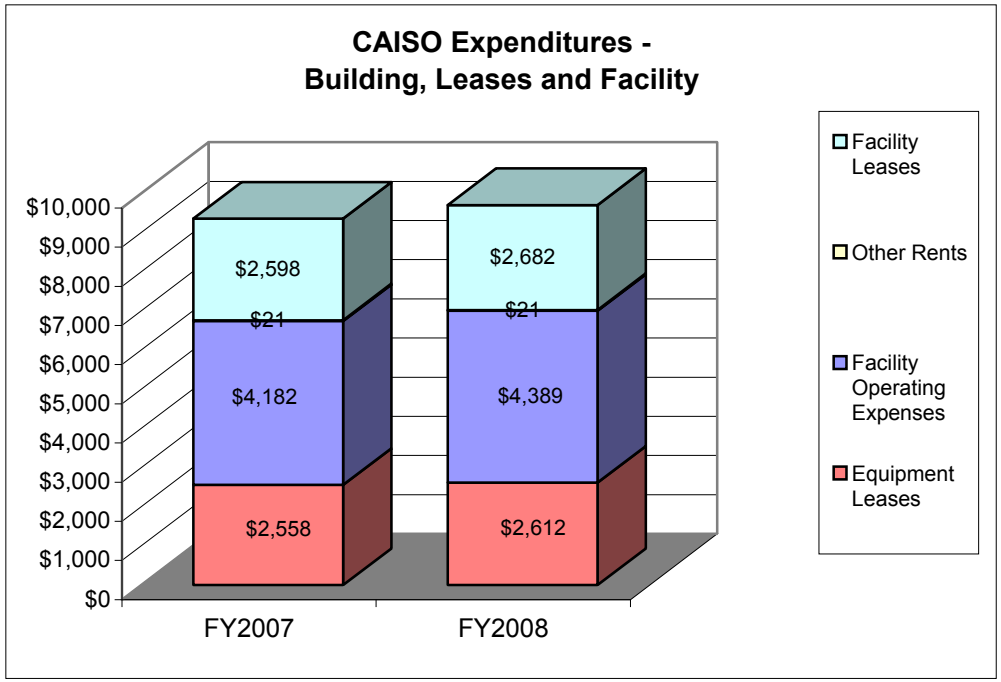
On-call: budgeted with expense code 113 previously, now tracked separately.

Overtime pay includes overtime for non-exempt workers and shift-workers.

Relocation increases reflect the rising cost of recruiting talent, particularly with respect to sign-on bonuses.

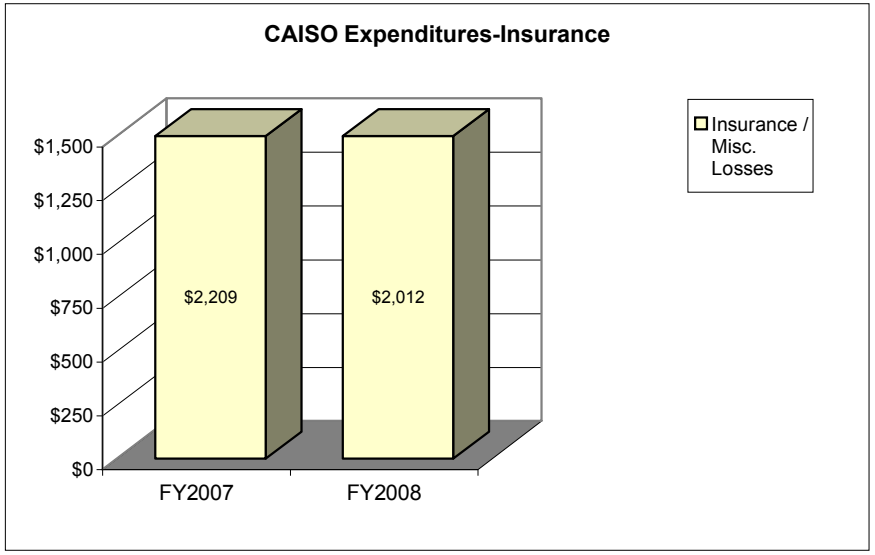
Vacancy Factor: increase in assumed vacancy factor from 2% in 2007 to 2.5% in 2008.

Exhibit: Chart-Expenses By Category

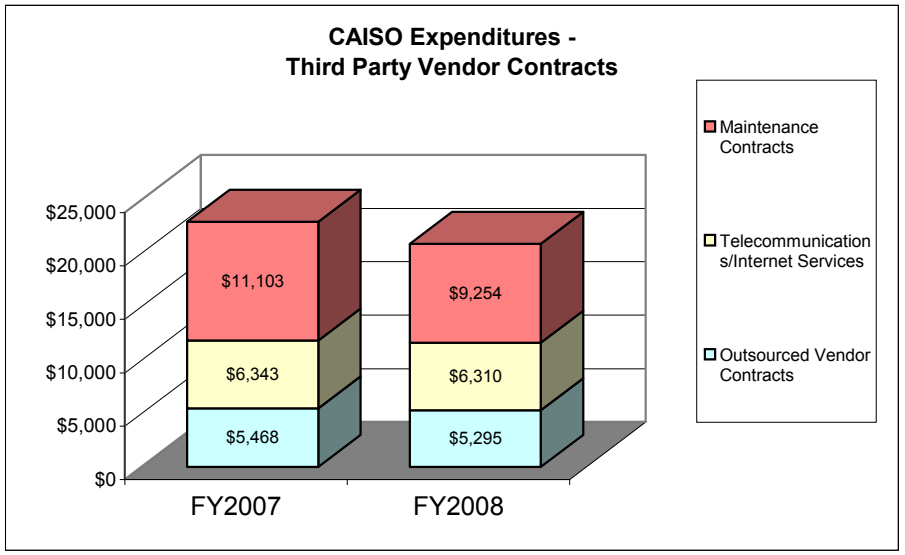


Facility Leases: Annual rent increases of 3%
Facility Operating Expenses:10% increase in cost of utilities and security costs.

Exhibit: Chart-Expenses By Category

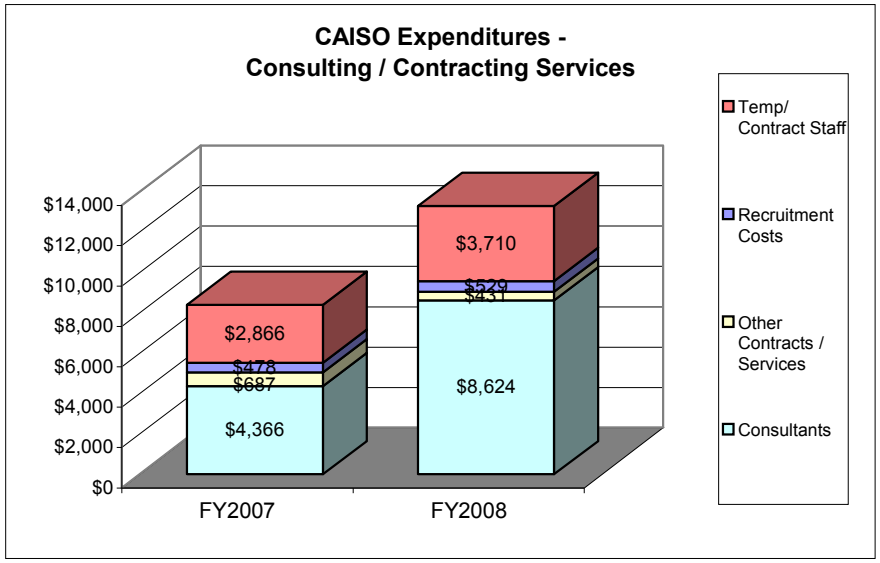


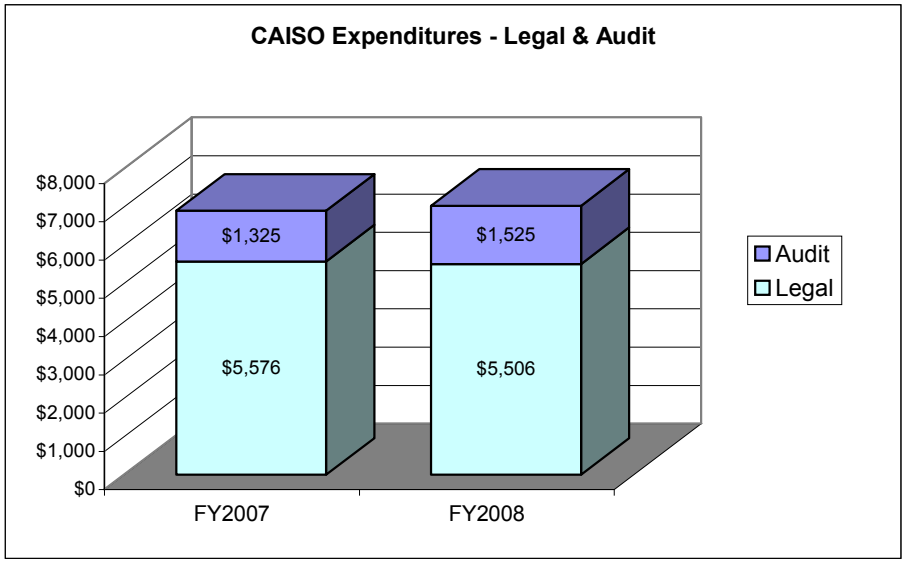
Reduction in E&O and D&O costs upon renewal in 2007.



Maintenance contract reduction related to IT effort to maintain flat budget.
Reduced cost of software maintenance contracts by $2 million.
Reductions in hardware maintenance costs, including Sun Server ($275K), Capital projects related hardware maintenance ($330K), MRTU related maintenance ($200K), AT&T PBX, LAN and other maintenance ($159K), Alpha Server ($100K) and Misc. telecom maintenance ($70).
Outsourced contracts: decrease in Computing Services of $200K.

Exhibit: Chart-Expenses By Category

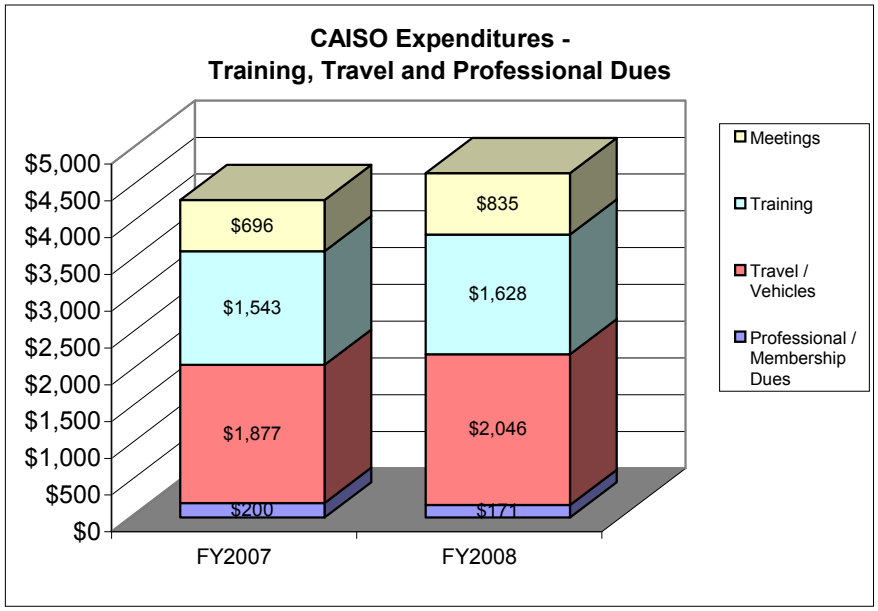


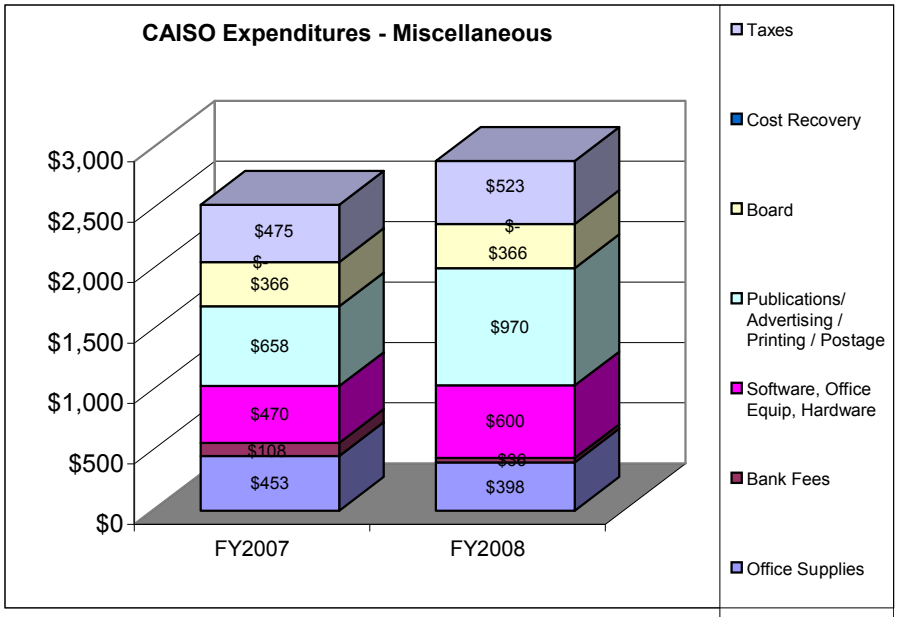


Temp/ contract staff increased in IT and Operations related to support for MRTU and 2008 capital projects.
Consulting increase due to: $2.0 million increase for IT's related projects, contract support for CRR workload in Market Operations ($700K), study of current green house gas initiatives impact on ISO market performance ($200K), and $2.25 million reallocated salary dollars due to headcount constraint.
Other Contracts & Services decreases due to transfer of credit related software subscriptions of $100K to "Publications/Subscriptions" in 2008.

Audit: increased audit costs related to SAS70 assurance on new market systems.
Legal: reduction due to continuing initiative to transition ongoing base level work to in-house attorneys at cost savings to external counsel.

Exhibit: Chart-Expenses By Category





Meetings: Increase in funding for stakeholder meetings by $144K for 2008.
Training: The ISO has made a commitment to increase ISO Academy funding by $60K in addition to a $75K commitment to Summer Workshop.
Travel/Vehicles: Due to more stringent NERC standards, additional training requirement need to be meet for 2008 in Real Time Operations.

Taxes: 10% increase in RE taxes.
Publications/Advertising: Subscription to credit rating and and unsecured credit limit calculating software: $100K previously budgeted in "Other Contracts & Services"
Hardware: For the purchase of miscellaneous, non-capital hardware for system, $100K.
Bank Fees: reduction due to higher negotiated earnings allowance on bank deposits.

Exhibit: Detailed Table of the Proposed 2008 O&M Budget

Cost Center	Area	FY2007 O&M Budget	FY2007 Budgeted Headcount (as adjusted)	FY2008 Base Budget	FY2008 Base Budget Headcount	FY2008 INC Programs	FY2008 INC Program FTEs	FY2008 DEC Programs	FY2008 DEC Program FTEs	FY2008 Budget (with Approved INCS)	FY2008 Budget FTEs
2100	**Chief Executive Officer / Market Monitoring**	**$ 9,532,674**	**33.0**	**$ 9,884,742**	**33.0**	**$ 632,750**	**-**	**$ -**	**-**	**$ 10,517,492**	**33.0**
2111	CEO - General	1,893,728	3.0	2,023,077	3.0	-	-	-	-	2,023,077	3.0
2121	Market Monitoring	2,102,410	13.0	2,148,027	13.0	300,000	-	-	-	2,448,027	13.0
2122	Market Surveillance Committee	335,500	-	335,500	-	20,000	-	-	-	355,500	-
2341	Human Resources	5,201,036	17.0	5,378,138	17.0	312,750	-	-	-	5,690,888	17.0
2200	**VP Planning & Infrastructure Development**	**$ 9,763,904**	**56.5**	**$ 10,010,810**	**54.5**	**$ -**	**-**	**$ -**	**-**	**$ 10,010,810**	**54.5**
2211	VP Planning & Infrastructure - General	468,646	1.5	590,135	1.5	-	-	-	-	590,135	1.5
2221	Region Transmission - North	2,622,901	17.0	2,624,466	15.0	-	-	-	-	2,624,466	15.0
2231	Region Transmission - South	2,781,923	16.0	3,051,447	17.0	-	-	-	-	3,051,447	17.0
2241	Grid/Transmission Assets	1,909,735	10.0	1,722,236	9.0	-	-	-	-	1,722,236	9.0
2242	*Generator Interconnections*	*685,969*	*5.0*	*659,396*	*5.0*	-	-	-	-	*659,396*	*5.0*
2251	Network Applications	1,294,730	7.0	1,363,130	7.0	-	-	-	-	1,363,130	7.0
2300	**Chief Financial Officer & VP Corp. Services**	**$ 18,260,111**	**47.5**	**$ 18,686,557**	**47.5**	**$ 774,600**	**2.0**	**$ -**	**-**	**$ 19,461,157**	**49.5**
2311	CFO- General	625,810	1.5	652,853	1.5	75,000	-	-	-	727,853	1.5
2321	Accounting	2,455,339	7.5	2,554,929	7.5	250,000	-	-	-	2,804,929	7.5
2331	Financial Planning & Treasury	3,492,398	5.5	3,274,412	5.5	214,600	2.0	-	-	3,489,012	7.5
2351	Facilities	7,197,694	8.0	7,534,354	8.0	-	-	-	-	7,534,354	8.0
2361	Procurement & Vendor Management	1,234,674	8.0	1,274,350	8.0	235,000	-	-	-	1,509,350	8.0
2370	Enterprise Risk Management	$ 3,254,196	17.0	$ 3,395,659	17.0	$ -	-	$ -	-	$ 3,395,659	17.0
2371	Enterprise Risk Management - General	487,020	3.0	509,102	3.0	-	-	-	-	509,102	3.0
2372	Internal Audit	673,353	3.0	691,817	4.0	-	-	-	-	691,817	4.0
2373a	Information Security (staff --> internal audit in 2007)		1.0								
2374	Physical Security	2,093,823	10.0	2,194,740	10.0	-	-	-	-	2,194,740	10.0
2400	**Chief Information Officer**	**$ 45,211,164**	**103.0**	**$ 45,024,751**	**97.5**	**$ 876,763**	**6.0**	**$ -**	**-**	**$ 45,901,514**	**103.5**
2460	CIO Direct Report Cost Centers	$ 22,237,737	46.0	$ 19,998,755	39.5	$ 150,105	1.0	$ -	-	$ 20,148,860	40.5
2411	CIO & VP Information Services - General	1,295,546	4.0	1,150,450	3.5	-	-	-	-	1,150,450	3.5
2412	Asset Management	13,339,850	-	11,686,000	-	-	-	-	-	11,686,000	-
2462	EMS Information Technology	2,458,996	15.0	2,399,565	14.0	-	-	-	-	2,399,565	14.0
2463	Operations Information Technology	2,185,305	12.0	2,073,773	10.0	150,105	1.0	-	-	2,223,878	11.0
2464	Corporate Systems	2,958,040	15.0	2,688,967	12.0	-	-	-	-	2,688,967	12.0
2420	IT Projects	$ 3,997,446	21.0	$ 6,075,639	21.0	$ 465,927	3.0	$ -	-	$ 6,541,566	24.0
2421	IT Projects	694,466	4.0	741,695	4.0	-	-	-	-	741,695	4.0
2431	IT Planning, Architecture & Standards	2,558,702	13.0	4,533,682	14.0	153,725	1.0	-	-	4,687,407	15.0
2441	Software Quality Assurance	744,278	4.0	800,262	3.0	312,202	2.0	-	-	1,112,464	5.0
2450	IT Support & Operations	$ 18,975,981	36.0	$ 18,950,357	37.0	$ 260,731	2.0	$ -	-	$ 19,211,088	39.0
2451	IT Support & Operations - General	12,331,912	3.0	12,011,242	3.0	-	-	-	-	12,011,242	3.0
2373	Information Security	1,352,007	7.0	1,474,579	7.0	-	-	-	-	1,474,579	7.0
2452	System Administration/DBAs	2,572,973	12.0	2,662,935	13.0	-	-	-	-	2,662,935	13.0
2453	Data Center & Operations	1,351,080	7.0	1,374,741	7.0	-	-	-	-	1,374,741	7.0
2454	Architecture & Systems Engineering	1,368,009	7.0	1,426,860	7.0	260,731	2.0	-	-	1,687,591	9.0

Cost Center	Area	FY2007 O&M Budget	FY2007 Budgeted Headcount (as adjusted)	FY2008 Base Budget	FY2008 Base Budget Headcount	FY2008 INC Programs	FY2008 INC Program FTEs	FY2008 DEC Programs	FY2008 DEC Program FTEs	FY2008 Budget (with Approved INCS)	FY2008 Budget FTEs
2500	**VP of Operations**	**$ 39,572,201**	**207.5**	**$ 41,143,114**	**203.5**	**$ 1,877,117**	**7.0**	**$ -**	**-**	**$ 43,020,231**	**210.5**
2511	VP of Operations - General	666,680	1.5	1,263,610	1.5	-	-	-	-	1,263,610	1.5
2520	Grid Operations	$ 19,528,440	95.0	$ 20,193,643	96.0	$ 529,780	5.0	$ -	-	$ 20,723,423	101.0
2521	Grid Operations - General	411,222	3.0	466,294	3.0	-	-	-	-	466,294	3.0
2522	Real Time Operations	14,876,763	71.0	15,413,963	72.0	100,000	-	-	-	15,513,963	72.0
2523	Scheduling	1,667,339	8.0	1,843,597	9.0	-	-	-	-	1,843,597	9.0
2524	Outage Management	2,037,604	10.0	1,900,585	9.0	429,780	5.0	-	-	2,330,365	14.0
2531	Grid Operations Development (formerly Alhambra Operation	535,512	3.0	569,204	3.0	-	-	-	-	569,204	3.0
2540	Market Services	$ 9,291,536	55.0	$ 9,668,624	54.0	$ 1,347,337	2.0	$ -	-	$ 11,015,961	56.0
2541	Market Services-General	646,052	3.0	919,009	3.0	-	-	-	-	919,009	3.0
2542	Market Operations	3,024,492	16.0	3,045,260	15.0	820,000	-	-	-	3,865,260	15.0
2543	Settlements & Billing	2,435,149	15.0	2,583,217	17.0	160,000	-	-	-	2,743,217	17.0
2544	Settlement Projects	1,388,857	10.0	1,191,392	7.0	-	-	-	-	1,191,392	7.0
2545	Market Information	1,796,986	11.0	1,929,746	12.0	367,337	2.0	-	-	2,297,083	14.0
2550	Operations Support	$ 8,112,980	47.0	$ 8,020,890	44.0	$ -	-	$ -	-	$ 8,020,890	44.0
2551	Operations Support - General	339,583	2.0	388,471	2.0	-	-	-	-	388,471	2.0
2552	Operations Data & Compliance	2,412,163	14.0	2,461,055	13.0	-	-	-	-	2,461,055	13.0
2553	Operations Procedures & Training	1,943,626	10.0	1,943,566	10.0	-	-	-	-	1,943,566	10.0
2554	Model & Contract Implementation	1,640,786	9.0	1,536,249	9.0	-	-	-	-	1,536,249	9.0
2555	Operations Analysis	1,776,822	12.0	1,691,549	10.0	-	-	-	-	1,691,549	10.0
2561	*Reliability Coordination*	*1,972,565*	*9.0*	*1,996,347*	*8.0*	-	-	-	-	*1,996,347*	*8.0*
2600	**General Counsel & VP Legal Affairs**	**$ 10,466,279**	**21.5**	**$ 10,757,511**	**22.0**	**$ -**	**-**	**$ -**	**-**	**$ 10,757,511**	**22.0**
2611	Corporate Counsel - General	6,338,276	1.5	6,305,885	2.0	-	-	-	-	6,305,885	2.0
2621	Asst. General Counsel - Corporate	643,150	3.0	698,933	3.0	-	-	-	-	698,933	3.0
2631	Asst. General Counsel - Regulatory	1,750,907	11.0	1,887,097	11.0	-	-	-	-	1,887,097	11.0
2641	Asst. General Counsel - Tariff	1,086,746	5.0	1,203,764	5.0	-	-	-	-	1,203,764	5.0
2651	Asst. Corporate Secretary	647,200	1.0	661,832	1.0	-	-	-	-	661,832	1.0
2700	**VP Market Development & Program Man.**	**$ 5,492,404**	**24.5**	**$ 7,600,067**	**32.5**	**$ 802,338**	**1.0**	**$ (1,057,910)**	**(6.0)**	**$ 7,344,495**	**27.5**
2711	VP Market Development & Program Man. - General	626,621	1.5	1,502,107	2.5	307,838	1.0	-	-	1,809,945	3.5
2720	Market & Product Development	$ 4,733,868	22.0	$ 4,722,518	22.0	$ 240,500	-	$ -	-	$ 4,963,018	22.0
2721	Market & Product Development - General	1,582,806	6.0	1,409,276	5.0	100,000	-	-	-	1,509,276	5.0
2722	Tariff & Regulatory Policy Development	1,800,278	9.0	1,870,312	9.0	-	-	-	-	1,870,312	9.0
2723	Infrastructure Policy/Reg. Contract Negotiation	1,350,784	7.0	1,442,930	8.0	140,500	-	-	-	1,583,430	8.0
2731	Program Management Office	295,455	1.0	863,606	5.0	254,000	-	(573,362)	(3.0)	544,244	2.0
2741	MRTU Program	(163,540)	-	511,836	3.0	-	-	(484,548)	(3.0)	27,288	-
2800	**VP External Affairs**	**$ 7,326,774**	**38.5**	**$ 7,679,184**	**38.5**	**$ 168,781**	**-**	**$ -**	**-**	**$ 7,847,965**	**38.5**
2811	VP External Affairs - General	547,452	1.5	632,518	1.5	-	-	-	-	632,518	1.5
2820	Communications & Public Relations	$ 1,772,355	8.0	$ 1,851,918	8.0	$ 25,000	-	$ -	-	$ 1,876,918	8.0
2821	Communications & Public Relations - General	839,247	3.0	1,040,078	4.0	-	-	-	-	1,040,078	4.0
2822	Information Products & Services	933,108	5.0	811,840	4.0	25,000	-	-	-	836,840	4.0
2831	State & Federal Affairs	1,301,254	6.0	1,358,513	6.0	-	-	-	-	1,358,513	6.0
2841	Customer Services & Industry Affairs	3,705,713	23.0	3,836,235	23.0	143,781	-	-	-	3,980,016	23.0
2000	**Other Compensation Adjustments**	**$ (1,820,055)**	**-**	**$ (2,205,963)**	**-**	**$ -**	**-**	**$ -**	**-**	**$ (2,205,963)**	**-**
11	Other	(1,820,055)	-	(2,205,963)	-	-	-	-	-	(2,205,963)	-
	Subtotal	143,805,456	532.0	148,580,773	529.0	5,132,349	16.0	(1,057,910)	(6.0)	152,655,212	539
	Subtotal Excluding LGIP	*143,119,487*	*527.0*							*151,995,817*	*534*
	Subtotal Excluding LGIP and WECC		*518.0*								***526***
	Total Gross O&M Budget	$ 143,805,456		$ 148,580,773		$ 5,132,349		$ (1,057,910)		$ 152,655,212	
	Debt Service	57,188,364		47,616,051						47,616,051	
	Operating Reserve (25% debt Service)	14,297,091		11,904,013						11,904,013	
	Cash Funded CapEx	7,500,000		8,500,000						8,500,000	
	Expense Recovery	(7,652,684)		(7,814,430)						(7,814,430)	
	Subtotal	$ 215,138,227		$ 208,786,406		$ 5,132,349		$ (1,057,910)		$ 212,860,845	
	Financial & Capital Operating Reserve Credit	$ (25,248,374)		$ (21,225,890)						(21,225,890)	
	Revenue Requirement after Revenue Credit	$ 189,889,853								191,634,955	
	/ Transmission Volume	250,000,000								253,700,000	
	=Bundled GMC Rate	**$ 0.760**								**$ 0.755**	

Reconciliation with Prior Year Budget

The proposed 2008 O&M budget provides funding for CAISO's existing services and other requirements identified in the Corporate Business Plan for 2008. The O&M budget of $152.7 million compares to the 2007 O&M budget of $143.1 million, which is an increase of about $8.9 million, or 6.6%. A reconciliation of the 2007 vs. 2008 budget follows:

2007 Operations & Maintenance Budget		**$ 143,805**
Increases in the Budget		12,080
Salary and Benefits:		
Routine merit increases at 4%	3,500	
Promotion / equity adjustments	400	
Increased staffing in O&M Budget (8 positions with 5 net new positions) and other 2007/2008 staff cost changes.	1,450	
Other: Relocation	200	
Buildings, Leases and Facility: Annual lease cost increase, additional security	345	
Consulting: Project support in IT, Operations support for CRR, IRM/RTM, recruitment costs	4,300	
Temp/Contractor: MRTU support in Operations, IT. Also, capital project initiation.	800	
Legal and Audit: Increase in audit costs related to SAS70 and financial audit	200	
Training, Travel and Professional Dues: Funding for stakeholder meetings, ISO academy and summer workshop funding	400	
Miscellaneous: Increase in publications, misc. hardware/software and tax costs	485	
Decreases in the Budget		(3,230)
Salary and Benefits: Increase in vacancy factor from 2% to 2.5%	(600)	
Insurance: Reduction in E&O, D&O costs upon renewal	(196)	
Third Party Vendor Contracts: Reduction in software/hardware maintenance costs and outsourced contracts	(2,055)	
Consulting / Other Contracts & Services: Reallocation of credit monitoring fees, terminated use of off-site tape storage (Flo/Alh) facility, and other reduced consulting fees	(310)	
Legal and Audit: Reduction in outside legal costs related to in-housing entry level legal work	(69)	
Net Increase		*8,850*
2008 Proposed O&M Budget		**$ 152,655**

VI. CAISO STAFFING OVERVIEW

The following Exhibits summarize CAISO staffing composition and changes. The staffing overviews that follow provide information about CAISO full-time employees, and do not provide the full view of all resources used by CAISO to fulfill its responsibilities, including consultants and contractors.

The proposed compensation budget includes funding for 2008 salary adjustment for merit, and equity/market adjustments. These costs have been budgeted in each Division. CAISO 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.

2008 Benefits Burden (final calculation pending)			
Health and Welfare Benefits Plans	2008 Premium Estimates	Comments	
Medical / Dental / Vision		Employer portion	
Insurance (Life/Accidental Death, LT Dis.)		Employer paid	
Unemployment (CAUI)		3.7% on first $7k (4.25% used)	
Workers Compensation		Group captive insurer	
Other Misc. Programs			
TOTAL			
	Health and Welfare Benefits - Burden Percentage		11%
Retirement Benefits Plans	2008 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		23%
Other Benefit Obligations	2008 Service Estimates	Comments	
Retirement / Administration Related Costs			
Other Misc. Benefits			
TOTAL			
	Other Benefit Obligations - Burden Percentage		1%
2008 Estimated Premiums/Liabilities			
2007 Salaries			
2008 Salary Increase - PRELIMINARY	4.00%	2008 Preliminary Salaries	
2007 Current Headcount		2008 Forecast Headcount	
	2008 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 performance[5]. Other benefits include a tuition reimbursement program for qualifying educational expenses, and a spot bonus program to recognize exceptional individual performance.

[5] The budget assumes funding for a 100% payout ratio, for employee classifications as noted: at up to 12% of base pay for individual contributors, up to 20% for managers/directors, and up to 60% for Officers and up to 100% for CEO.

Budgeted compensation costs incorporate an anticipated position vacancy rate of approximately 2.5%, an increase from the 2% vacancy factor used during 2007. The savings for this assumed vacancy factor are budgeted centrally. Actual staffing in 2008 will not exceed 526, exclusive of MRTU and externally funded staff (WECC and LGIP), but funding for positions is based on this level less the 2.5% vacancy factor.

Exhibit: Table-Staffing in the Proposed FY2008 Budget

CAISO Division	FY2007 Budget	FY2008 Budget
Chief Executive Officer / Market Monitoring /HR *	33.0	33.0
VP Planning & Infrastructure Development (incl. LGIP for 2007)	56.5	54.5
Chief Financial Officer & VP Corp. Services	47.5	49.5
Chief Information Officer	103.0	103.5
VP of Operations (incl. WECC Sec. Coord.)	207.5	210.5
General Counsel & VP Legal Affairs	21.5	22.0
VP Market Development & Program Man.	33.5	33.5
VP External Affairs	38.5	38.5
Subtotal	541.0	545.0
Less: *LGIP Program*	(5.0)	(5.0)
WECC Security Coordinators	(9.0)	(8.0)
MRTU / PMO Staff Capitalized	(9.0)	(6.0)
Total	**518.0**	**526.0**

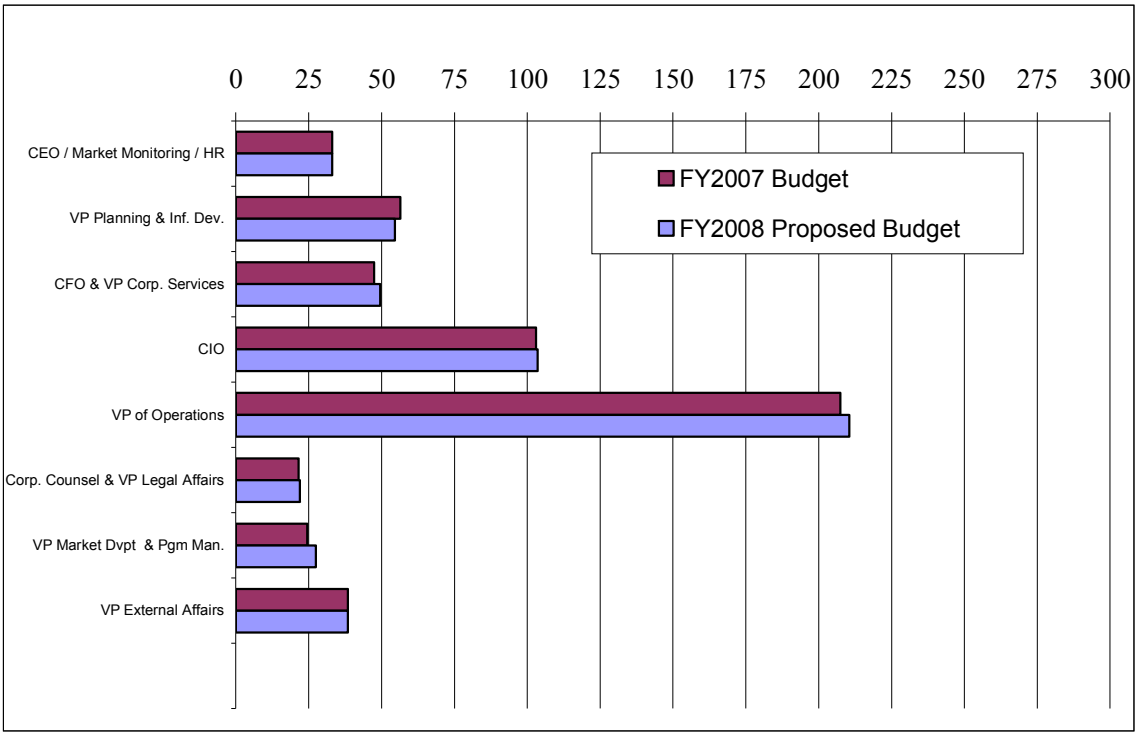


Exhibit: Table-Detailed Staffing

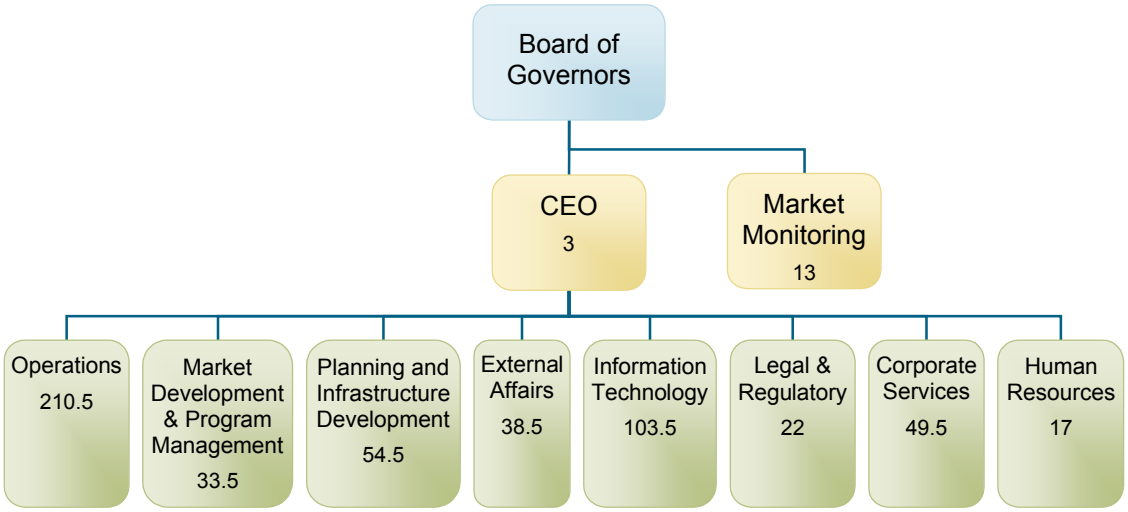
Cost Center	Area	2007 Adjusted Budget	FY2008 Headcount Base Budget	2008 Incremental Program FTEs in Management Recommended Budget	2008 Decremental Program FTEs in Management Recommended Budget	2008 Total Proposed FTE Headcount	Description / Change
2100	Chief Executive Officer and Other	33.0	33.0	-	-	33.0	
2111	CEO-General	3.0	3.0	-	-	3.0	
2120	Market Monitoring		13.0				
2121	Market Monitoring-General	13.0	13.0	-	-	13.0	
2122	Market Surveillance Committee		-	-	-	-	
2341	Human Resources	17.0	17.0	-	-	17.0	
2200	VP of Planning	56.5	54.5	-	-	54.5	
2211	VP of Planning-General	1.5	1.5	-	-	1.5	
2221	Region Transmission - North	17.0	15.0	-	-	15.0	
2231	Region Transmission - South	16.0	17.0	-	-	17.0	
2241	Grid/Transmission Assets	10.0	9.0	-	-	9.0	
2242	Generator Interconnections	5.0	5.0	-	-	5.0	LGIP Staff are funded outside the GMC, and will be hired as work requires.
2251	Network Applications	7.0	7.0	-	-	7.0	
2300	CFO and VP of Corporate Services	47.5	47.5	2.0	-	49.5	
2311	CFO-General	1.5	1.5	-	-	1.5	
2321	Accounting	7.5	7.5	-	-	7.5	
2331	Financial Planning and Treasury	5.5	5.5	2.0	-	7.5	New for 2008
2351	Facilities	8.0	8.0	-	-	8.0	
2361	Procurement and Vendor Management	8.0	8.0	-	-	8.0	
2370	Enterprise Risk Management	17.0	17.0	-	-	17.0	
2371	Enterprise Risk Management-General	3.0	3.0	-	-	3.0	
2373a	Information Security (with Internal Audit)	1.0	-	-	-	-	
2372	Internal Audit	3.0	4.0	-	-	4.0	
2374	Physical Security	10.0	10.0	-	-	10.0	
2400	**Chief Information Officer**	103.0	97.5	6.0	-	103.5	
2460	CIO Direct Report Cost Centers	46.0	39.5	1.0	-	40.5	
2411	CIO & VP Information Services - General	4.0	3.5	-	-	3.5	
2412	Asset Management		-	-	-	-	
2462	EMS Information Technology	15.0	14.0	-	-	14.0	
2463	Operations Information Technology	12.0	10.0	1.0	-	11.0	Position authorized during 2007
2464	Corporate Systems	15.0	12.0	-	-	12.0	
2420	IT Projects	21.0	21.0	3.0	-	24.0	
2421	IT Projects	4.0	4.0	-	-	4.0	
2431	IT Planning, Architecture & Standards	13.0	14.0	1.0	-	15.0	Position authorized during 2007
2441	Software Quality Assurance	4.0	3.0	2.0	-	5.0	Positions authorized during 2007
2450	IS Support & Operations	36.0	37.0	2.0	-	39.0	
2451	IS Support & Operations - General	3.0	3.0	-	-	3.0	
2373	Information Security	7.0	7.0	-	-	7.0	
2452	System Administration/DBAs	12.0	13.0	-	-	13.0	
2453	Data Center & Operations	7.0	7.0	-	-	7.0	
2454	Architecture & Systems Engineering	7.0	7.0	2.0	-	9.0	

Cost Center	Area	2007 Adjusted Budget	FY2008 Headcount Base Budget	2008 Incremental Program FTEs in Management Recommended Budget	2008 Decremental Program FTEs in Management Recommended Budget	2008 Total Proposed FTE Headcount	Description / Change
2500	VP of Operations	207.5	203.5	7.0	-	210.5	
2511	VP of Operations-General	1.5	1.5	-	-	1.5	
2520	Grid Operations	95.0	96.0	5.0	-	101.0	
2521	Grid Operations-General	3.0	3.0	-	-	3.0	
2522	Real Time Operations	71.0	72.0	-	-	72.0	
2523	Scheduling	8.0	9.0	-	-	9.0	
2524	Outage Management	10.0	9.0	5.0	-	14.0	
2531	Alhambra Operations	3.0	3.0	-	-	3.0	
2540	Market Services	55.0	54.0	2.0	-	56.0	
2541	Market Services-General	3.0	3.0	-	-	3.0	
2542	Market Operations	16.0	15.0	-	-	15.0	
2543	Billing and Settlements	15.0	17.0	-	-	17.0	
2544	Settlement Projects	10.0	7.0	-	-	7.0	
2545	Market Information	11.0	12.0	2.0	-	14.0	Positions authorized during 2007
2550	Operations Support	47.0	44.0	-	-	44.0	
2551	Operations Support-General	2.0	2.0	-	-	2.0	
2552	Operations Data and Compliance	14.0	13.0	-	-	13.0	
2553	Operations Procedures and Training	10.0	10.0	-	-	10.0	
2554	Model & Contract Implementation	9.0	9.0	-	-	9.0	
2555	Operations Analysis	12.0	10.0	-	-	10.0	
2561	Reliability Coordination	9.0	8.0	-	-	8.0	WECC staff funded by WECC, not the GMC.
2600	General Counsel, VP Of Legal Affairs	21.5	22.0	-	-	22.0	
2611	General Counsel	1.5	2.0	-	-	2.0	
2621	Asst. General Counsel-Corporate	3.0	3.0	-	-	3.0	
2631	Asst. General Counsel-Regulatory	11.0	11.0	-	-	11.0	
2641	Asst. General Counsel-Tariff	5.0	5.0	-	-	5.0	
2651	Asst Corporate Secretary	1.0	1.0	-	-	1.0	
2700	VP of Market Development	24.5	32.5	1.0	(6.0)	27.5	
2711	VP of Market Development-General	1.5	2.5	1.0	-	3.5	Position authorized during 2007
2720	Market and Product Development	22.0	22.0	-	-	22.0	
2721	Market & Product Development-General	6.0	5.0	-	-	5.0	
2722	Tariff and Regulatory/Policy Development	9.0	9.0	-	-	9.0	
2723	Infrastructure Policy	7.0	8.0	-	-	8.0	
2731	Program Management Office	1.0	5.0	-	(3.0)	2.0	Capitalize 3 of 5 PMO staff dedicated to capital projects (rather than oversight and process mapping).
2741	MRTU Program	-	3.0	-	(3.0)	-	Dedicated MRTU staff are funded by MRTU capital budget and in 2008, these staff will also work on subsequent Market Design Enhancements.
2800	VP of External Affairs	38.5	38.5	-	-	38.5	
2811	VP of External Affairs-General	1.5	1.5	-	-	1.5	
2820	Communications & Public Relations	8.0	8.0	-	-	8.0	
2821	Communications & PR-General	3.0	4.0	-	-	4.0	
2822	Information Products & Services	5.0	4.0	-	-	4.0	
2831	State/Federal Affairs	6.0	6.0	-	-	6.0	
2841	Customer Services and Industry Affairs	23.0	23.0	-	-	23.0	
	Subtotal	532.0	529.0	16.0	(6.0)	539.0	7.0
	Less:						
	LGIP	**(5.0)**				**(5.0)**	-
	WECC	**(9.0)**				**(8.0)**	1.0
	Total, Reportable O&M Staffing	518.0				526.0	8.0

Note: Positions noted as “authorized in 2007” are within the overall 2007 headcount constraint.

VII. CAISO DIVISIONAL BUDGET OVERVIEWS

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

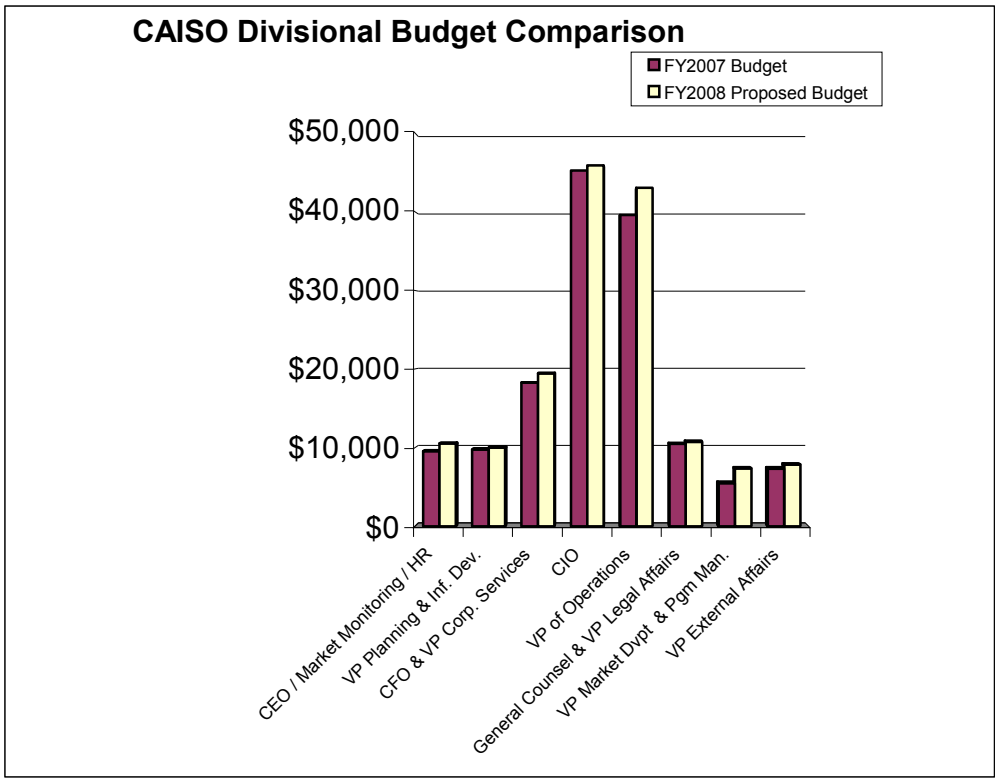


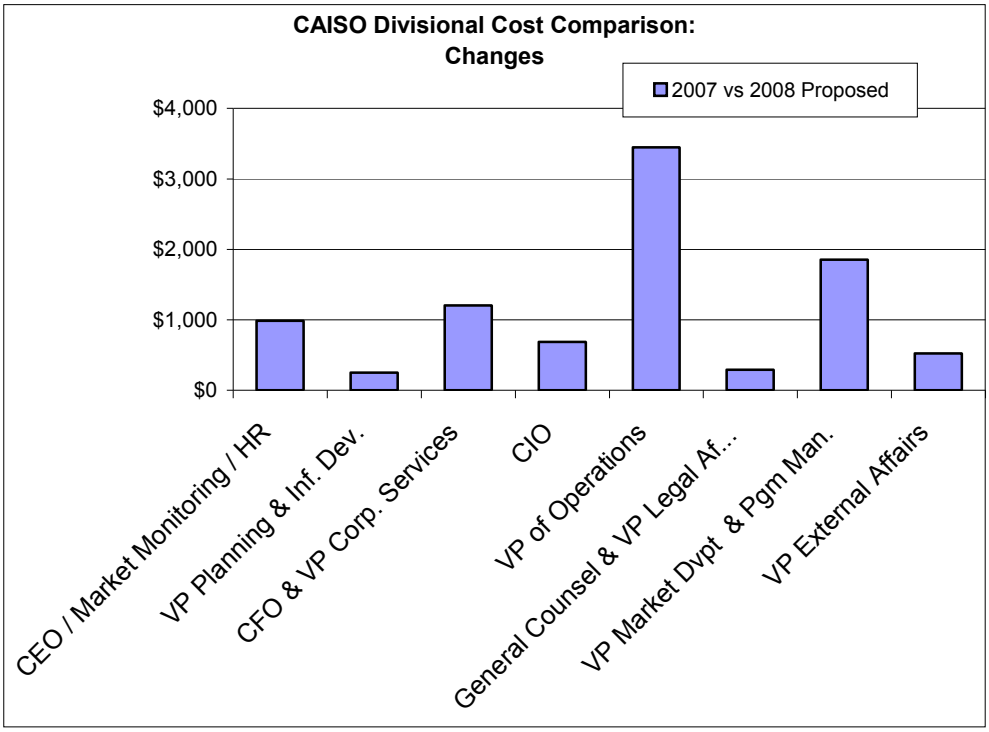
Each ISO Division provides a description of their departments, functions, staffing, and proposed budget, and incremental programs included in the proposed budget. A chart providing an overview of the proposed budget prefaces each discussion. Substantial additional budget detail supports the figures shown in this document. This section begins with a chart which overviews departmental costs and changes from FY2007.

The Divisions are presented in the following order:

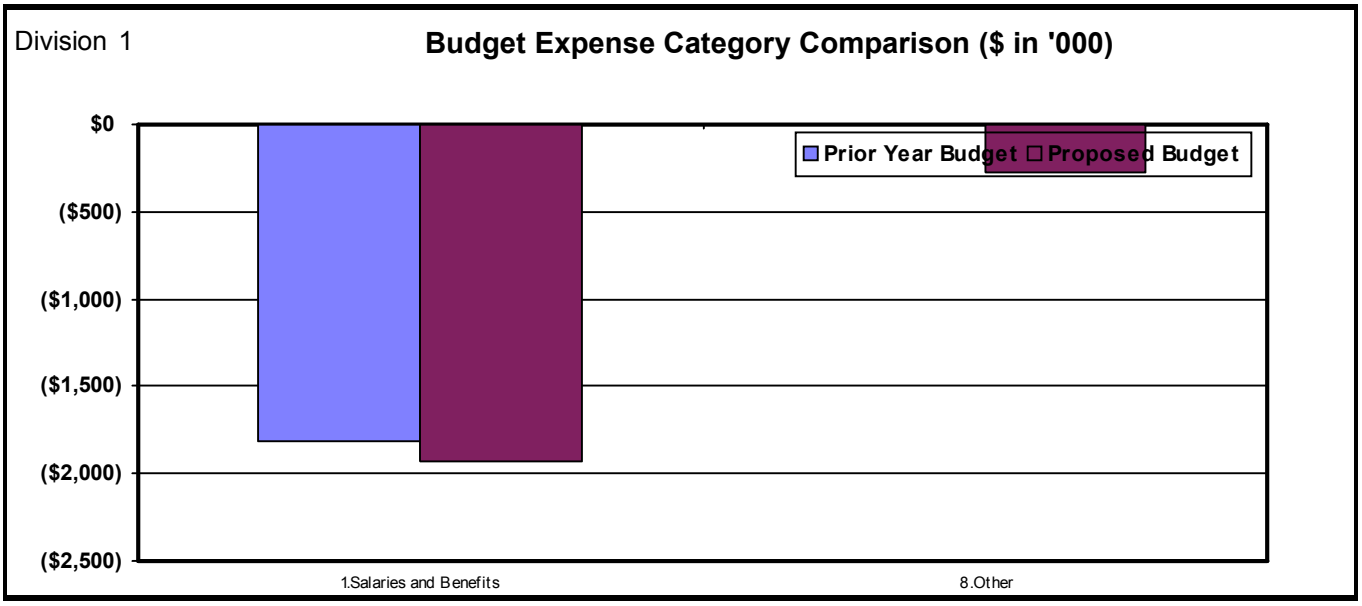
Page	Division#	Division
30.	1	Certain centralized costs for budgeting purposes only
33.	2100	CEO (including Department of Market Monitoring and HR)
44.	2200	Planning and Infrastructure Development
57.	2300	Chief Financial Officer/Corporate Services
76.	2400	Chief Information Officer
104.	2500	Operations
142.	2600	General Counsel
151.	2700	Market Development and Program Management
167.	2800	External Affairs

FY2008 Budget Overview
$ in 000's





Overview Chart 1 Centrally Budgeted Costs Group



Discussion of Proposed Budget

This Division includes certain costs related to all CAISO Divisions, including a headcount vacancy factor, adjustments for promotions/equity adjustments, and reduction in office supply costs.

Divisional Budget Overview

1 Centrally Budgeted Costs Group

Division Description

This is a roll-up for a Division used only for budgeting purposes.

Division Workload and Initiatives

N/A

Operations and Maintenance Budget

2008 Base Budget	($2,205,963)
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	($2,205,963)
2007 Budget	($1,820,055)

11 Centrally Budgeted Costs Department

Departmental Description

This cost center is used during the budgeting process to account for certain centralized costs. These budgeted amounts may be distributed to Divisions at a later date.

Department Workload and Initiatives

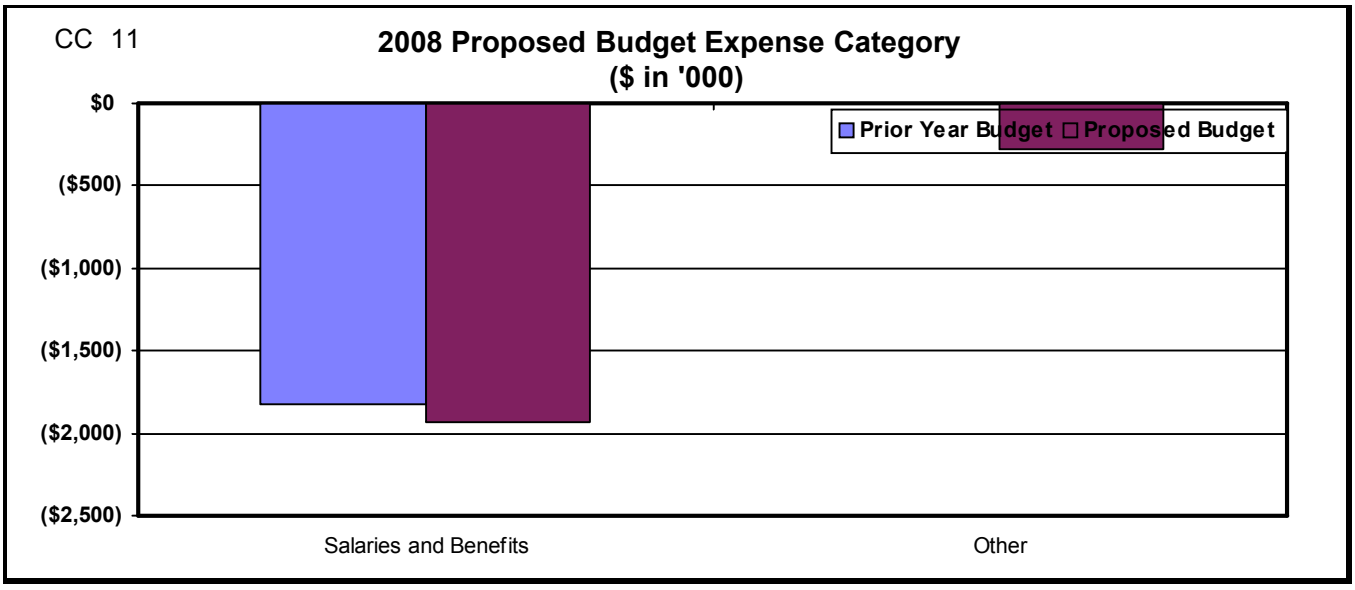
N/A

Discussion of Proposed Budget

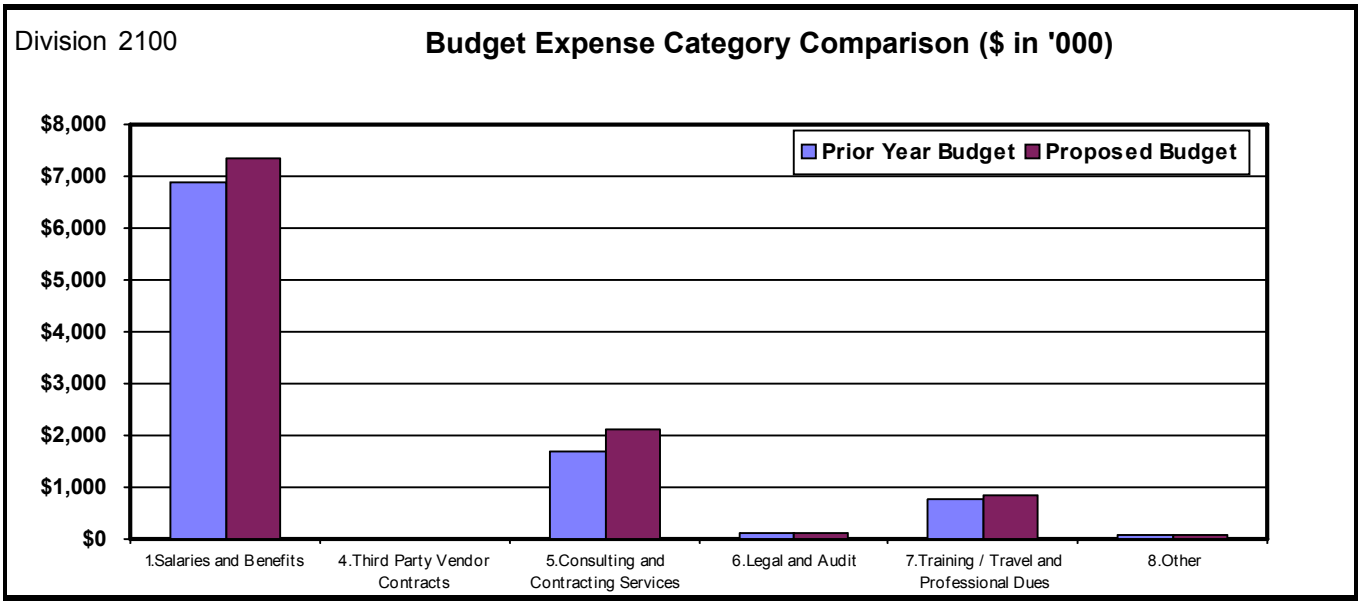
The 2008 proposed budget of $-2.21 million compares with the 2007 budget of $-1.78 million, which is a decrease of $0.43 million or 24%. This cost center contains: a 2.5% position vacancy factor, an increase from 2% used in 2007. It also contains $400,000 for promotion/equity adjustments to compensation for positions across the company. Finally, it contains an adjustment to reduce Office Supplies expense to align the 2008 budget with 2007 actual spending.

Operations and Maintenance Budget

2008 Base Budget	($2,205,963)
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	($2,205,963)
2007 Budget	($1,820,055)



Overview Chart 2100 Chief Executive Officer Group



Discussion of Proposed Budget

The 2008 proposed budget of $10.52 million compares with the 2007 budget of $9.53 million, which is an increase of $0.98 million or 10%. The budget includes funding for the programs as documented in the subsidiary write-ups. Staffing remains unchanged at 33. The increase in cost is due in part to increases in consulting for Market Monitoring, and relocation budgeted in HR.

Divisional Budget Overview

2100 Chief Executive Officer Group

Division Description

This is a roll-up cost center for the following departments:

2111 CEO-General
2120 Market Monitoring
  2121 Market Monitoring
  2122 Market Surveillance Committee
2341 Human Resources

Division Workload and Initiatives

The CEO is responsible for the oversight and ensuring delivery of the goals set forth in the 2007-2011 strategic plan. The goals that are scheduled for 2008 are discussed in the Divisional budgets.

Staffing

Group		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2111	CEO-General	3	3	0	0	3
2120	Market Monitoring	13	13	0	0	13
2341	Human Resources	17	17	0	0	17
	Total	33	33	0	0	33

Operations and Maintenance Budget

2008 Base Budget	$9,884,742
2008 Management Recommended Incremental / Decremental Programs	$632,750
Total Proposed 2008 Budget	$10,517,492
2007 Budget	$9,532,674

2111 CEO-General

Departmental Description

This cost center contains funding for the CEO, administrative support. Specific responsibilities of the CEO include:

* Establish and guide overall Company direction
* Oversee management of the Corporation's day-to-day business and operations.
* Prioritize Corporate activities and oversee and generally manage the allocation of Corporate resources
* Oversee and guide development of the Corporation's Strategic Plan and ensure satisfaction of the Corporation's identified strategic objectives
* Oversee and guide development of the Annual Corporate Goals and Budget
* Provide strategic direction regarding Human Resources-related initiatives

Department Workload and Initiatives

The CEO is responsible for advancing the CAISO Vision and Mission:

ISO Vision:

A world-class organization built around a globally recognized and inspired team that is dedicated to providing cost-effective and reliable service, well-balanced market mechanisms and high-quality information for the benefit of our customers.

ISO Mission:

Operate the grid reliability and efficiently.
Provide fair and open transmission access.
Facilitate effective markets and promote infrastructure development through the provision of timely and accurate information.

The CEO also displays and promote the Core Values of the Corporation, and promotes the achievement of the Strategic Objectives, including:

Achieve Excellence in Grid & Market Operations
Achieve Robust, Competitive Markets for Energy & Ancillary
Develop Energy Infrastructure
Develop People/Skills/Environment
Enhance Customer Services
Align with State and Federal Environmental, Renewable and Demand Response Priorities

Discussion of Proposed Budget

The 2008 proposed budget of $2.02 million compares with the 2007 budget of $1.89 million, which is an increase of $0.13 million or 7%. The budget includes funding primarily for the CEO and staff salaries, incidental expenses such as travel/training, and funds for organizational level consulting needs.

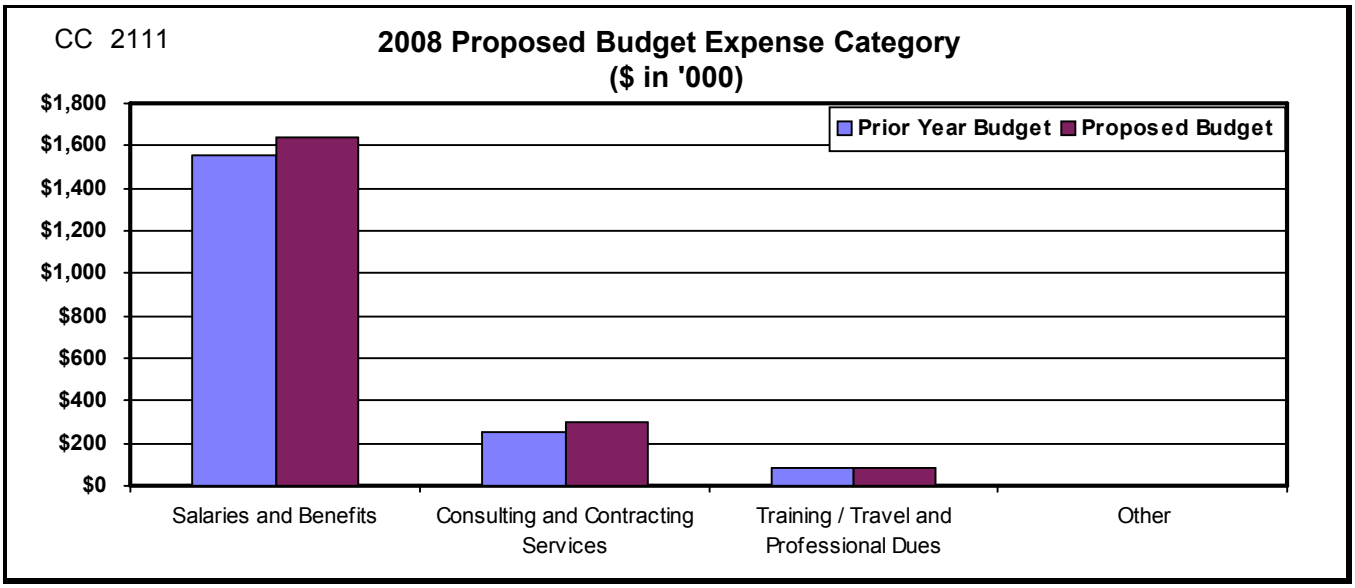
Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	3	3	0	0	3

Operations and Maintenance Budget

2008 Base Budget	$2,023,077

2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$2,023,077
2007 Budget	$1,893,728



2341 Human Resources

Departmental Description

The Human Resources Division develops and implements effective "people" strategies that enable CAISO to achieve business objectives through the attraction and retention of top talent. In fulfilling its role, the Human Resources Division provides competitive compensation, benefits, recruitment, retention, training, development and employee relations strategies, including, but not limited to, performance planning and performance management programs; mentoring programs to support the transfer of critical knowledge and skill; the development and administration of health and welfare benefit programs; compensation research, design and payroll administration; employee relations, management and leadership development, technical training, business training; recruitment, relocation and immigration services; oversight of the staff augmentation relationships, cost effective management of workers' compensation, and employee records management. The Human Resources Division is an overhead department. Since the last budget cycle, the Human Resources Division assumed responsibility for tracking and reporting of all contractors and consultants.

Vision of Excellence----------
A high performance Human Resources Division will enable California ISO to successfully compete in the open marketplace to attract and retain experienced personnel with critical and high demand knowledge and skills. Through the alignment of human resources strategies with business objectives, California ISO will provide industry wide leadership in training and developing skilled resources capable of ensuring functional and operational excellence in operating the Grid and in serving stakeholders of California and the West.

Department Workload and Initiatives

The core services provided by Human Resources have matured by demand in the five (5) year strategic plan. Tremendous "people" strategies and efforts are underway for the continuous development of our employees to ensure a high performance organization. As of August 2007, headcount has increased to approximately 540 employees, (including MRTU, LGIP and WECC), with substantially increased contractor staff to accommodate MRTU. As a support organization, additional headcount increases budget and resource time for training,

recruitments, relocation, benefits, payroll and administrative oversight. During 2008, special emphasis will be placed on MRTU implementation requiring extended training to some degree for all 500+ ISO employees. Additionally, emphasis will be placed on ensuring the effective transfer and development of critical skills and knowledge, particularly for the Grid Operations, Information Technology and the Engineering divisions. The organizational shift will require a through job analysis and compensation review by HR and ISO management to ensure we remain a competitive and desirable employer of choice. The organization will also continue to invest in continuous learning on behalf of all employees as well as leadership and managerial development. Systems enhancements and modifications including the implementation of Oracle Learning Management for HR, Finance, Operations and External Affairs and i-Recruitment to improve ISO management and HR's efficiency in the recruitment process and legal compliance. Multiple initiatives are currently engaged to further advance the organization toward the achievement of "Employer of Choice" status. Talent Management and Succession Planning continue to be top priorities in 2008 as we face the aging of the baby boom generation resulting in potential retirements and a continuous decline in the general marketplace for critical skills and resources. Career Management will also be a focus in 2008 as we continue to motivate, challenge and develop all employees. The “Pay for Performance” performance management system will continue as a means by which management can drive performance aligned with corporate goals.

The HR cost center includes $250,000 in tuition reimbursement, $500,000 in relocation and sign on bonuses which are budgeted centrally until the funds are allocated to individual cost centers.

Affirming that Our People are Our Greatest Assets

Initiatives affecting HR in 2008 from the 2007-2011 Strategic Plan Include:

Expand the “ISO Academy” 2007–2011

Expand the California “ISO Academy” with course offerings to develop critical skills and knowledge required to utilize new technically advanced applications, to build bench strength, and to ensure greater reliability and economy in grid management.

Implement an Enterprise-wide Career Management Program 2007–2011

Develop a comprehensive career management model aligned with business needs, reflective of employee aspirations, integrated with performance planning and promoting the California ISO ability to attract and retain skilled workers.

Expand the ISO’s Internship Programs 2007–2011

Expand the California ISO Internship Programs to produce a robust resource pipeline enabling the ongoing availability, recruitment, and retention of highly skilled and experienced operators and engineers.

Expand Talent Management Program/Talent Enrichment Review 2007–2011

Expand long-term workforce planning model aligned with business needs to manage the ongoing identification and development of key talent for critical jobs.

Other HR Initiatives include:

2008-2008 Oversight of internal and external MRTU Training and programs
2007-2011 Expand Corporate mentoring program
2007-2011 Survey, analyze and modify compensation programs
2007-2008 Reevaluate competitive ranking of Benefit options
2007-2009 Launch discussion and development of core competencies
2007-2008 Define strategies to establish and promote ISO Brand
2007-2011 Enhance Benefits education programs
2007-2011 Promote health management and cost containment
2007-2008 Design and configure Oracle Learning Management and i-Recruitment systems
2008-2011 Launch, review and develop enterprise-wide job families and career path structures

Discussion of Proposed Budget

The 2008 proposed budget of $5.69 million compares with the 2007 budget of $5.2 million, which is an increase of $0.49 million or 9%. This includes salary/benefit cost adjustments for HR staff of 4%, an increase in relocation cost of $168K, drug testing and criminal background check cost of $51K, immigration fees cost of $35K and training cost of $60K.

Staffing

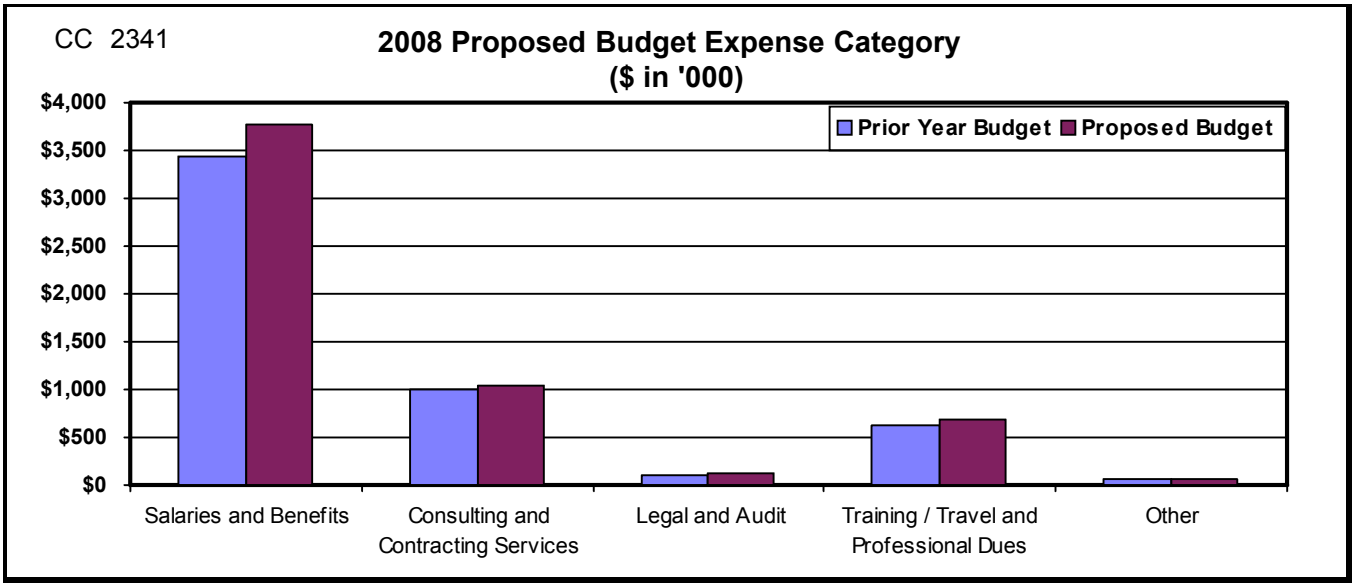
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	17	17	0	0	17

Operations and Maintenance Budget

2008 Base Budget	$5,378,138
2008 Management Recommended Incremental / Decremental Programs	$312,750
Total Proposed 2008 Budget	$5,690,888
2007 Budget	$5,201,036

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 5	Drug Testing / Background Check Fees	Management Recommended	$51,000	
Incremental - 4	Training Fees	Management Recommended	$60,000	
Incremental - 3	Immigration Legal Expenses	Management Recommended	$34,250	
Incremental - 2	Relocation / Sign-on Bonus	Management Recommended	$167,500	
		Total	$312,750	



2120 Market Monitoring

Group Description

Cost Center 2120 Market Monitoring is the roll-up for the following cost centers:

2121 Department of Market Monitoring
2122 Market Surveillance Committee

Vision of Excellence

Establish the Department of Market Monitoring as a highly independent and internationally recognized industry leader in electricity market design, monitoring, and analysis.

Group Workload and Initiatives

Market Monitoring will support / drive the following goals in 2008:

Value Added and Efficient Markets

2007–2008 Implement New Market Data Database
2007–2008 Establish Data Quality Processes
2007–2009 Implement MRTU Market Monitoring System
2007–2010 Develop Enhanced Analysis Capabilities
2007–2011 Develop Enhanced Capabilities to Monitor Regional Market
2007–2011 Implement DMM Market Simulation Environment

Continuing Commitment to Excellence

2007–2008 Implement Enhancements to Enforcement Process
2007–2011 Develop and Complete Staff Training Programs
2007–2011 Leadership Activities
2007–2011 Report Publications

Discussion of Proposed Budget

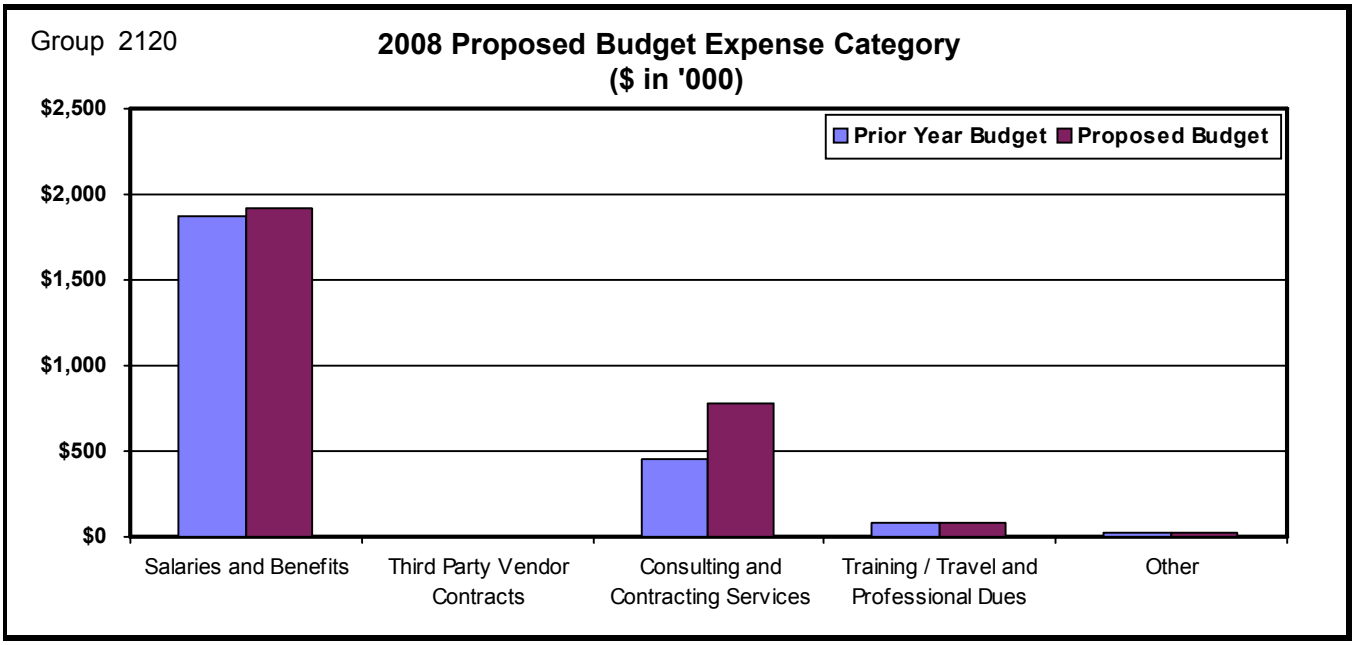
The management recommended budget of $2.8 million represents an increase of 15% from 2007 and includes funding for the programs as documented in the subsidiary write-ups.

Staffing

		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2121	Market Monitoring-General	13	13	0	0	13
	Total	13	13	0	0	13

Operations and Maintenance Budget

2008 Base Budget	$2,483,527
2008 Management Recommended Incremental / Decremental Programs	$320,000
Total Proposed 2008 Budget	$2,803,527
2007 Budget	$2,437,910



2121 Market Monitoring-General

Departmental Description

The Department of Market Monitoring (DMM) reviews and monitors the efficiency and effectiveness of the ISO markets (Ancillary Service, Congestion Management and Real-Time), generates periodic reports of market performance, investigates potential rule violations and/or market anomalies (e.g., gaming behavior), administers enforcement of penalties for violations of certain market conduct rules, and proposes market design changes to enhance market efficiency and competition. Specific functions of DMM include:

1. Monitoring the market and reporting on market performance
2. Investigating and reporting on potential gaming and market power abuses;
3. Enforce the CAISO Enforcement Protocols, which includes investigating potential violations and recommending or administering penalties;
4. Identifying, reviewing and reporting deliberate or inadvertent violations of market rules or contracts that affect the efficiency of the market;
5. Performing special studies of the impacts of bidding behavior on market efficiency and performance;
6. Performing special studies on market efficiency and performance, both independently and at the request of ISO management, ISO Board of Governors, FERC and various outside agencies;
7. Responding to numerous data requests (including subpoenas);
8. Reviewing ISO rules and protocols from a market performance perspective, and recommending specific changes in market rules and protocols;
9. Working with other areas of the ISO to implement these changes affecting market performance;
10. Supporting the Market Surveillance Committee (MSC) by completing special analysis to support reporting and recommendations of the MSC to ISO management; and
11. Reporting to Federal Energy Regulatory Commission, California Public Utility Commission, Electricity Oversight Board and many other governmental and regulatory agencies.

Department Workload and Initiatives

2008 will be an extremely challenging year for DMM. DMM has several significant initiatives in its 2007-2011 business plan that will involve significant staff time and other resources. These include 1) development of an MRTU market monitoring system and supporting data environment, 2) completion of special MRTU studies pursuant to recent FERC orders, and 3) development of a DMM market simulation environment. All of these initiatives are critical to supporting the CAISO strategic objective of robust and competitive markets and to mitigating several

significant enterprise risks.

Additionally, DMM will need to devote significant resources to supporting and implementing numerous cross-initiatives with other departments, particularly Market & Product Development (MPD). Most notably, the implementation of convergence bidding, scarcity pricing, and directed modifications to market power mitigation rules will require significant support by DMM both in terms of implementation and post-implementation monitoring and reporting requirements. Additionally, the design and implementation of a centralized capacity pricing mechanism and demand response programs will require significant DMM support and post-implementation monitoring.

To support all these initiatives and conduct core day-day business activities, DMM originally requested two additional FTEs. However, management has indicated that no decision on additional FTEs will be made until several months after MRTU goes live so that the FTE requirements of the entire corporation can be assessed under the new market paradigm. In light of this, DMM is requesting additional budget funds to support two full-time consultants. This request is based on a comprehensive resource modeling effort that DMM undertook to carefully assess the resource requirements to support DMM core functions, DMM initiatives, and identified cross-initiatives over the 5-year plan. The detailed results of that modeling effort can be provided upon request.

Discussion of Proposed Budget

The 2008 proposed budget of $2.45 million compares with the 2007 budget of $2.1 million, which is an increase of $0.35 million or 16%. This increase provides funding for DMM's core business functions along with one additional full-time consultant.

The decision to fund only one of the two consulting positions that DMM requested in 2008 will further challenge DMM in carrying out its core monitoring functions and initiatives described above. The areas of greatest impact will likely be the following:

1. Review and recommendations of market design initiatives and implementation of the monitoring requirements to support these initiatives (e.g., convergence bidding, scarcity pricing, demand response, capacity markets). Potential risks include failing to identify and correct design flaws in these features and potential delays in developing the monitoring requirements for these initiatives, which could ultimately delay implementation.
2. Ability to respond to ad-hoc requests for DMM analyses and reports – With the implementation of MRTU, there will be many market performance issues that DMM will be asked (by FERC, Board, Stakeholders, CAISO Management) to analyze and report on. Given the 2008 budget, DMM will have less ability to provide these analyses on a timely basis and may have to either request time extensions for completing studies or provide less in-depth analysis.
3. Development of market simulation environment – Having a high quality market simulation capability is critical for evaluating market performance and supporting implementation of new market initiatives (e.g., convergence bidding, scarcity pricing). Given the 2008 budget, DMM's initiatives to develop market simulation capabilities will be further challenged and could result in delaying the implementation of these initiatives.

The one area that DMM will maintain as its highest priority is to closely monitor the performance of the markets (current and eventual MRTU market) and quickly identify potential market inefficiencies or anticompetitive behavior. DMM will do all that it can to avoid compromising this core function.

Staffing

	2007 Budget	*2008 Base Budget*	*2008 Incremental*	*2008 Decremental*	*Total 2008 Mgmt Recommended Budget*
Total	13	13	0	0	13

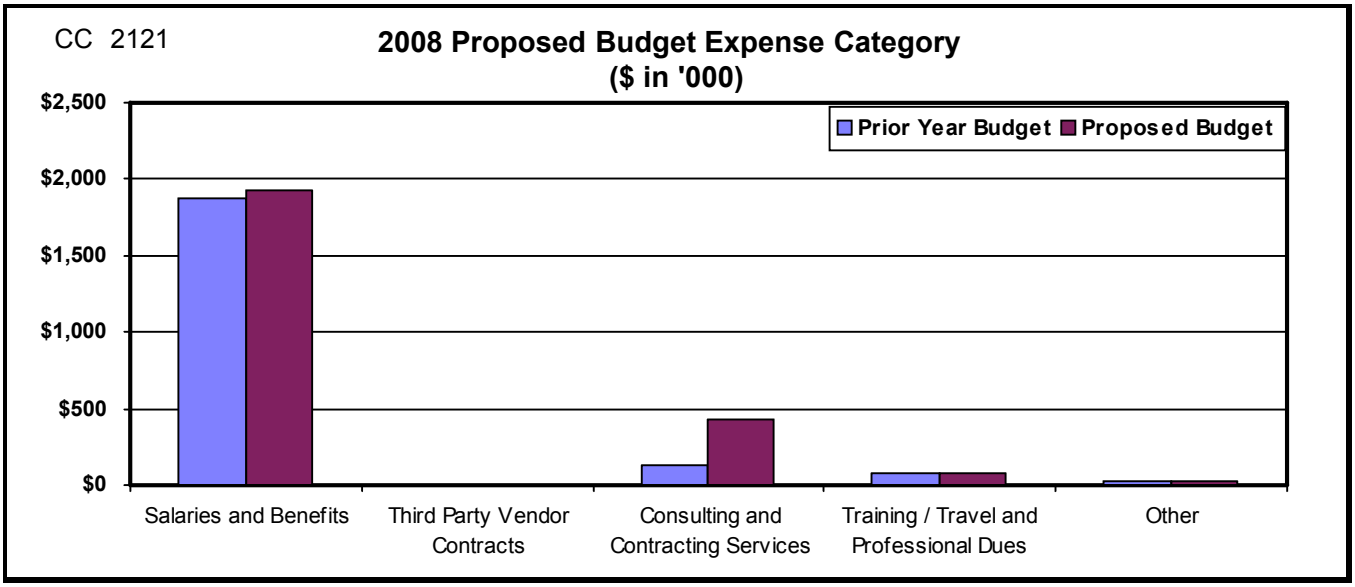
Operations and Maintenance Budget

2008 Base Budget	$2,148,027
2008 Management Recommended Incremental / Decremental Programs	$300,000

Total Proposed 2008 Budget	$2,448,027
2007 Budget	$2,102,410

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 1	Market Monitoring and Market Data Preparation	Management Recommended	$300,000	
		Total	$300,000	



2122 Market Surveillance Committee

Departmental Description

The role of the ISO Market Surveillance Committee (MSC) is to provide independent external expertise on the ISO market monitoring process as described in the ISO Tariff (Appendix P2) and, in particular, to provide independent expert advice and recommendations to the ISO CEO and Governing Board. The MSC is comprised of a body of three or more (currently, three) independent and recognized experts whose combined professional expertise and experience shall encompass the following:
- economics, with emphasis on antitrust, competition, and market power issues in the electricity industry;
- experience in operational aspects of generation and transmission in electricity markets;
- experience in antitrust or competition law in regulated industries; and
- financial expertise relevant to energy or other commodity trading.

The MSC provides recommendations based on evaluation of market data in the form of written reports to the CEO and Governing Board. The MSC may also submit reports to FERC. These reports also may relate to the monitoring program referred to in the ISO Tariff (Appendix P), the analysis of information, the evaluation criteria or any corrective or enforcement actions proposed by the ISO Market Monitoring department or proposed of its own volition. Upon request of the MSC, the CEO shall publish reports and recommendations of the MSC or incorporate them, if consistent, into the ISO's own reports or recommendations.

At the recommendation of the CEO, the Governing Board may implement MSC recommendations on market rules, tariff changes and penalties and sanctions.

Department Workload and Initiatives

We anticipate a level of service as described above. The MSC's activities are governed by the ISO Tariff as outlined in Appendix P2, and are further outlined in the Charter of the Market Surveillance Committee.

Discussion of Proposed Budget

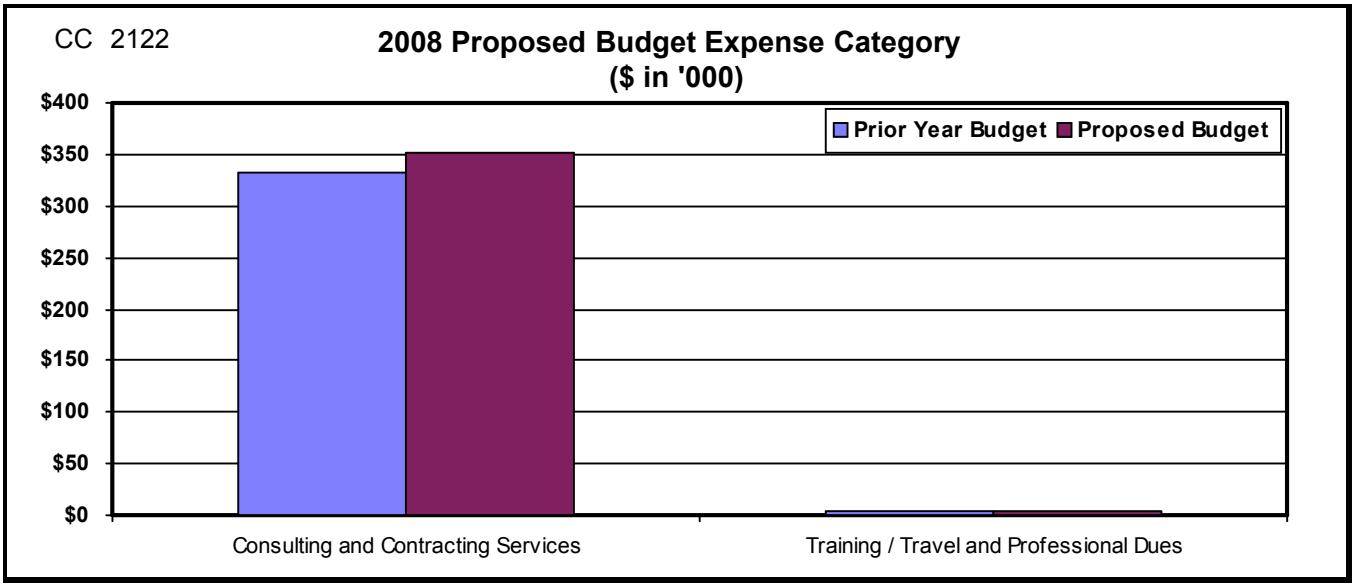
The 2008 proposed budget of $0.36 million compares with the 2007 budget of $0.34 million, which is an increase of $0.02 million or 6%. This increase represents an adjustment to MSC compensation to bring it in line with current market rates.

Operations and Maintenance Budget

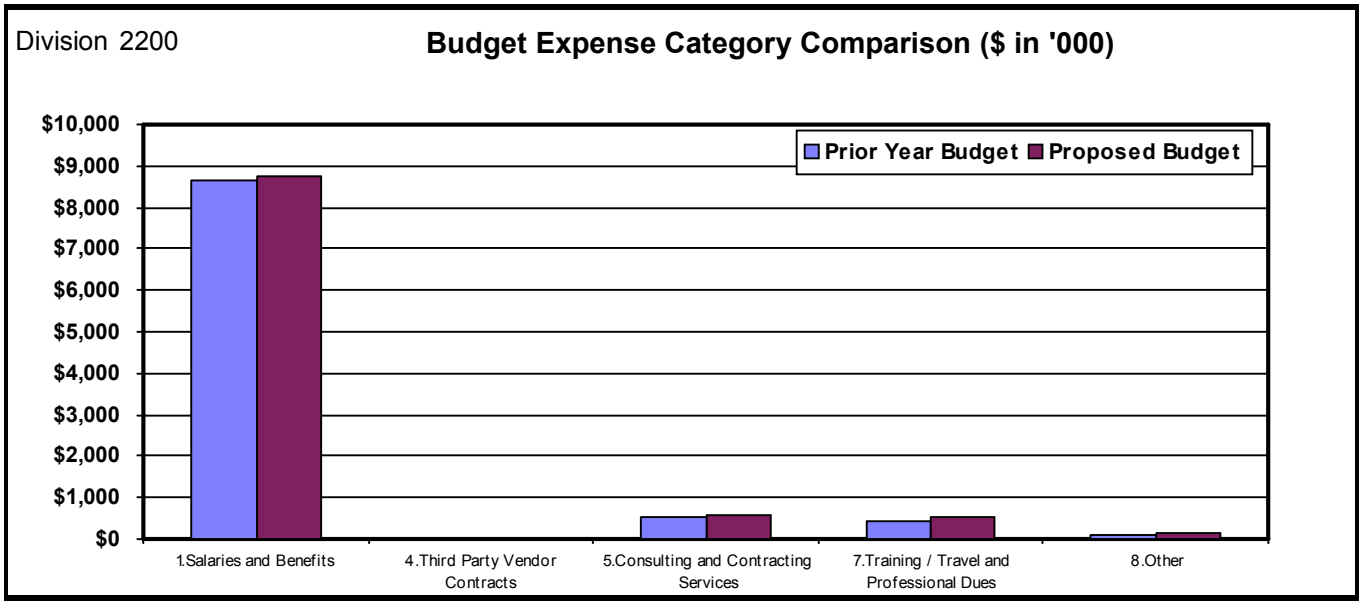
2008 Base Budget	$335,500
2008 Management Recommended Incremental / Decremental Programs	$20,000
Total Proposed 2008 Budget	$355,500
2007 Budget	$335,500

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 1	Market Adjustment to MSC Stipend for Frank Wolak	Management Recommended	$20,000	
		Total	$20,000	



Overview Chart 2200 VP of Planning and Infrastructure Development



Discussion of Proposed Budget

The 2008 proposed budget of $10.01 million compares with the 2007 budget of $9.76 million, which is an increase of $0.25 million or 3%. The increase reflects salary/benefit cost adjustments for 2008 of 4%, offset by a reduction in budgeted staffing from 56.5 to 54.5.

Divisional Budget Overview

2200 VP of Planning and Infrastructure Development

Division Description

This is a roll-up cost center for the following departments:

2211 VP of Planning and Infrastructure Development-General
2221 Region Transmission - North
2231 Region Transmission - South
2241 Grid Assets
2242 Generator Interconnections
2251 Network Applications

The ISO Grid Planning and Infrastructure Department is charged with the following responsibilities:

Developing long range transmission plans across the control area that maintain reliability and reduce RMR and congestion costs across the ISO controlled grid. Reviewing the Participating Transmission Owners ("PTOs") Bulk Power Program (a ten-year Program is filed with the ISO every year); conducting and reviewing the studies the PTOs perform for connecting new generators or load to the ISO Controlled Grid; and ensuring that ISO recommendations (if any) are either implemented by the PTOs or the problem is resolved via dispute resolution processes. Conducting studies to determine Reliability Must-Run ("RMR") requirements, and providing support to Operations; leading the development of new ISO Reliability criteria and conducting several meetings per year with stakeholder groups; and leading or supporting several Regional and National technical/engineering groups including the Western Electricity Coordinating Council ("WECC"), the Seams Steering Group-Western Interconnection, SW and NW Regional Planning Groups and several Planning groups from the North American Electric Reliability Council ("NERC"), including the Planning Committee (Chair).

Operations Engineering functions include the following:

Conduct seasonal operating studies and write procedures; support Outage Coordination in the analysis of Transmission and Generation clearances; identify and prepare for grid reliability concerns of the upcoming season (including proposing and managing short-term projects); integrate the Operations Engineering and Grid Planning process; provide on-call OE support for real-time emergencies; and represent the ISO in technical reliability groups and committees.

The Network Applications Group is responsible for the necessary work to maintain Control Area Reliability as required by the TCA and Tariff, including but not limited to:
- Developing the State Estimator and Network Applications tools to provide real-time reliability tools for Reliability Coordinators, Transmission Dispatchers, and Regional Transmission Engineers;
- Providing additional SE/Net Apps enhancements to support MRTU's needs for the Full Network Model and a real-time SE solution, and assisting MRTU in defining design requirements;
- Support and improvement of "upstream" ISO tools and processes that support the SE/NA (Outages and applications such as SLIC, NeMO, and COMT, NRI, TR, and GE PSLF basecases);
- Coordination with, and assistance to, the Real-Time Applications group (EMS) in QAS testing and SCADA-related tasks (load calculations, operating reserve calculation, etc.);
- Engineering assistance in ISO contracts and standards issues (e.g., Generator telemetry standards, Participating Generator Agreement ("PGA"), etc.); and
- Participating in WECC & IEEE committees and workgroups related to interconnected power system operations (as needed);

The Grid Assets group manages the creation, implementation, and enforcement of ISO Maintenance Standards; provides for transmission line and substation equipment availability; manages the Centralized Interconnection Study and Transmission Project New Resource Interconnection process to ensure the ISO is ready to accept and do

business with new transmission resources and reliably operate a ever changing transmission system; works with PTO's to manage the Transmission Register and data and the Transmission Availability reporting processes and databases; works with the PTO's to resolve engineering issues or practices that may impact the operation and/or availability of the ISO controlled grid; provides engineering support to other departments within the ISO on engineering issues affecting the grid reliability, including protection systems, transmission facility system design and ratings, etc.; and leads incident investigations on suspected maintenance or work procedure errors. The department has also has responsibility for Load and Resource Forecasting and Mapping functions.

This Generation Interconnection group was created in 2006 to provide administrative and study services required to implement FERC's Large Generator Interconnection Procedure (LGIP) Order for Large Generation Interconnections to the ISO Controlled Grid. FERC approved the ISO compliance filing on March 24, 2006 which created a centralized interconnection study process where the ISO itself administers and conducts interconnection studies. The ISO is responsible to the generator interconnection customer for interconnection study services. This work was previously the responsibility of the IOU's. The ISO estimates the workload will continue to require approximately 5 FTE's @ 1720 billable hours or 10,320 billed hours at the ISO's standard rate providing for recovery of direct and overhead costs. The FERC requires that the interconnection customer pay the actual cost for the interconnection studies. Therefore this activity will be cost neutral to the ISO's bottom line as long as customers don't default on obligations. Revenues received from customers will cover the costs of products and services delivered.

Our Vision of Excellence

The Planning and Infrastructure Development Division will achieve excellence through the development and implementation of:

1. A transmission planning process that is robust, transparent, and provides strategic information and leadership to all stakeholders involved in California's electrical infrastructure development

2. A coordinated statewide transmission plan prepared through a robust sub regional planning group within California, representing all California ISO and non California ISO participants

3. Processes and procedures that provide Operators with the tools and instructions needed to operate the system in a reliable manner

4. Advanced network applications providing the necessary tools required to perform "leading edge" technical analysis that is indicative of a "World Class Organization" and creates value for customers

5. A Large Generator Interconnection Process that fully complies with the FERC rules, addresses the new generator's interconnection requirements, and provides for the reliable integration of California's and the West's diverse set of resources

6. A strong, centered focus on the personal and professional development of a well trained and innovative team of engineering professionals who will lead the strategic development of California's electrical infrastructure

Division Workload and Initiatives

Achieve Excellence in Grid and Market Operations

2007–2011 Implement New Advanced Tools to Support Reliable Operations
2007–2010 Implement Extended Network Model

Develop Energy Infrastructure

2007–2008 Enhance California ISO 10 Year Planning Process
2007–2011 Continue To Focus On Reducing Congestion
2010 Work toward San Diego Backbone Upgrades
2007–2011 Partner with DOE and Publics on Infrastructure Projects

Reliable Integration of Renewable Resources

2007–2011 Complete Reliable Integration of Renewable Resources

Value Added and Efficient Markets

2007–2008 Implement Long Term Transmission Rights
2007–2008 Support Implementation of a Capacity Pricing Mechanism
2007–2008 Support Implementation of Demand Response

Affirm that Our People Are Our Greatest Asset

2007–2011 Support the California ISO Academy

The Grid Planning workload is expected to increase to address the need to reduce RMR and congestion across the control area by taking an independent view of ISO controlled grid across historical PTO boundaries and interconnected control areas. Also, involvement with the CEC and CPUC in procurement, deliverability and other regulatory matters is on the rise.

There is also a "boom" of new generation projects and PTOs are spending record levels of capital on transmission system upgrades. A large number of changes in the local area transmission networks are anticipated over the next 1-3 years. These changes require continued analysis of the system and increased rewriting of Operating Procedures. These changes drive additional work for the New Resource Interconnection Department and in the processing of Transmission Register changes.

Staffing

Group		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2211	VP of Planning and Infrastructure Development-Ge	1.5	1.5	0	0	1.5
2221	Region Transmission - North	17	15	0	0	15
2231	Region Transmission - South	16	17	0	0	17
2241	Transmission Assets	10	9	0	0	9
2242	Generator Interconnections	5	5	0	0	5
2251	Network Applications	7	7	0	0	7
	Total	56.5	54.5	0	0	54.5

Operations and Maintenance Budget

2008 Base Budget	$10,010,810
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$10,010,810
2007 Budget	$9,763,904

2211 VP of Planning and Infrastructure Development-General

Departmental Description

This department contains funding for the VP of this Division and its associated costs.

Department Workload and Initiatives

See the descriptions listed in Cost Center 2200.

Discussion of Proposed Budget

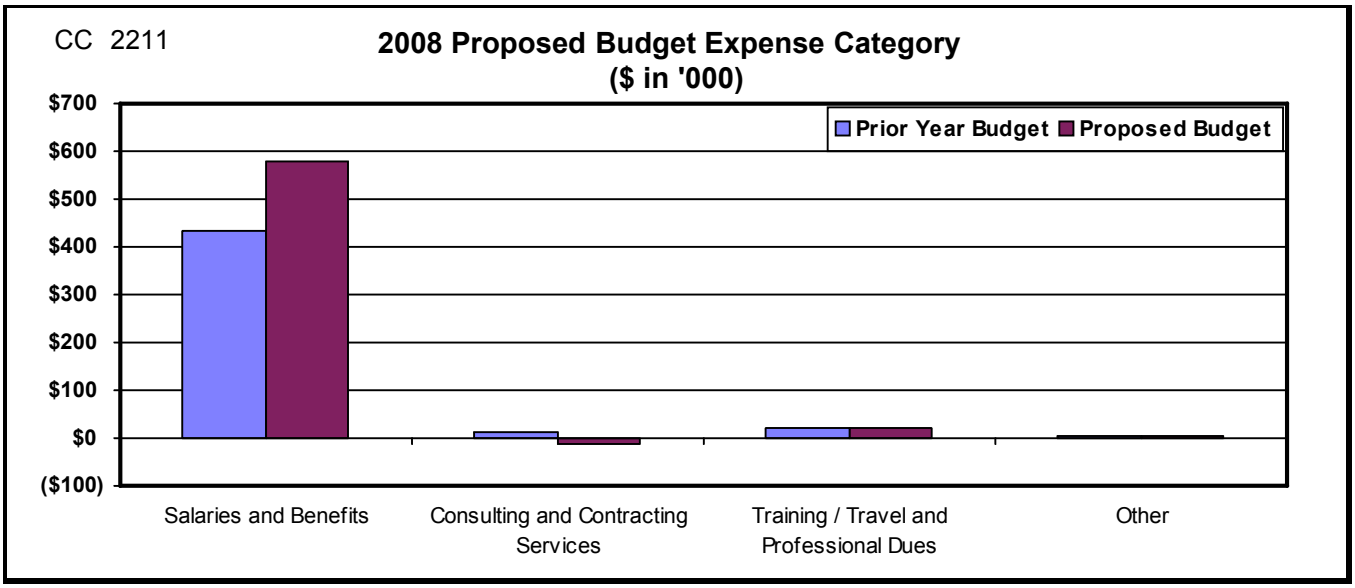
The 2008 proposed budget of $0.59 million compares with the 2007 budget of $0.47 million, which is an increase of $0.12 million or 26%.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	1.5	1.5	0	0	1.5

Operations and Maintenance Budget

2008 Base Budget	$590,135
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$590,135
2007 Budget	$468,646



2221 Region Transmission - North

Departmental Description

The Region Transmission - North department is responsible for the following:

1) CAISO Transmission Plan: Coordinate with PTO's to produce a forward-looking integrated transmission plan. 2) LCR determinations: We make the decision on where we have local reliability criteria violations as part of the LCR process 3) Regional/National work on Planning Issues: We are heavily involved in providing input and doing work for NERC, FERC Subregional Planning Group, WECC, SSG-WI, Westconnect, CASPG and other groups 4) Generator Interconnection Studies: We perform studies to determine that grid reliability is not affected when a new generator is interconnected. 5) Renewable Integration: Plan to incorporate renewable energy resources in the grid. 6) Third category of transmission project approval to accommodate renewable resources 7) Long-term Transmission Right: FERC requires the CAISO to develop transmission plan to ensure that allocated CRR is feasible. 8) Probabilistic approach for capacity requirement determination: in the effort to support capacity, market initiative, regional transmission needs to develop a methodology to quantify for local capacity requirement at least as a reference to the deterministic approach 9) Congestion studies: As required by FERC Order 890, regional transmission needs to a) Define and summarize term "significant and reoccurring" congestion b) Develop mitigation plan c) Provide the cost of upgrade and congestion cost 10) Conduct seasonal operating studies and establish seasonal OTCs. 11) Develop/maintain/update ISO operating procedures.12) Support Outage Coordination in the analysis of Transmission and Generation clearances.13) Seasonal local area operating assessments (including proposing and managing short-term projects).14) Support the Real Time Operation and provide on-call services. 15) Responsible for the engineering/technical support of their focus area(s), in addition to support the entire CAISO Bulk (500 kV) system operations. 16) Coordinate with surrounding control area operators in engineering issues. 17) Prepare annual Operating Guides 18) Represent the ISO in technical groups and committees. 19) Conduct Deliverability and Locational Capacity Studies in support of the CPUC resource adequacy requirements. 20) special projects.

Department Workload and Initiatives

The FERC 890 compliance will entail the following: Long-term CRR Planning Process, Open Season assesements, Rebuttable Presumption projects, Reneable Integration projects, Tranmsision BPM, secure website and congestion analysis.

The Planning workload continues to increase to address the need to reduce LCR and congestion across the control area through the implementation of the CAISO's New Planning Process. Also, involvement with the CEC and CPUC in procurement, deliverability and other regulatory matters is on the rise.

There is also a "boom" of new generation projects and PTOs are spending record levels of capital on transmission system upgrades. A large number of changes in the local area transmission networks are anticipated over the next 1-3 years. These changes require continued analysis of the system and increased rewriting of Operating Procedures.

Based on 2008 work expectations and the lack of suitably experienced engineer candidates within the external workforce, it is expected that, on average, one to two medium-priced consultants will be needed to appropriately manage work load peaks.

The completion of the Reliable Integration of Renewable Resources in order to support the state's policy for the year 2008 will require contractors and about $100,000. This is for technical studies that will identify the operating and infrastructure requirements to support the reliable and effective integration of renewable and intermittent resources into the system.

Establishing a "Third Category" of transmission will require an additional $100,000 - $200,000 of contracting work. It is to comply with FERC Order 890 that identifies opportunities to apply such treatment to facilitate the development and interconnection of new renewable resources to the grid.

Complete Southern California Backbone Upgrades, which includes the Sunrise project by 2010 will cost roughly $250,000 - $300,000.

Roughly $10,000 will be spent on expenses for the creation of the California Subregional Planning Group as well as partnering up with the Department of Energy (DOE) and Public Entities on infrastructure projects.

Based on the results of the ISO's Long Term Transmission Plan, we need to identify high-priority congestion relief transmission project and all uneconomic bottleneck ccongeestion. This will take roughly $100,000 - $200,000.

Discussion of Proposed Budget

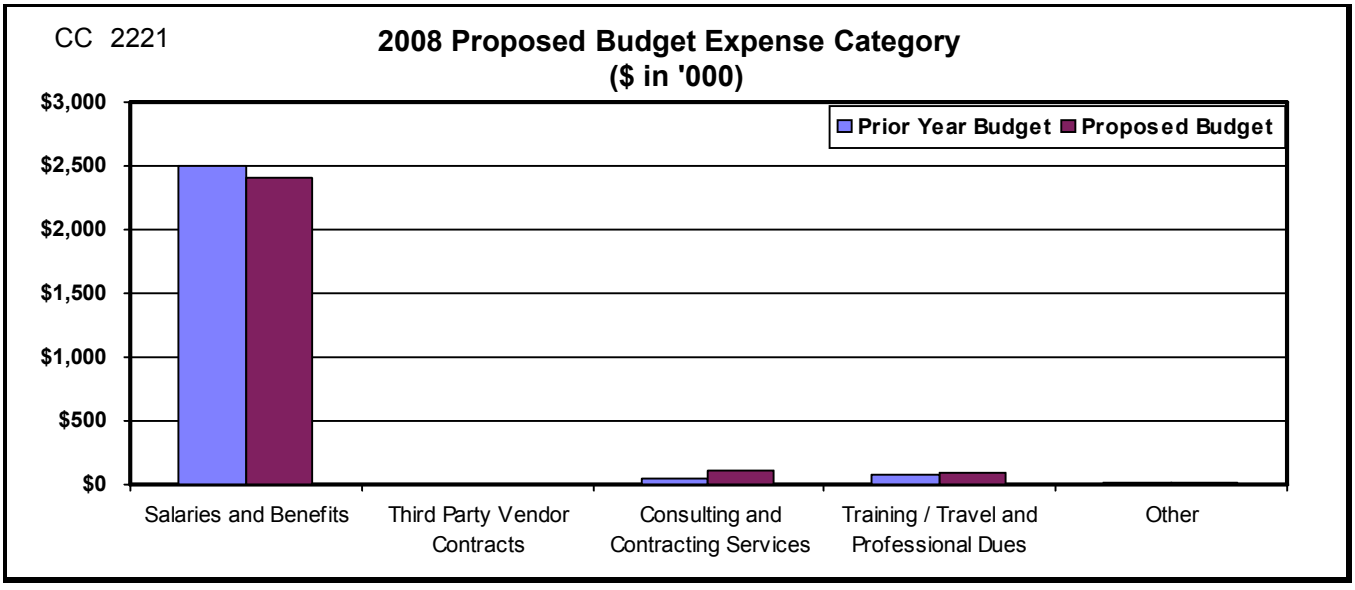
The 2008 proposed budget of $2.62 million compares with the 2007 budget of $2.62 million, which is essentially unchanged from 2007.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	17	15	0	0	15

Operations and Maintenance Budget

2008 Base Budget	$2,624,466
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$2,624,466
2007 Budget	$2,622,901



2231 Region Transmission - South

Departmental Description

The Region Transmission - South department is responsible for the following:
** Developing the Annual CAISO Transmission Plan which includes all of the planning projects developed by the Participating Transmission Owners (PTOs), the CAISO, and third parties; developing a short and long term plan for

the CAISO Controlled Grid; prepare annual Operating Guides; support subregional planning efforts; assess congestion/transmission economic analysis; and perform technical assessments of the California Energy Commission's Integrated Energy Policy Report. Prior to this year, the CAISO did not prepare a transmission plan; rather it relied on the PTOs to prepare their "Bulk Power Program Plans" which were filed with the CAISO each year. This is a new focus for Regional Transmission as the implementation of the CAISO Transmission Plan and the implementation of the CAISO's New Transmission Planning Process will place the CAISO in the forefront of leading the transmission planning focus for California's ratepayers;
** Performing LGIP Feasibility Studies and other studies as required by the CAISO's Generation Interconnection process to connect new generation or load to the CAISO Controlled Grid;
** Support the PTOs in developing and sufficient transmission plans for their systems and ensure that CAISO recommendations (if any) on transmission projects are either implemented by the PTOs or the problems (if any) are resolved via dispute resolution processes;
** Conducting Deliverability and Locational Capacity Studies in support of the California Public Utilities Commission (CPUC) resource adequacy requirements;
** Conduct seasonal operating studies and write procedures;
** Support Outage Coordination in the analysis of Transmission and Generation clearances;
** Identify and prepare for grid reliability concerns of the upcoming season (including proposing and managing short-term projects);
** Provide on-call engineering support for real-time emergencies;
** Represent the CAISO in technical reliability groups and committees.
** Prepare Seasonal OTC ratings and develop and update operating procedures;
** Leading the development of new CAISO Reliability criteria and conducting several meetings per year with stakeholder groups; and
** Leading or supporting several Regional and National technical/engineering groups including the Western Electricity Coordinating Council ("WECC"), subregional planning groups, and the North American Electric Reliability Council ("NERC").

Department Workload and Initiatives

The FERC LGIP Order has transferred significant Generator Interconnection Study work from the PTO's to the CAISO. Generator Interconnection Study work is anticipated to be an additional 8,100 man-hours of internal work, plus additional travel related expenses and consultant work. This is budgeted in cost center 2242. Region Transmission - North resources may also support this effort depending on the level of requests.

The Planning workload is also planned to increase to address the need to reduce LCR and congestion across the control area through the implementation of the CAISO's New Planning Process. Also, involvement with the CEC and CPUC in procurement, deliverability and other regulatory matters is on the rise.

There is also a "boom" of new generation projects and PTOs are spending record levels of capital on transmission system upgrades. A large number of changes in the local area transmission networks are anticipated over the next 1-3 years. These changes require continued analysis of the system and increased rewriting of Operating Procedures.

Based on 2007 work expectations and the lack of suitably experienced engineer candidates within the external workforce, it is expected that, on average, one to two medium-priced consultants will be needed to appropriately manage work load peaks.

Discussion of Proposed Budget

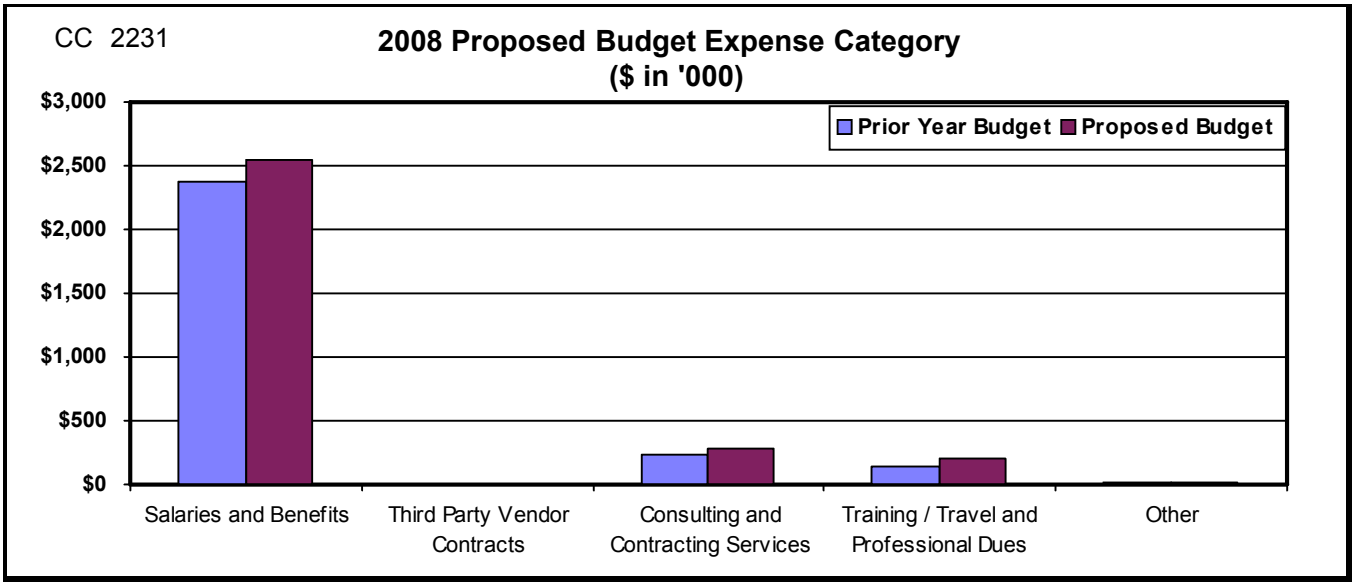
The 2008 proposed budget of $3.05 million compares with the 2007 budget of $2.78 million, which is an increase of $0.27 million or 10%.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	16	17	0	0	17

Operations and Maintenance Budget

2008 Base Budget	$3,051,447
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$3,051,447
2007 Budget	$2,781,923



2241 Transmission Assets

Departmental Description

All of the following activities are compliance activities as required by legislation action, tariffs and the TCA.

The Grid Assets department manages the creation, implementation, and enforcement of ISO Maintenance Standards; provides for transmission line and substation equipment availability; manages the Centralized Interconnection Study and Transmission Project New Resource Interconnection process to ensure the ISO is ready to accept and do business with new transmission resources and reliably operate a ever changing transmission system; works with PTO's to manage the Transmission Register and data and the Transmission Availability reporting processes and databases; works with the PTO's to resolve engineering issues or practices that may impact the operation and/or availability of the ISO controlled grid; provides engineering support to other departments within the ISO on engineering issues affecting the grid reliability, including protection systems, transmission facility system design and ratings, etc.; and leads incident investigations on suspected maintenance or work procedure errors. The department has also has responsibility for Load and Resource Forecasting and Mapping functions.

Department Workload and Initiatives

The FERC LGIP Order and advanced state estimation applications require rigorous processes to administer new generation and transmission system changes and track the details of transmission system upgrades. Changes to the transmission grid and changes to generation drive internal work in many ISO departments. For the Grid Asset department there is a high level of work associated with application processing, process oversight, responding to requests, status letters, financial accounting, scoping meetings, etc. The department has also more responsibility for Load and Resource Forecasting and Mapping functions.

There is a "boom" of new generation projects and PTO are spending record levels of capital on transmission system upgrades. A large number of changes in the local area transmission networks are anticipated over the next 1-3 years. These changes drive additional work for the New Resource Interconnection Department and in the processing of Transmission Register changes.

Discussion of Proposed Budget

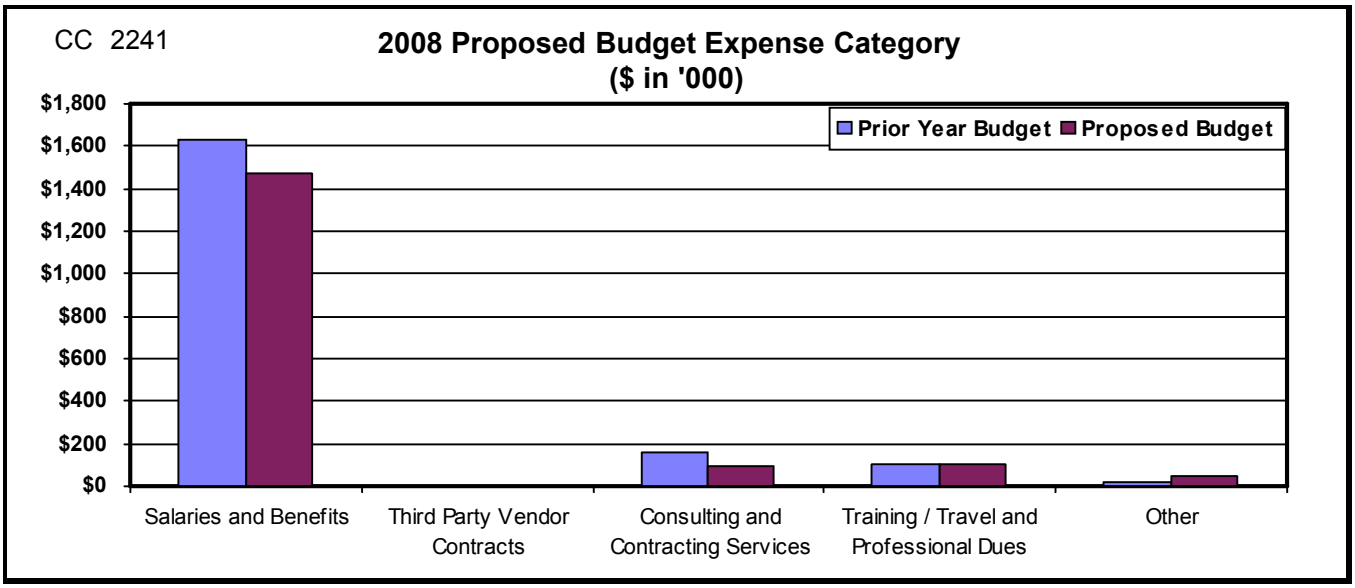
The 2008 proposed budget of $1.73 million compares with the 2007 budget of $1.91 million, which is a decrease of $0.18 million or 10%.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	10	9	0	0	9

Operations and Maintenance Budget

2008 Base Budget	$1,722,236
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,722,236
2007 Budget	$1,909,735



2242 Generator Interconnections

Departmental Description

This department provides administrative and study services for generator interconnection studies.

Department Workload and Initiatives

This department was created in 2006 in order to handle these duties. FERC approved the ISO compliance filing on March 24, 2006 which created a centralized interconnection study process where the ISO itself administers and conducts interconnection studies. The ISO is responsible to the generator interconnection customer for interconnection study services. This work was previously the responsibility of the IOU's. The ISO estimates the workload will continue to require approximately 5 FTE's @ 1720 billable hours or 10,320 billed hours at the ISO's standard rate providing for recovery of direct and overhead costs. The FERC requires that the interconnection customer pay the actual cost for the interconnection studies. Therefore this activity will be cost neutral to the ISO's bottom line as long as customers don't default on obligations. Revenues received from customers will cover the costs of products and services delivered.

Discussion of Proposed Budget

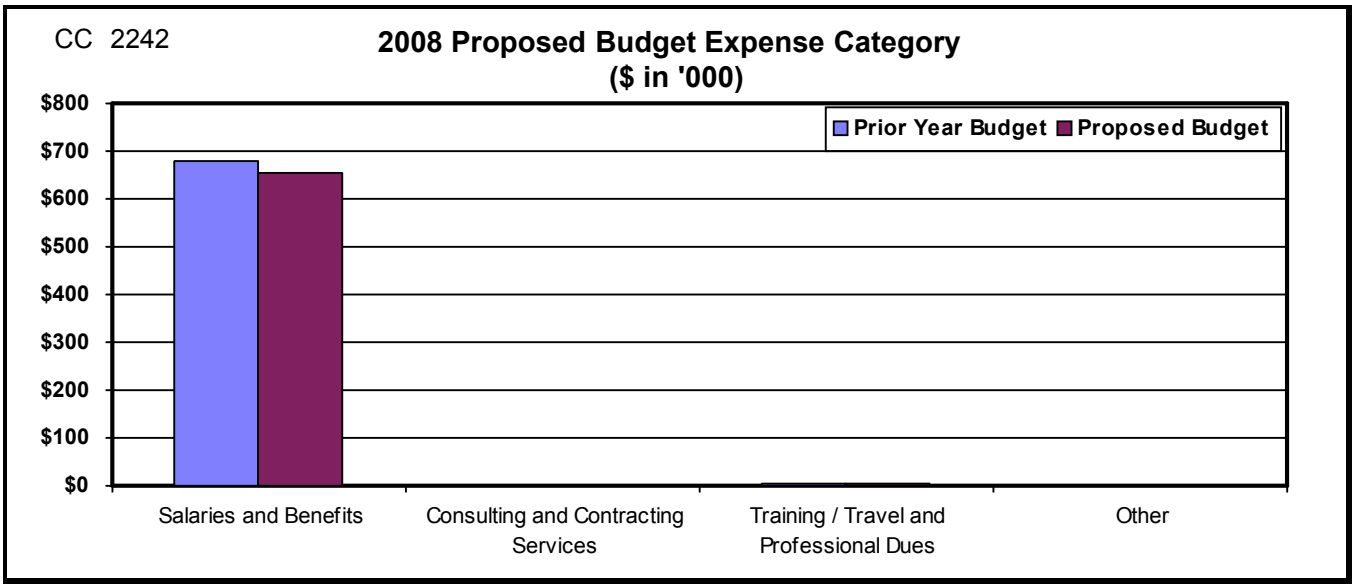
The 2008 proposed budget of $0.65 million compares with the 2007 budget of $0.69 million, which is a decrease of $-0.04 million or -5%.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	5	5	0	0	5

Operations and Maintenance Budget

2008 Base Budget	$659,396
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$659,396
2007 Budget	$685,969



2251 Network Applications

Departmental Description

The Network Applications team is responsible for the necessary work to maintain Control Area Reliability as required by the TCA and Tariff, including but not limited to:
- Developing the State Estimator and Network Applications tools to provide real-time reliability tools for Reliability Coordinators, Transmission Dispatchers, and Regional Transmission Engineers;
- Providing additional SE/Net Apps enhancements to support MRTU's needs for the Full Network Model and a real-time SE solution, and assisting MRTU in defining design requirements;
- Support and improvement of "upstream" ISO tools and processes that support the SE/NA (Outages and applications such as SLIC, NeMO, and COMT, NRI, TR, and GE PSLF basecases);
- Coordination with, and assistance to, the Real-Time Applications group (EMS) in QAS testing and SCADA-related tasks (load calculations, operating reserve calculation, etc.);
- Engineering assistance in ISO contracts and standards issues (e.g., Generator telemetry standards, Participating Generator Agreement ("PGA"), etc.); and
- Participating in WECC & IEEE committees and workgroups related to interconnected power system operations (as needed);

Department Workload and Initiatives

The main initiatives in 2008 are
- Voltage Stability Analysis and Dynamic Stability Analysis
- 24 x 7 on-call support for Network Applications.
- Network Model building in GDB and validation
- extending the detailing of Network Model

Discussion of Proposed Budget

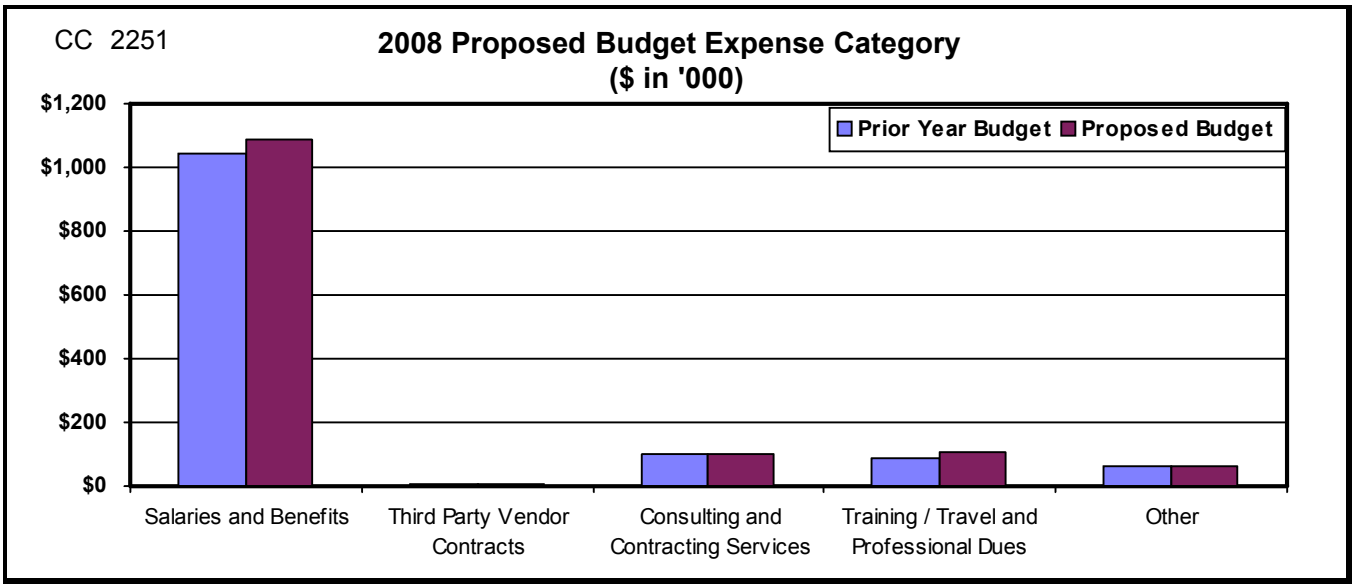
The 2008 proposed budget of $1.36 million compares with the 2007 budget of $1.29 million, which is an increase of $0.07 million or 5%.

Staffing

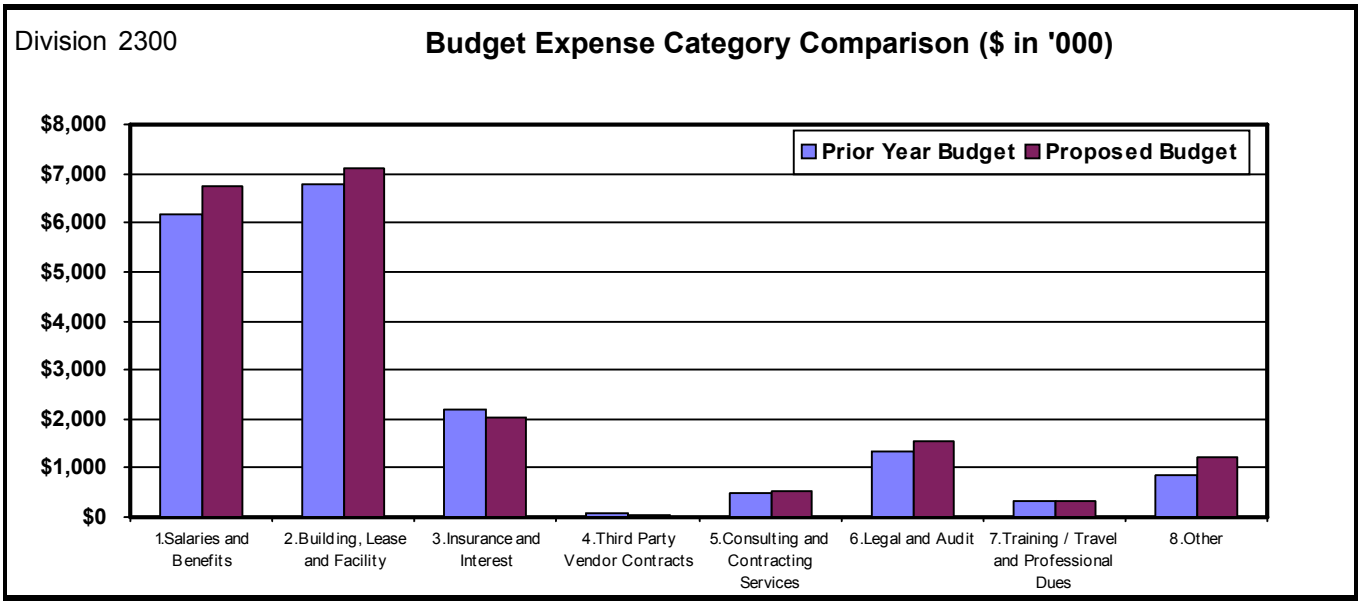
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	7	7	0	0	7

Operations and Maintenance Budget

2008 Base Budget	$1,363,130
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,363,130
2007 Budget	$1,294,730



Overview Chart 2300 CFO and VP of Corporate Services



Discussion of Proposed Budget

The 2008 proposed budget of $19.46 million compares with the 2007 budget of $18.26 million, which is an increase of $1.2 million or 7%. Overall within the Division, cost increases in the areas of Salaries and Benefits (9%, relating to salary/benefit cost adjustment for 2008, and additional staff in Treasury/Financial Planning), Audit (15%: additional costs related to SAS70 assurance for MRTU systems), and miscelleneous (44%-Purchasing budgets for printing/copies expenses, offset by reductions in other departments) are in part offset by decreases in insurance costs (9%), third party contracts (76%).

Divisional Budget Overview

2300 CFO and VP of Corporate Services

Division Description

The CFO and VP Corporate Services group consists of the following cost centers:
2311 CFO-General
2321 Accounting
2331 Treasury and Financial Planning
2351 Facilities
2361 Procurement and Vendor Management
2370 Enterprise Risk Management
2371 Enterprise Risk Management
2372 Internal Audit
2374 Physical Security

The Information Security department (cc2373) was moved to the Information Technology Division in 2007.

Our Vision on Excellence

The Corporate Services Division strives to effect a corporate wide outlook that enables effective decision making, promotes risk management awareness and effective risk mitigation, provides the financial support and insight needed to fulfill the California ISO Mission, and strives to provide a pleasant, safe and efficient work environment that is consistent with our mission and supports the goal of establishing the ISO as an “Employer of Choice.”

Division Workload and Initiatives

Corporate Services has the following initiatives that will have activities during 2008:

Achieve Excellence in Grid and Market Operations

2007–2011 Build New Control Center to Support Reliable Operations
2007–2008 Implement Settlement/Market Clearing Improvements
2007–2009 Improve Credit Management

Value Added and Efficient Markets

2007–2008 Implement New Post MRTU GMC

Affirm that Our People Are Our Greatest Asset

2007–2008 Provide Safe and Productive Work Environment
2007–2011 Build a New ISO Campus
2007–2011 Enhance departmental coordination and staff development

Continuing Commitment to Excellence

2007–2008 Develop Control Environment
2007–2011 Integrate Risk Management into Business Processes
2007–2008 Develop Risk Mitigation Measures
2007–2009 Enhance Financial Services

Staffing

Group		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2311	CFO General	1.5	1.5	0	0	1.5
2321	Accounting	7.5	7.5	0	0	7.5
2331	Financial Planning and Treasury	5.5	5.5	2	0	7.5
2351	Facilities	8	8	0	0	8
2361	Procurement and Vendor Management	8	8	0	0	8
2370	Enterprise Risk Management	17	17	0	0	17
	Total	47.5	47.5	2	0	49.5

Operations and Maintenance Budget

2008 Base Budget	$18,686,557
2008 Management Recommended Incremental / Decremental Programs	$774,600
Total Proposed 2008 Budget	$19,461,157
2007 Budget	$18,260,111

2311 CFO General

Departmental Description

This cost center contains funding for the CFO/VP Corporate Services and the shared Executive Assistant for this position. It also contains funding for the Divisional Vacancy factor and salary adjustments for 2007.

Department Workload and Initiatives

See list of Divisional initiatives in the Corporate Services roll-up description.

Discussion of Proposed Budget

The 2008 proposed budget of $0.73 million compares with the 2007 budget of $0.63 million, which is an increase of $0.1 million or 16%. The funding includes CFO and support staff salaries and associated costs and as noted above. The increase is due primarily to $75,000 in funding to study/implement activity based accounting/time reporting.

Staffing

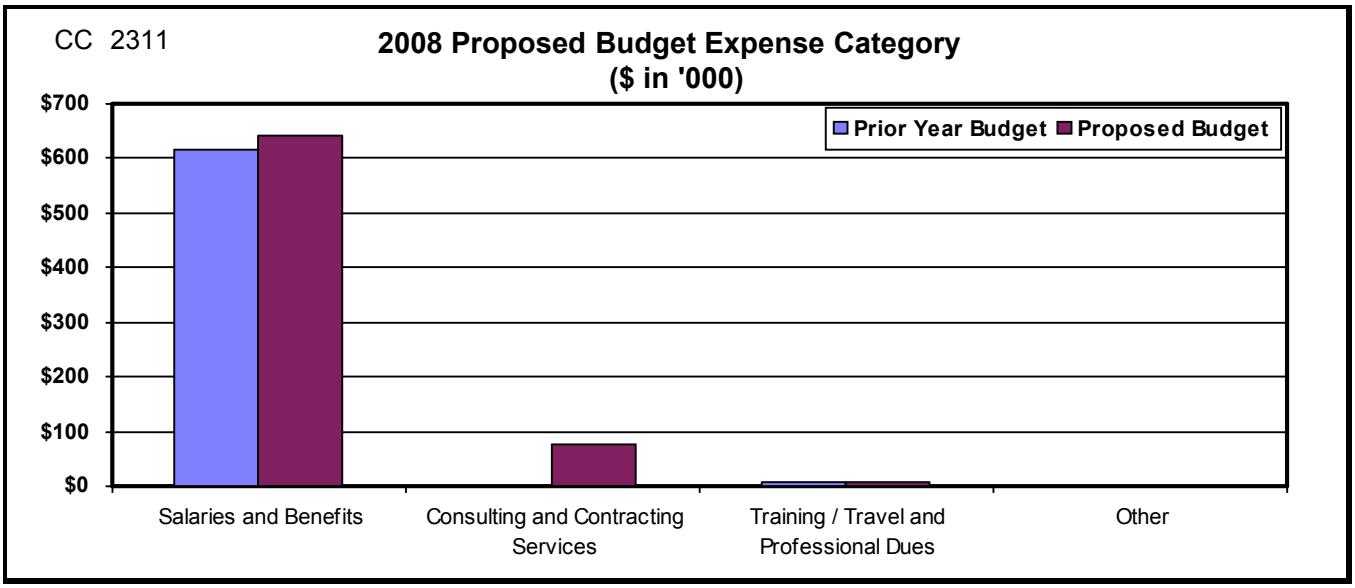
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	1.5	1.5	0	0	1.5

Operations and Maintenance Budget

2008 Base Budget	$652,853
2008 Management Recommended Incremental / Decremental Programs	$75,000
Total Proposed 2008 Budget	$727,853
2007 Budget	$625,810

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 1	Activity Based Costing-Budgeting	Management Recommended	$75,000	
		Total	$75,000	



2321 Accounting

Departmental Description

The Accounting department is comprised of three areas of responsibility. Each area performs specific functions that enable the department as a whole, to provide the best possible financial accounting services to the ISO. Each area, and a brief description of its functions, is listed below:

1) Controllership/Accounting Administration:
- Responsible for implementing internal control policies and procedures. This area acts as the umbrella for all other areas of the department.

2) General Accounting and Financial Reporting:
- Responsible for preparing, analyzing, and distributing financial and management reports to various internal and external users.
- Responsible for coordinating the financial, operational and settlements control, and other audits. These audits ensure that the ISO is in conformity with generally accepted accounting principles and is in compliance with certain established procedures.
- Responsible for preparing and submitting various tax returns and other informational filings to federal, state, and local agencies.
- Responsible for the integrity and maintenance of the general ledger and fixed assets systems. Tasks include reconciliations of account and bank statements, preparation and input of journal vouchers, and analyses of expenditures.
- Responsible for the recordkeeping and accounting of the generator interconnection (LGIP) studies.

3) Daily Cash Movements/Accounts Receivable/Accounts Payable:
- Responsible for processing payments for goods and services where a valid purchase order was placed with the invoicing vendor, as well as for those goods and services received by the ISO which were not ordered by purchase order, including the reimbursement of employee travel expenses.
- Assists in the market settlement process by collecting and distributing cash to the market participants. This responsibility includes the settlement process for GMC, market, FTR, FERC, SRA, emissions, start-up, and other types.
- Responsible for billing of LGIP costs and invoicing for this program.
- Responsible for the receipt of monies, banking interfaces, and general cashier operations.

Department Workload and Initiatives

The workload for the department has steadily increased as a result of increased activity in the other departments of the ISO. The increase in the number of cost centers, employees, contracts, and purchase order requests has likewise increased the number of invoices, expense reports, reports, etc. that need to be processed. The number of

bank and investment accounts to file and reconcile now exceeds 170 separate accounts. 125 of those accounts are for market participants which get customer and account rep queries. The department has been able to absorb the increased workload with the assistance of a contractual part-time administrative assistant.

The increased functionality of the new settlements system (SaMC) was to be in place in 2006 but has been deferred until 2008. Many anticipated enhancements such as single invoicing have been moved from the initial implementation date to the implementation of accelerated payments which is currently planned for late 2008. Market clearing and invoicing remain mostly manual. There have been several line operator agreements negotiated that now require manual invoicing outside of settlements. New charges to participants for WECC/NERC reliability services will have to be manually invoiced through the corporate system in 2008 as they could not be implemented in MRTU and must wait for the next release.

The FERC refund case continues to require significant time and resources when a filing is required; meetings on the ultimate settlement and accounting for global settlements negotiated by the Cal Parties. All work is manual.

The LGIP program has a large impact on accounting. There are currently over 100 studies with various phases and tasks to be tracked and billed. Participants must post a deposit for each study and accounting must maintain the funds and allocate interest earned to each participant.

The department is also responsible for working with all divisions to review their resuts as well as forecast O&M. in addition the spending on capital projects is monitored. With the continued tightening of the O&M budget and the impacts of large projects like MRTU forecasting is becoming a bi-monthly process and the department's resources are not sufficient without temporary assistance.

There is a heightened focus on corporate internal controls which effects HR, Financial Planning, Procurement, IT, Accounting and Internal Audit. An initiative was proposed to bring the corporate controls to a level similar to that maintained for the market. After the process is complete then the individual departments will be responsible for maintaining the documentation. This proposal was not funded in the 2008 budget.

Improvement of the Oracle corporate information system (Oracle) also requires a significant amount of time and resources. The data is scattered in several data bases, inefficiently used, and using different versions of Oracle. This is a 3-year plan to maximize the utilization of the systems between HR, Accounting, Financial Planning, IT, Capital Project management and Procurement. Department workload related to this project has increased in order to test and implement the improvements and new modules before any efficiencies are realized.

An initiative in the 5 year business plan is to implement activity or project based accounting. This will require time costing by activity/project. A needs assessment is needed along with requirements and a reporting infrastructure needs to be bulit. Consulting dollars have been budgeted (in the CFO cost center) to complete this phase and run a pilot program in 2008 with a possible implementation in 2009.

Discussion of Proposed Budget

The 2008 proposed budget of $2.8 million compares with the 2007 budget of $2.46 million, which is an increase of $0.35 million or 14%. The increase is related primarily to increased audit costs for the SAS 70 for the review of market systems related to MRTU. This will require the audit of two control environments. Additionally the report will have to describe both environments. For these reasons the cost of the SAS 70 audit will increase by $250,000 from $750,000 to $1M.

The base budget increased $50,000 or 4% from $2.5M to $2.6M which was attributable to increased audit costs for the corporate audit. The corporate financials changed from FASB to GASB in 2006. GASB requires significantly increased disclosures as well as an MD&A. The cost of the audit increased $50,000 from $150,000 to $200,000.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	7.5	7.5	0	0	7.5

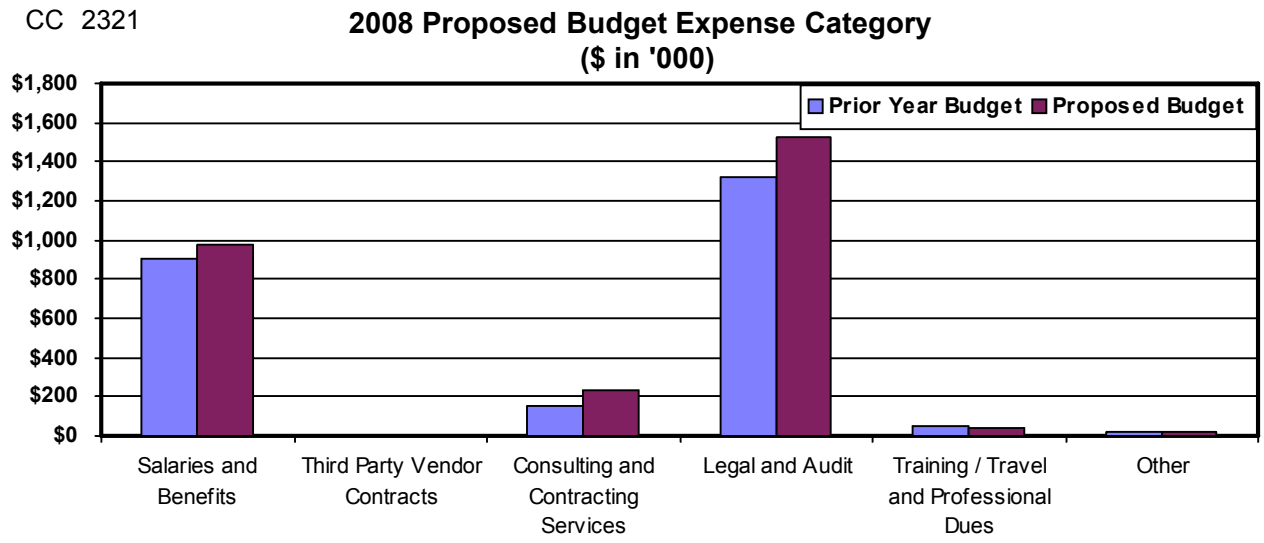
Operations and Maintenance Budget

2008 Base Budget	$2,554,929
2008 Management Recommended Incremental / Decremental Programs	$250,000
Total Proposed 2008 Budget	$2,804,929
2007 Budget	$2,455,339

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 4	Incremental SAS 70 Audit costs related to MRTU	Management Recommended	$250,000	
		Total	$250,000	

CC 2321



2331 Financial Planning and Treasury

Departmental Description

The Financial Planning and Treasury group is responsible for the following:
- Treasury and Investment Management-Investments, interest calculations, etc.;
- Debt administration--Bond issuances, compliance, bond draws, interest;
- Insurance/Risk Management--claims, policies, renewals;

- Budgeting/Financial Planning--O&M budget/capital budget;
- Financial Administration of Capital Projects;
- SC financial security / credit administration
- GMC/Rates/Unbundling; and
- Accounting/Audit Support
- Special Projects
- General Administration and corporate initiative support

The 2007 total department staff of 5.5 (.5 is for a shared technical assistant) has three individuals who are dedicated nearly exclusively to their respective areas of responsibility (one for Capital projects, one for Credit and one for GMC). In 2008, the department plans to increase staff in credit and GMC/budget. One additional staff is necessary in credit related to design and administration of credit requirements related to convergence bidding. One additional staff is necessary for GMC/rates related to GMC rate cases, time reporting, and budgeting process enhancements. This support is also necessary given the anticipated 2008 and 2009 bond offerings related to 2008/2009 capital expenditure needs, and potentially, the planned new headquarters facility.

Department Workload and Initiatives

2008 Significant Responsibilities include:

Implement MRTU GMC Rate Structure Changes / 2008 Rate Case

CAISO worked with stakeholders during 2006-2007 to design an MRTU compliant rate structure. CAISO is aiming for an uncontested rate filing, but in the event this is not achieved, a rate case will be necessary. If the rate case is not settled, a FERC hearing with attendent discovery will be necessary, and will consume significant departmental resources.

Design and stakeholdering rate changes related to 2009 market design enhancements will also take place during 2008.

Credit Management

CAISO will implement a new credit management system in 2008 concurrent with MRTU startup. The credit management system is to be implemented with Settlements/Market Clearing and will provide better control and more accurate liability estimates. Credit Management will also support the accelerated payment initiative scheduled for 2008. Treasury will also work on the implementation of credit policies related to MRTU enhancements such as convergence bidding. Additionally, Treasury will work on enhancements to CAISO's credit management practices, with consideration of a funded market reserve account and other initiatives.

Bond Issuance

A bond offering will be necessary in 2008 to fund 2008/2009 capital costs. A bond offering requires significant attention by the corporate Treasurer and ongoing administrative efforts. Treasury will also plan and potentially execute in 2008/2009 financing for a new headquarters facility in Folsom.

Budgeting Changes

In the Financial Planning area, 2008 work will include the normal development of the 2009 budget, and as a project, an investigation and potential implementation of a new budgeting application that will support activity based budgeting and accounting.

Discussion of Proposed Budget

The 2008 proposed budget of $3.49 million is essentially unchanged from 2007. Reductions in insurance and bank fees are offset by increases in salary/benefits for two planned additional staff for credit management and GMC/rates and budget.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	5.5	5.5	2	0	7.5

Operations and Maintenance Budget

2008 Base Budget	$3,274,412
2008 Management Recommended Incremental / Decremental Programs	$214,600
Total Proposed 2008 Budget	$3,489,012
2007 Budget	$3,492,398

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 4	Financial Analyst	Management Recommended	$107,300	1
Incremental - 2	Credit Analyst	Management Recommended	$107,300	1
		Total	$214,600	2

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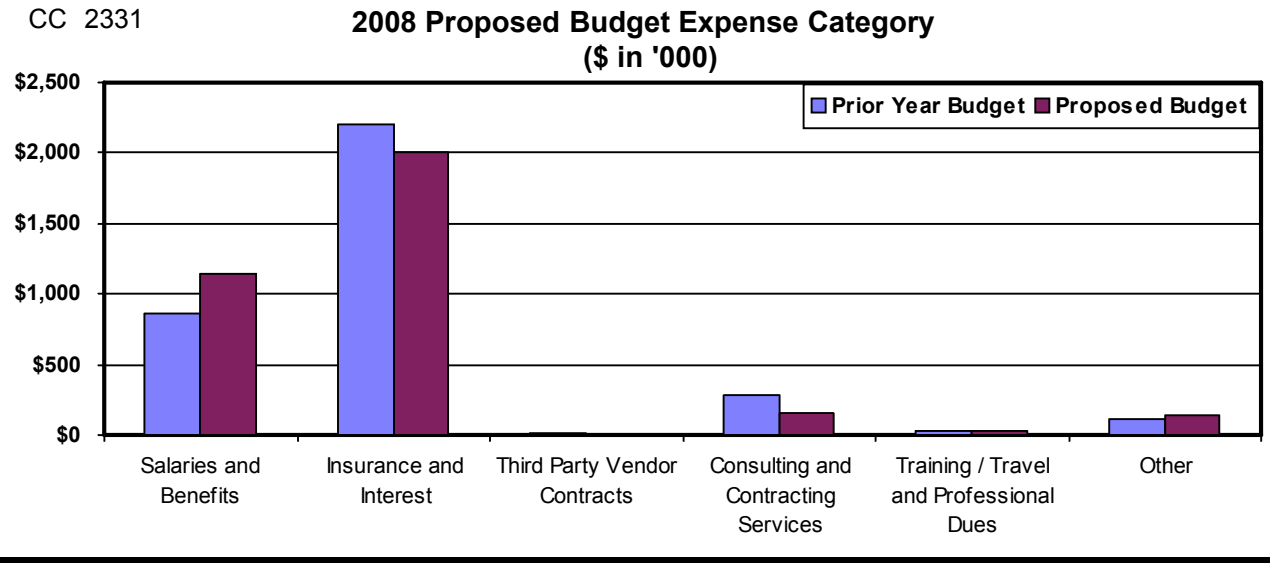


2351 Facilities

Departmental Description

The Facilities Department is responsible for the physical building environment of the California ISO. Its mission is to provide and manage a highly reliable building infrastructure that supports a safe, efficient and comfortable work environment and contributes to enterprise-wide teamwork and collaboration. This role can be broken down into several areas:

- Facilities Planning: The allocation of space to accommodate staff and staff changes along with the redesign, modifications, and furnishing of that space. In 2008 we will incorporate the results of the 2nd phase of the Facilities Study,schematic design, and a year long project, developing the necessary construction drawings and meeting the municipal requirements as required, in expectation of a 2009 construction.

- Critical Systems: Providing and ensuring that a high-reliability infrastructure is available 24 X 7 to accommodate Information technology equipment and operating systems housed in the computer rooms and Dispatch control center, in Folsom and Alhambra.

- Building Maintenance: The maintenance of the general office areas and computer facilities with respect to heating/ventilation/air conditioning, indoor air quality, building electrical distribution, structural systems, etc.

- Housekeeping: Janitorial upkeep of the building interiors as well as the appearance of the grounds and other exterior elements.

- Property Leases: Administration of all existing property lease agreements including payments, landlord-tenant issues, and negotiation of changes.

- New Facility Development: Planning, development, and transition into all newly acquired ISO properties, leased or owned.

- Administrative: Tracking, reporting, and benchmarking all ISO Facilities' activities and costs.

- Contingency Planning: Working with disaster recovery contractors to insure that the necessary information regarding the buildings, insurance, and business unit requirements are available before any incidents occur.

- Strategic Planning: Continuously looking at the current status of the ISO, possible future changes to the ISO business requirements, the local real estate market and changes in financial opportunities.

The Facilities Department outsources most of the preventive maintenance, repair, and installations required for a critical company such as ISO. This work is performed at both the Folsom and Alhambra sites. Facilities coordinates and oversees over 660 contractor visits each year with most of the contractor visits taking several days to complete.

The Facilities Department typically handles 3,000 to 4,000 work orders annually. These work orders include box moves, plumbing repairs, spills, temperature maintenance calls, leaking roofs, key replacement, vending machine problems, furniture reconfigurations, and space requests for new personnel.

On an annual basis, the Facilities Department oversees more than 1,100 preventive maintenance tasks. These tasks include quarterly, semi-annual, and annual maintenance of rooftop A/C units, chillers, cooling towers, generators, UPS, fire sprinkler systems, CO2 tanks, and Infrared Scans of electrical equipment. In addition, there is the monthly testing of redundant back up equipment such as CO2 purge fans, backup well pumps for makeup water to the cooling towers, and backup A/C for the data centers. Additionally, we perform weekly inspections and starting of the backup generators, switchover of chillers, chilled water pumps, and other assorted backup equipment. Seventy to eighty of the preventive maintenance work orders are extensive enough to require that they go through the Change Management Request (CMR) process. The CMR process requires that the work, possible problems, and back out strategies be documented and reviewed by other ISO business units for coordination and impact evaluation.

Department Workload and Initiatives

The major issues reflecting Facilities' budget increases continue to be utilities and building lease costs. We are estimating a 10% increase in Utility costs between 2007 and 2008, largely due to an increase in SMUD costs, which make up 79% of the ISO's utility bills. We are allowing for a 3% increase from 2007 to 2008 for increased natural gas costs. Unfortunately, the ISO leases its facilities, which is not conducive to long-term investments in equipment for energy savings. Where a 9-year payback on a piece of equipment with a 20-year life expectancy would make sense in an ISO owned facility, it is difficult to justify such an investment on a six to 10 year lease.

The building leases for Folsom and Alhambra have been renewed in 2006, with 10 year leases for buildings 101, 151 and Alhambra. Building 110 was renewed for 3 years with 2 separate 3 year options.

Discussion of Proposed Budget

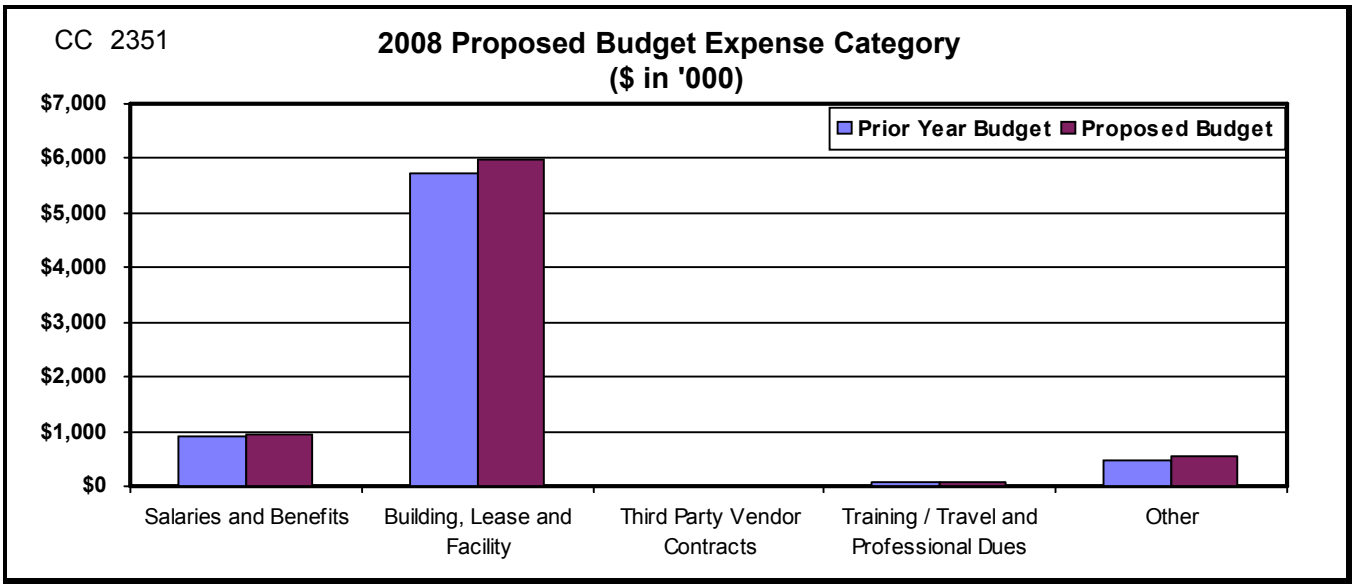
The 2008 proposed budget of $7.53 million compares with the 2007 budget of $7.2 million, which is an increase of $0.34 million or 5%. The change is related to increased compensation costs (salary cost adjustments), increased taxes, lease renewal adjustments and facility operating expenses.

Staffing

	2007 Budget	*2008 Base Budget*	*2008 Incremental*	*2008 Decremental*	*Total 2008 Mgmt Recommended Budget*
Total	8	8	0	0	8

Operations and Maintenance Budget

2008 Base Budget	$7,534,354
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$7,534,354
2007 Budget	$7,197,694



2361 Procurement and Vendor Management

Departmental Description

The Procurement and Vendor Management group ("PVM") provides Corporate support in purchasing commercial goods and services through an effective process for selecting vendors and managing costs. PVM is the primary interface with selecting and managing VARs (Value Added Resellers) and leasing companies where these relationships assist the ISO to effectively manage its buying power. PVM will issue all Corporate Purchase Orders and be the focal point for all commercial contracting. The contracting process adds value through its focus on evaluating, assessing, and mitigating business risk through negotiated terms and provisions for all commercial transactions. Contracting also includes negotiating acceptable pricing and terms, administering and monitoring vendor performance, interpreting contract language, assisting Business Units with disputes, and post-award negotiations for amendments and change orders.

Ongoing departmental imperatives include centralizing all commercial contracts into a hard and soft copy repository including, but not limited to: 1) software licenses and maintenance; 2) hardware maintenance; 3) consulting services; 4) leases (IT equipment and Real Property); 5) special services, and 6) Confidentiality Agreements.

PVM assists to initiate the asset life cycle for fixed assets and coordinate life cycle management with the respective Business Units, OEMs, Outsourcing Vendors, and resellers to effectively manage the total cost of ownership and investment made by the ISO.

PVM assists all Divisions in reviewing budgets and centralizing costs where appropriate to minimize duplicate budgets and expand buying power. Specified organizational expenses will be budgeted and managed through PVM including bulk Office Supplies, Office Equipment maintenance, and Corporate marketing vendors.

Department Workload and Initiatives

PVM's purpose is to support the organization in purchasing goods and services through an effective process for selecting vendors and managing costs. Growth for 2008 is expected to stabilized (±2000 transactions) after explosive growth in 2006 (900 transactions) and 2007 (estimated 2000 transactions) due to maturity of processes and use of executable contracts over standard terms contained within purchase orders.

Implementation of the iProcurement tool in late 2007 is projected to increase overall efficiency of current staffing to eliminate need for temporary labor. Procurement activity was underestimated at formation of the department during the Corporate reorganization requiring additional contract resources to be used to support the overall volume of business during 2006 and 2007.

Discussion of Proposed Budget

The 2008 proposed budget of $1.51 million compares with the 2007 budget of $1.27 million, an increase of $0.24 million or 18%. This increase is due to centralization of expenses for Multi-Functional Devices (printers, scanners, faxes) deployed during 2007. We project this increase will be offset by a corresponding decrease in overall expenses for all costs centers during 2008.

Staffing

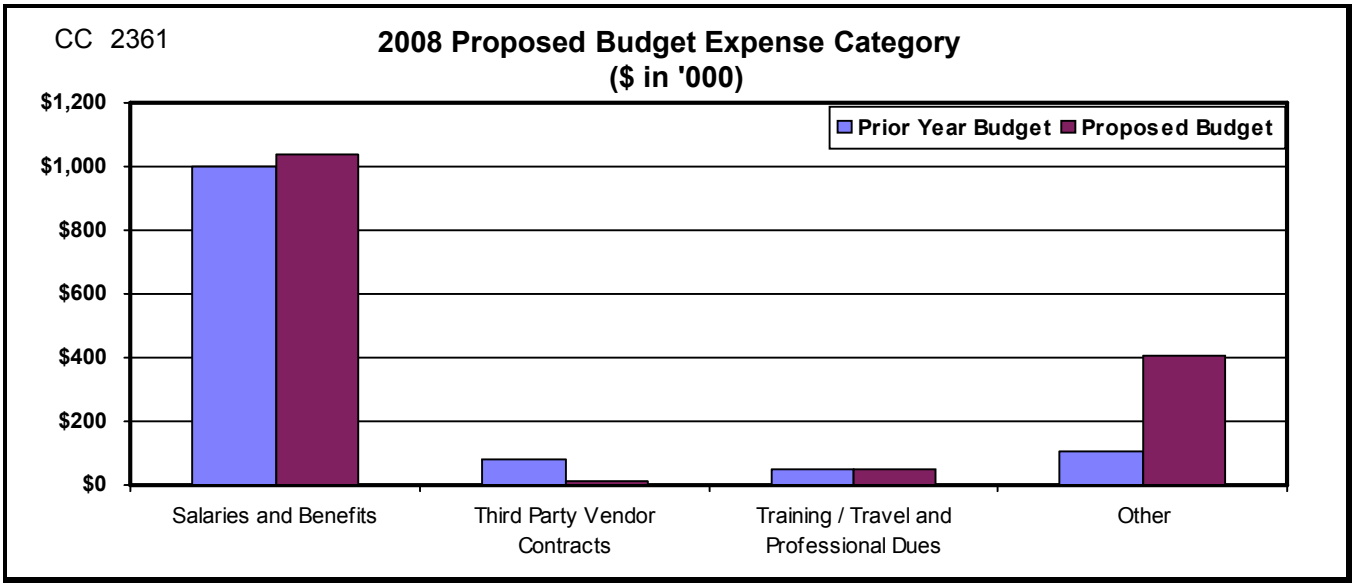
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	8	8	0	0	8

Operations and Maintenance Budget

2008 Base Budget	$1,274,350
2008 Management Recommended Incremental / Decremental Programs	$235,000
Total Proposed 2008 Budget	$1,509,350
2007 Budget	$1,234,674

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 2	Printer, Scanner, Faxes costs	Management Recommended	$235,000	
		Total	$235,000	



2370 Enterprise Risk Management

Group Description

The Enterprise Risk Managemet Department inculdes the following cost centers:
2371 Enterprise Risk Management
2372 Internal Audit
2374 Physical Security

Group Workload and Initiatives

The Enterprise Risk Management and Internal Audit functions were created in 2005. Information Security was in the Enterprise Risk Management department until March, 2007, when the department was transferred to Information Technology Division. No significant changes in workload for the Enterprise Risk Management, Internal Audit and Physical Security functions are anticipated in 2008 as compared to 2007.

Discussion of Proposed Budget

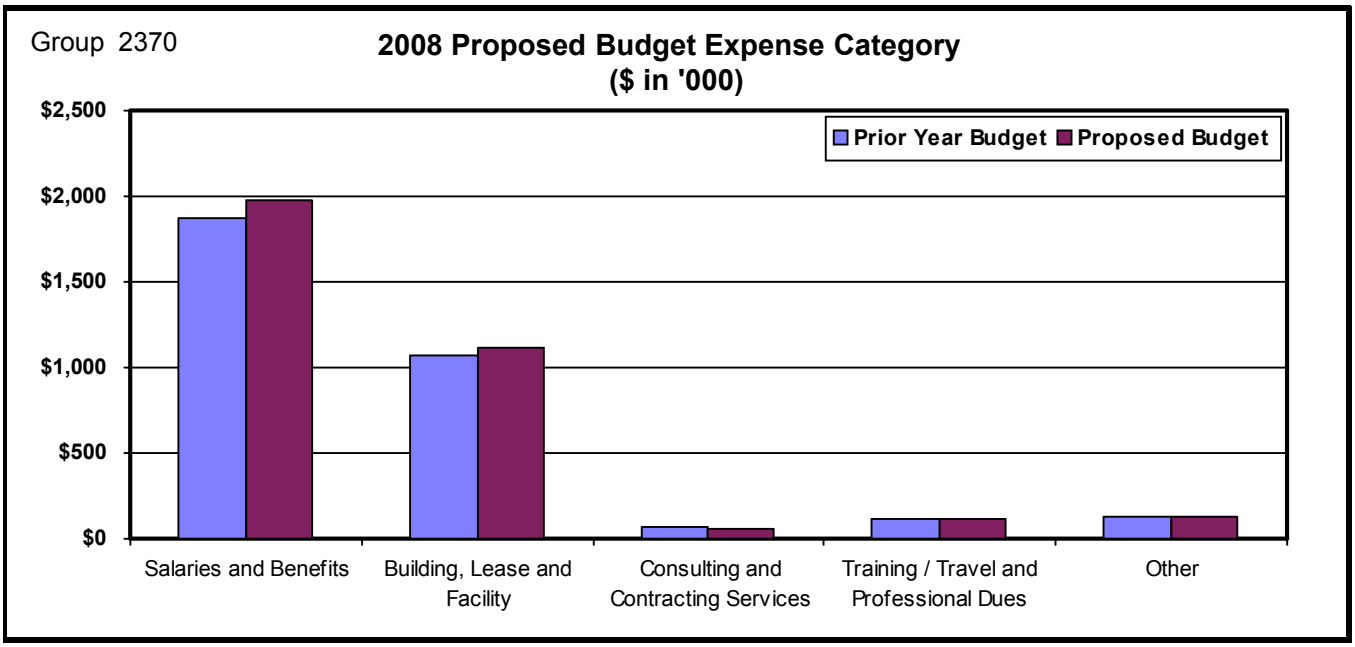
The 2008 proposed budget of $3.4 million compares with the 2007 budget of $3.25 million, which is an increase of $0.14 million or 4%.

Staffing

		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2371	Enterprise Risk Management	3	3	0	0	3
2372	Internal Audit	4	4	0	0	4
2374	Physical Security	10	10	0	0	10
	Total	17	17	0	0	17

Operations and Maintenance Budget

2008 Base Budget	$3,395,659
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$3,395,659
2007 Budget	$3,254,196



2371 Enterprise Risk Management

Departmental Description

The Enterprise Risk Management Department (ERM) includes Physical Security and Internal Audit functions and leads the CAISO's Enterprise Risk Management activities.

ERM is responsible for assisting Senior Management and the Audit Committee of the Board of Governors in defining and aligning the CAISO's risk appetite with its strategic objectives, working with Management to create an internal environment and culture that recognizes risk, and establishing a coherent framework for identifying, assessing and responding to risks in a manner that allows the CAISO to achieve its strategic objectives. ERM seeks to assure that an owner is identified for each risk, monitors the ISO's execution of risk responses, evaluates residual risk, and reports on results of the ISO's risk management efforts. ERM seeks to develop a partnership with each division and department to assure that risks are identified and managed reasonably and efficiently.

In support of the CAISO's commitment to integrity and the highest ethical standards, ERM coordinates with the CAISO Corporate Counsel to assure that any potential code of conduct violations may be reported and resolved confidentially and professionally.

Department Workload and Initiatives

The Enterprise Risk Management and Internal Audit units, created during the 2005 reorganization have established processes to help the organization improve quality and efficiency of performance and are continuing to coordinate with other corporate initiatives focused in operational excellence. The Information Security and Physical Security functions were reorganized to report through ERM during the 2006 budget. Information Security has since transitioned to Information Technology as of March 2007. No significant changes in the Enterprise Risk Management unit workload will occuring in 2008 as compared to 2007.

Discussion of Proposed Budget

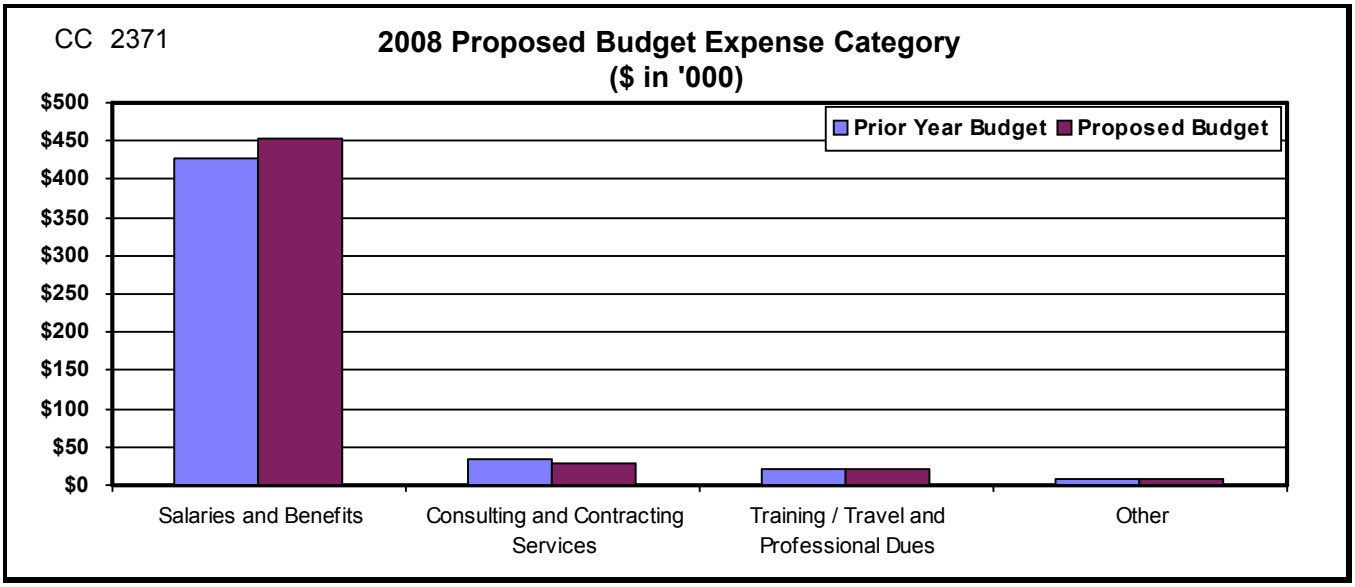
The 2008 proposed budget of $0.51 million compares with the 2007 budget of $0.49 million, which is an increase of $0.02 million or 5%. ERM is seeking to implement best practices and fully integrate risk management into key business processes at the ISO including strategic planning, budgeting, process documentation, issue management, compliance and project management.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	3	3	0	0	3

Operations and Maintenance Budget

2008 Base Budget	$509,102
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$509,102
2007 Budget	$487,020



2372 Internal Audit

Departmental Description

The Internal Audit business unit is responsible for the development of the Annual Audit Plan. The auditors will plan and execute various internal audits and reviews in accordance with ISO procedures and standards for the professional practice of internal audits. The internal audits target medium to high-risk ISO processes in order to determine compliance with requirements. However, audits and reviews maybe performed on processes with less risk to determine the effectiveness of risk mitigation activities. The auditors will perform follow-up with open items identified during the audits and reviews to assure that corrective actions have been implemented to prevent future recurrence. Audit findings will be presented to the business units, ISO management and the ISO Audit Committee. In an effort to bring the best practices to the ISO, the Internal Audit group will interface with both our external auditors and the various other ISOs' Internal Auditing groups.

Areas of evaluation for 2008 are: Risk Response Plans implementation, Corrective Action implementation, Document Control, Tariff Amendment implementation, Financial Monitoring, and the Change Management process. IA is always available to review emerging issues and risks as requested by ISO Management or the ISO Audit

Committee.

Department Workload and Initiatives

The auditors have been working out processes and methods to improve the unit's ability to perform audits and provide value to the ISO. Internal Audit has also been working to build awareness, and has received additional requests for evaluations. No staff additions to Internal Audit are planned in 2008, and it will be necessary to carefully prioritize audits and reviews based on the risk inventory and strategic business plan.

Discussion of Proposed Budget

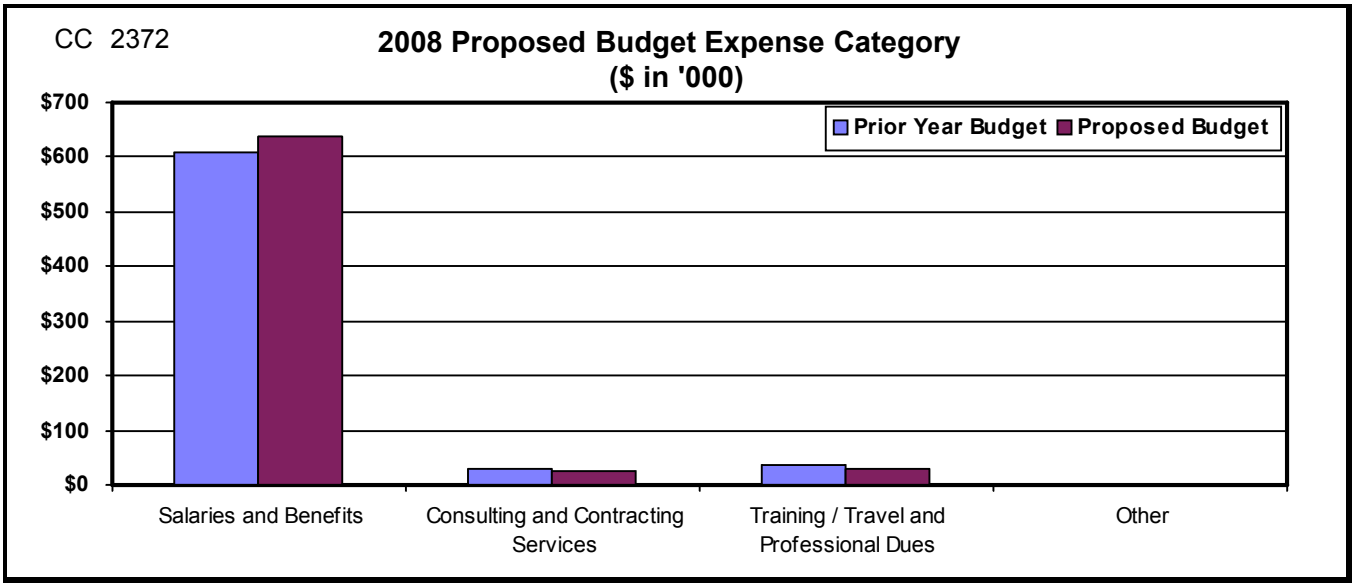
The 2008 proposed budget of $0.69 million compares with the 2007 budget of $0.67 million, which is an increase of $0.02 million or 3%.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	4	4	0	0	4

Operations and Maintenance Budget

2008 Base Budget	$691,817
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$691,817
2007 Budget	$673,353



2374 Physical Security

Departmental Description

The Physical Security Department has primary responsibility for Physical Security, Employee Health/Welfare and Office Support (Mail Services.) The primary goals of the Physical Security Department is to ensure a safe, secure and respectful work environment allowing ISO employees to perform their jobs at the highest levels of personal achievement possible.

Physical Security – Responsible for providing physical protection of ISO personnel and property. This includes Emergency Response coordination, workplace violence prevention, investigations of criminal acts, executive protection, risk management/threat assessment, life safety system monitoring, critical systems monitoring and medical first response.

Employee Health and Welfare -Responsible for overseeing compliance with Corporate Safety Program including: risk assessment, management and mitigation, workers compensation, ergonomic compliance and other related safety programs. Responsibilities extend to all visitors, contractors and employees on ISO property as well as those performing services directly controlled by the ISO. Also responsible for ensuring compliance with all applicable local, state, and federal safety laws and regulations.

Office Support Services - Responsible for facilitating corporate support functions including mail services, shipping and receiving, reception desks, office automation equipment maintenance and conference room set-up.

There is a direct connection between both Reception and Office Support Services and employee security and safety. Both areas represent two of the corporations more vulnerable points of access; the delivery of packages/parcels and guests/visitors.

Department Workload and Initiatives

The workload performed by the Physical Security Department in 2007 was higher then originally forecast due in part to the support needs of MRTU. It is anticipated that this will continue at least through 2008.

Additionally, several security initiatives were undertaken in 2007 that will carry over at least into 2008, including additional access control measures, enhanced antiterrorism efforts and enhanced workplace violence prevention. To the extent possible these efforts will be supported within the 2008 base budget.

Discussion of Proposed Budget

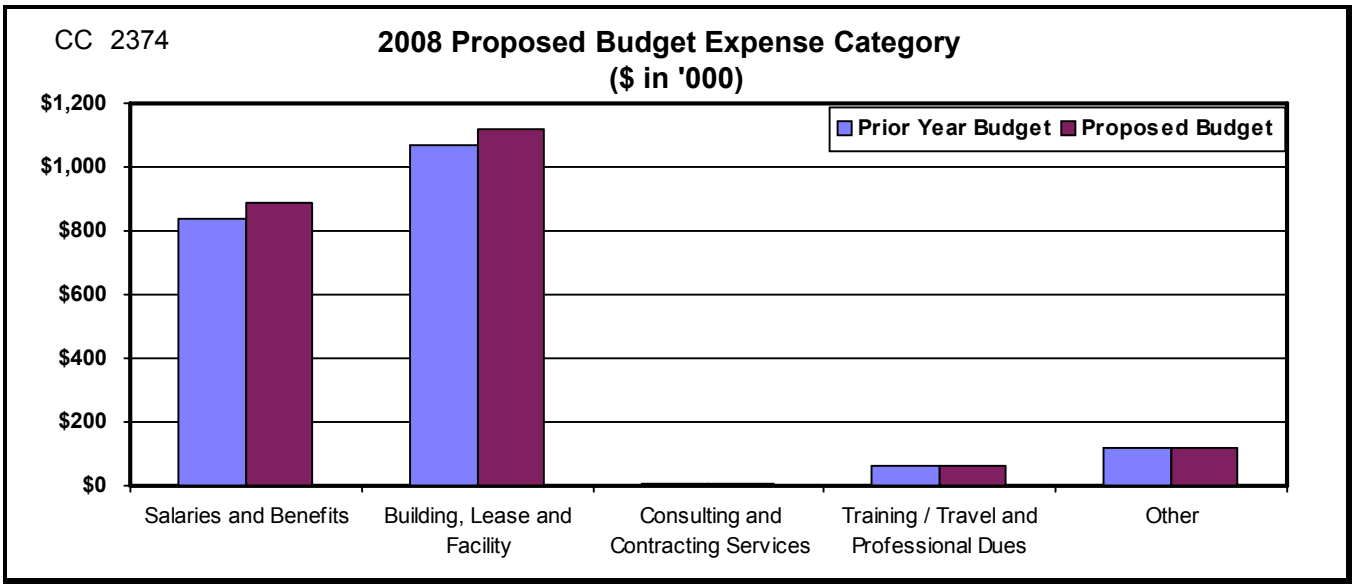
The proposed budget for FY2008 is $2.2 million, which will provide funding for the scope of work noted above. This represents an increase of approximately $0.1 million or 4.7% from the 2007 adjusted budget of $2.1 million, most of which is related to increased security operations expense.

Staffing

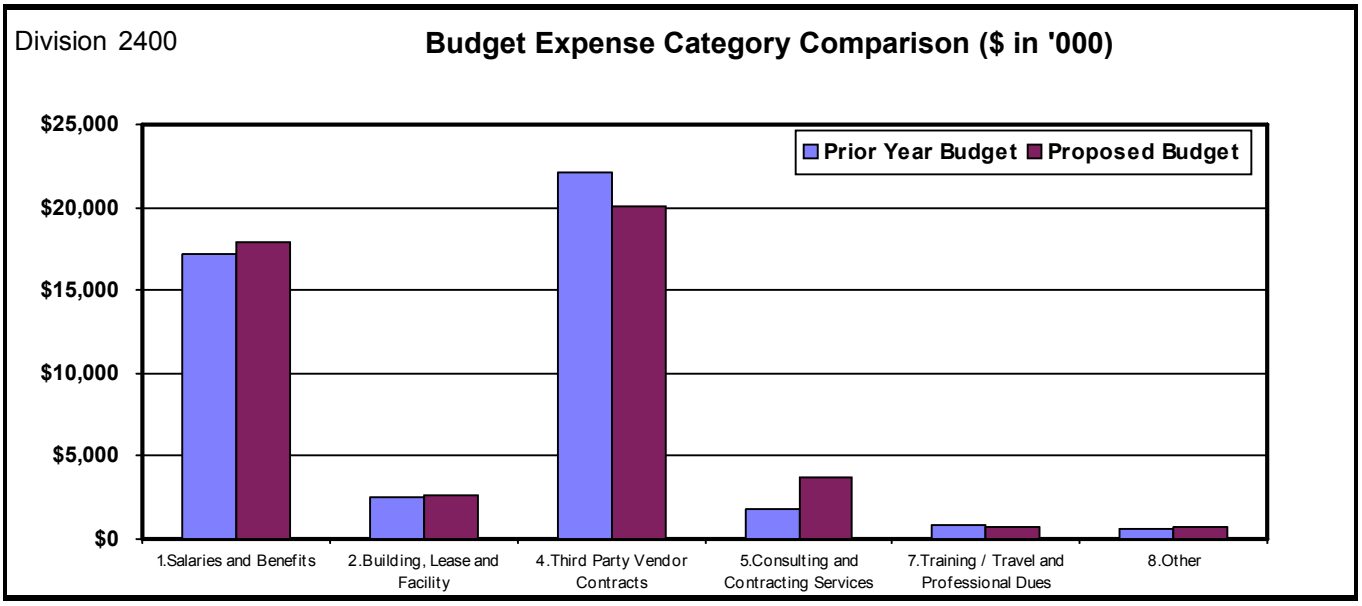
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	10	10	0	0	10

Operations and Maintenance Budget

2008 Base Budget	$2,194,740
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$2,194,740
2007 Budget	$2,093,823



Overview Chart 2400 CIO & VP of Information Technology



Discussion of Proposed Budget

The 2008 proposed budget of $45.94 million compares with the 2007 budget of $45.21 million, which is an increase of $0.73 million or 2%.

Divisional Budget Overview

2400 CIO & VP of Information Technology

Division Description

The Information Technology Division (IT) ensures the availability, reliability and security of the technology infrastructure and provides application development and support services to the ISO. Within this division are the centralized IT costs to support the entire ISO. As described in the Five Year Business Plan and as outlined by the CIO, cost management is a critical objective of the IT organization. Accordingly, the IT budget is essentially flat from 2007 to 2008 while absorbing several million dollars of upward pressure in 2008 from MRTU maintenance contracts that will become part of the IT operational budget.

The IT Division is divided into Information Technology Support and Operations, and Information Technology Projects; and the CIO Direct Report Cost centers, including Asset Management, Process Management, EMS Information Technology, Operations Information Technology, and Corporate Systems.

2420 Information Technology Projects Group
- 2421 IT Projects
- 2431 IT Project Management
- 2441 IT Test & Release Management

2450 Information Technology Support and Operations
- 2451 IT Support and Operations - General
- 2452 System and Database Administration
- 2453 Data Center & Operations
- 2454 Architecture & Systems Engineering
- 2373 Information Security

2460 CIO Direct Report Cost Centers
- 2411 CIO & VP Information Services - General
- 2412 Asset Management
- 2462 EMS Information Technology
- 2463 Operations Information Technology
- 2464 Corporate Systems

Our Vision of Excellence

Technology is a core component of the California ISO's ability to provide world class services and innovation. Therefore, the ability to deliver exceptional system availability and new functionality are the cornerstones of the Information Technology (IT) Five Year Plan. The Plan continues the transformation of the IT Division and outlines significant new technology capabilities that will facilitate efficient markets and world class management of grid assets.

Division Workload and Initiatives

Achieve Excellence in Grid and Market Operations

2007–2008	Integrate OOS–SLIC
2007–2008	Enhance Outage Coordination Software
2007–2008	Integrate Logging and Other Capabilities
2007–2008	Automate Network Model Updates
2009	Implement Software for Default Energy Bids
2007–2008	Design New Control Room
2007–2008	Implement Software for Payment Acceleration
2007–2009	Upgrade EMS Servers

2007–2009 Automate Credit Reporting and Monitoring

Value-Added and Efficent Markets

2007–2008 Develop and Support Market Enhancements
2008–2010 Develop Capacity Market Software
2007–2009 Develop Convergence Bidding and Scarcity Pricing Software
2008–2011 Develop Wholesale Demand Response Software
2007–2008 Implement Long Term CRR SoftwareDevelop Generator Qualifying Capacity Performance Metrics Software
2007–2008 Further Automate Dispatch Capabilities
2007–2008 Implement Market Data Database

Energy Infrastructure that Supports Diverse Resource Mix and Reliable Operations
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2007–2008 Develop Software to Manage New Renewable Resources
2011 Implement Online Restoration Tool

Outstanding Customer Care

2007–2012 Implement Customer Portal
2007–2012 Enhance Website Content Management

Affirm that Our People Are Our Greatest Asset

2007–2008 Implement Integrated Self Service Human Resources Functions
2009 Impement Oracle Fusion Upgrade

Continuing Commitment to Excellence

2007–2011 Train Staff in MRTU Design and Technology
2007–2011 Provide Advanced Business and Management Development Opportunities for IT Staff
2008 Implement an IT Reporting Dashboard for Real Time System Monitoring
2007–2011 Shrink Required Infrastructure

Staffing

Group		*2007 Budget*	*2008 Base Budget*	*2008 Incremental*	*2008 Decremental*	*Total 2008 Mgmt Recommended Budget*
2420	IT Projects Group	21	21	3	0	24
2450	IT Support & Operations	36	37	2	0	39
2460	CIO Direct Report Cost Centers	46	39.5	1	0	40.5
	Total	103	97.5	6	0	103.5

Operations and Maintenance Budget

2008 Base Budget	$45,024,751
2008 Management Recommended Incremental / Decremental Programs	$876,763
Total Proposed 2008 Budget	$45,901,514
2007 Budget	$45,211,164

2420 IT Projects Group

Group Description

This is the roll-up cost center for the following departments:

2421 IT Projects
2431 IT Planning, Architechure & Standards (formerly IT Project Management)
2441 Software Quality Assurance (formerly IT Test & Release Management)

Group Workload and Initiatives

The IT Projects group reflects the incorporation of (2) additional project managers reporting to the Director, IT Projects.

Discussion of Proposed Budget

The 2008 proposed budget of $6.54 million compares with the 2007 budget of $4 million, which is an increase of $2.55 million or 64%.

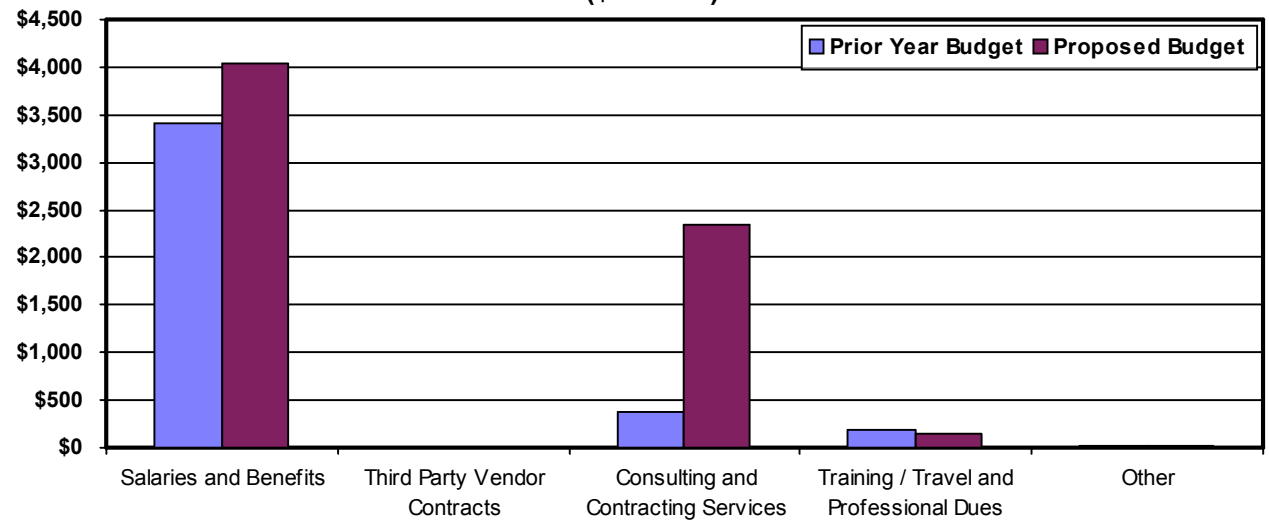
Staffing

		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2421	IT Projects	4	4	0	0	4
2431	IT Planning, Architecture & Standards	13	14	1	0	15
2441	Software Quality Assurance	4	3	2	0	5
	Total	21	21	3	0	24

Operations and Maintenance Budget

2008 Base Budget	$6,075,639
2008 Management Recommended Incremental / Decremental Programs	$465,927
Total Proposed 2008 Budget	$6,541,566
2007 Budget	$3,997,446

Group 2420



2421 IT Projects

Departmental Description

This cost center supports the Director, Technical assistant and (2) IT Project Managers for the IT Projects team which provides project management and vendor management for procured and internally developed solutions. The IT Projects Department performs the roles necessary to meet the ISO's software automation needs through project delivery, including all development, testing, release and quality assurance.

Department Workload and Initiatives

No changes from previous year.

Discussion of Proposed Budget

The 2008 proposed budget of $0.74 million compares with the 2007 budget of $0.69 million, which is an increase of $0.05 million or 7%. This includes adequate funding for the programs as described above, and includes the 4% salary adjustment for
2008.

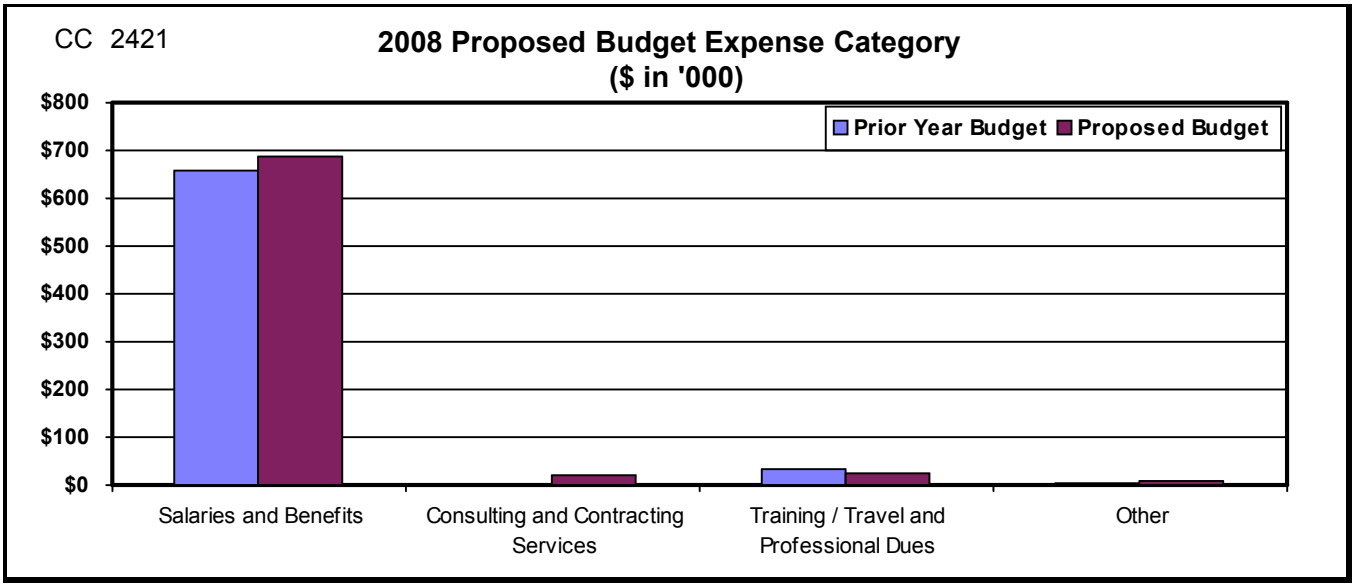
Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	4	4	0	0	4

Operations and Maintenance Budget

2008 Base Budget	$741,695
2008 Management Recommended Incremental / Decremental Programs	$0

Total Proposed 2008 Budget	$741,695
2007 Budget	$694,466



2431 IT Planning, Architecture & Standards

Departmental Description

IT Project management is responsible for the management of scope, schedule and budget for technology related projects. This includes management of team activities from initiation of the project through delivery into Production. Systems analysts work with the business and support team to translate business requirements into software specifications. Software development covers the development and testing of new software as well as enhancements and defect corrections to the existing portfolio. This team also provides project management and vendor management for procured solutions.

Department Workload and Initiatives

In 2008 IT Project will execute various Capital and O&M projects for the organization. These projects include:
Projects in Support of maintenance of IT Infrastructure (Networking, Information Security, etc).
Projects in Support of Corporate Systems (Oracle eBusiness Suite, Remedy, etc)
Projects in Support of Market Operations (SLIC Replacement, MasterFile, Payment Acceleration, etc); and
Projects in Support of Grid Operations (EMS, State Estimator, etc)

Discussion of Proposed Budget

The 2008 proposed budget of $4.69 million compares with the 2007 budget of $2.56 million, which is an increase of $2.13 million or 83%. The increase includes a $2 million increase in contractor costs and $.13 million increase in one FTE transfered from cc2464 (Jami Long). However, this budget does not include funding for any additional project-driven work which will require funding support from the projects themselves.

Staffing

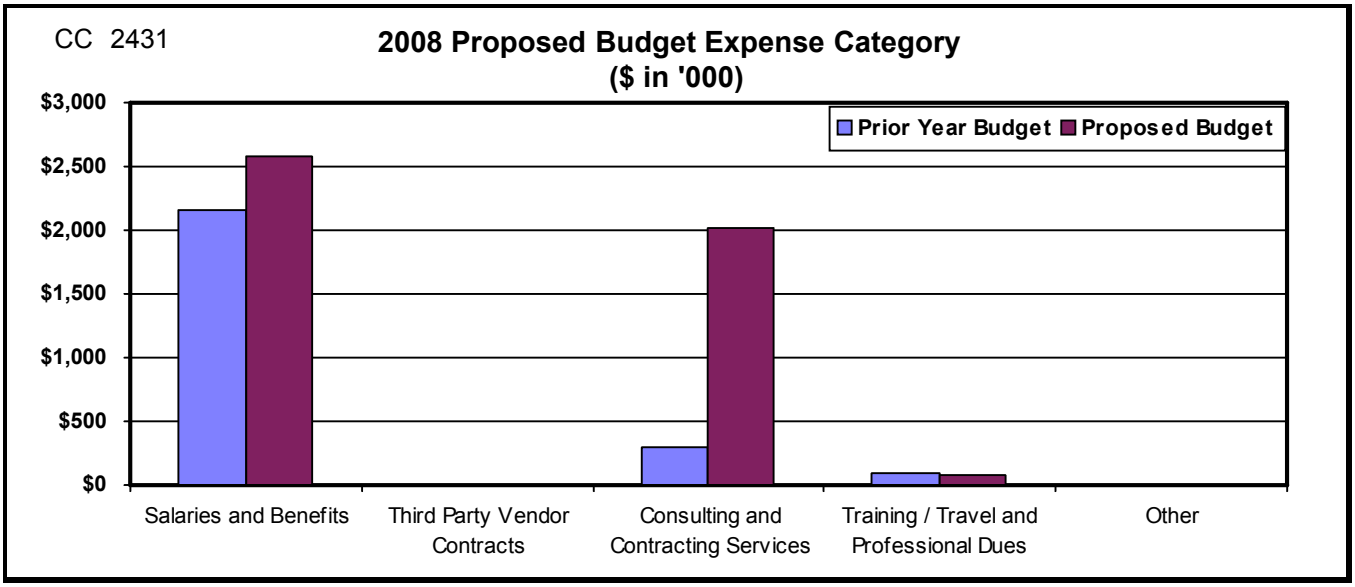
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	13	14	1	0	15

Operations and Maintenance Budget

2008 Base Budget	$4,533,682
2008 Management Recommended Incremental / Decremental Programs	$153,725
Total Proposed 2008 Budget	$4,687,407
2007 Budget	$2,558,702

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 1	MRTU Benchstrength	Management Recommended	$153,725	1
		Total	$153,725	1



2441 Software Quality Assurance

Departmental Description

The Software Quality Assurance group is responsible for managing the successful testing and roll-out of new and changed software and associated hardware and documentation. Utilizing standard methods, procedures, release and QA checklists, the group will ensure a holistic Enterprise perspective for the efficient and effective management of technology environment changes. The focus of the group is to ensure adherence to release criteria and control points within the Systems Development Lifecycle. During the next budget period the team will continue to:
Evolve Testing, Release, and QA standard practices and tools to support required control objectives Improve the efficiency and maintainability of the Release Management Tools

Facilitate the appropriate release & QA checkpoint meetings as required
Provide management reporting on changes and controls

Department Workload and Initiatives

In a mid year reorganization, the IT Process Management group was divided into two different categories of responsibilities:
- Test, release and QA activities (Software Quality Assurance) including CMMI processes and personnel, were moved into the IT Projects group and remain in this cost center.
- Other more global IT process and procedures including ITIL, SAS 70, and environmental configuration and personnel were moved to IT Support & Operations.

Discussion of Proposed Budget

The 2008 proposed budget of $1.12 million compares with the 2007 budget of $0.74 million, which is an increase of $0.37 million or 50%. The increase is due in part to budgeted overtime for employees, and the addition of temporary/contract staff budgeted for 2008 support MRTU intergration.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	4	3	2	0	5

Operations and Maintenance Budget

2008 Base Budget	$800,262
2008 Management Recommended Incremental / Decremental Programs	$312,202
Total Proposed 2008 Budget	$1,112,464
2007 Budget	$744,278

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 1	MRTU Benchstrength	Management Recommended	$312,202	2
		Total	$312,202	2

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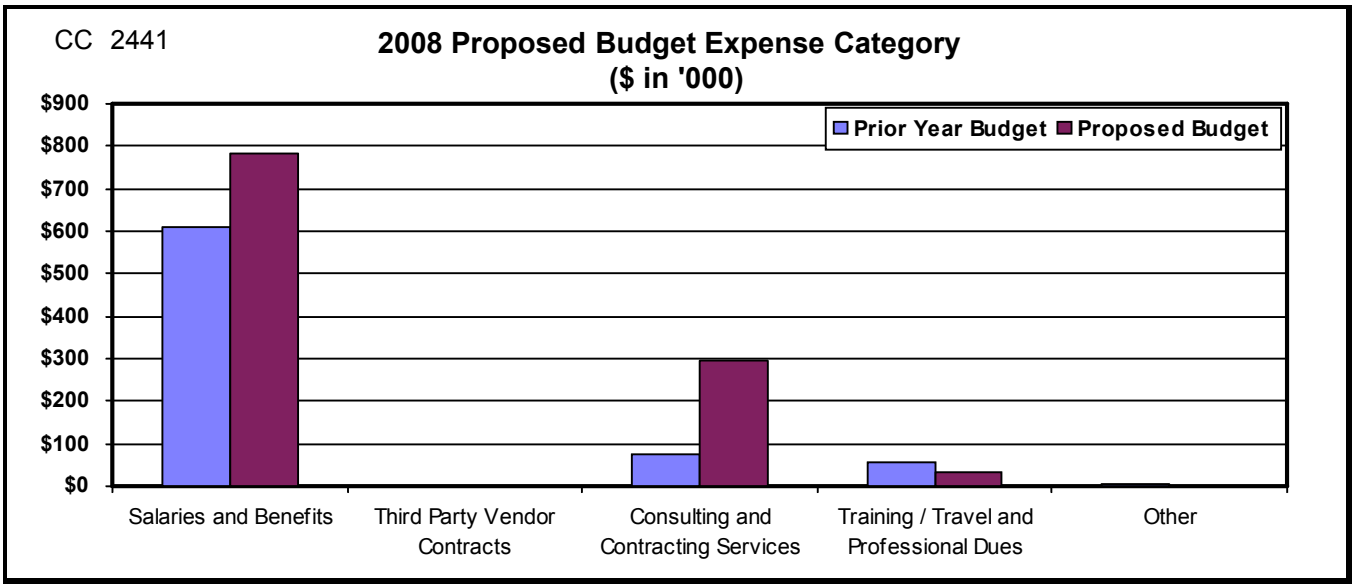

2008 Proposed Budget Expense Category
($ in '000)
$900
$800
$700
$600
$500
$400
$300
$200
$100
$0
Prior Year Budget
Proposed Budget
Salaries and Benefits
Third Party Vendor Contracts
Consulting and Contracting Services
Training / Travel and Professional Dues
Other

2450 IT Support & Operations

Group Description

This is a roll-up cost center for the IT Support and Operations department, consisting of the following subsidiary cost centers:

2451 IT Support and Operations-General
2452 Systems & Database Administration
2453 Data Center & Operations
2454 Architecture & Systems Engineering

Group Workload and Initiatives

This roll-up cost center was created in connection with the July 2005 organizational alignment effort.

Discussion of Proposed Budget

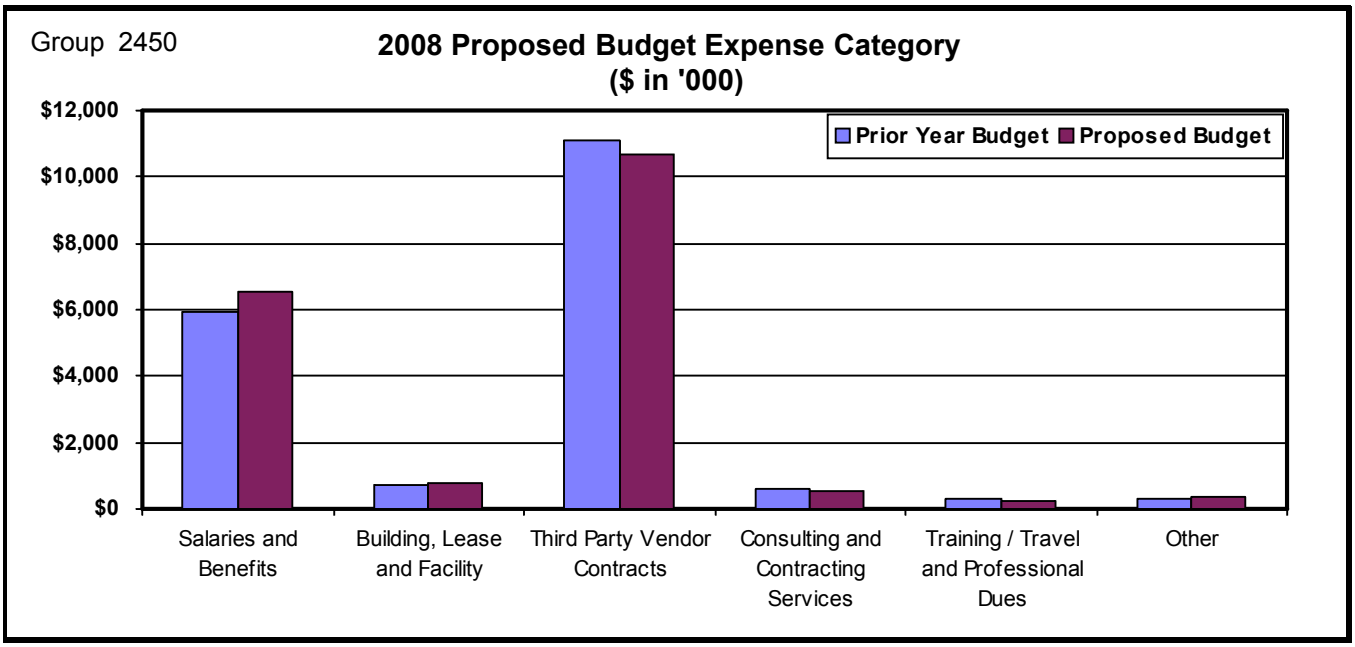
The 2008 proposed budget of $19.21 million compares with the 2007 budget of $18.98 million, which is an increase of $0.24 million or 1%. This includes three additional staff transferred from other departments within IT, a 4% salary/benefit increase for 2008, offset by other cost reductions.

Staffing

		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2373	Information Security	7	7	0	0	7
2451	IT Support & Operations-General	3	3	0	0	3
2452	System & Database Administration	12	13	0	0	13
2453	Data Center & Operations	7	7	0	0	7
2454	Architecture & Systems Engineering	7	7	2	0	9
	Total	36	37	2	0	39

Operations and Maintenance Budget

2008 Base Budget	$18,950,357
2008 Management Recommended Incremental / Decremental Programs	$260,731
Total Proposed 2008 Budget	$19,211,088
2007 Budget	$18,975,981



2373 Information Security

Departmental Description

The California ISO is considered a "National Critical Infrastructure" entity under the Homeland Security Presidential Directive (HSPD-7) and must be protected as such. With this designation, the California ISO has the responsibility to protect the resources with which it has been charged to ensure essential services that underpin American society, national security, and economic stability. This department supports all California ISO GMC service categories.

Information Security is responsible for assessing risk and developing, implementing, and overseeing the operations of the Enterprise Information Security Program in its effort to develop Information Systems (a discrete set of Resources whether automated or manually organized for the management of Information in accordance with defined procedures) that ensure confidentiality, integrity, availability, non-repudiation, auditability, and access control. The Enterprise Information Security Program has been built using the Independent Standards Organization 17799 Information Security Framework model.

The Enterprise Information Security Program provides the organization with an Information Security Framework that enables us to comply with regulations, industry standards, Federal and State laws, and the CAISO Tariff. This program takes into account Homeland Security Presidential Directive (HSPD-7), NERC CIP Standard; Health Insurance Portability and Accountability Act of 1996 (HIPPA); California SB 1386 Law; Privacy Act of 1974; Electronic Communications Privacy Act; Telecommunications Act of 1996; and information security best practices as established pursuant to the Sarbanes-Oxley Act. The California ISO Tariff establishes that CAISO is responsible for the confidentiality of information used to conduct business in the California Electric Market. Additionally, this program helps to reduce the risk of the CAISO being susceptible to lawsuits or negative publicity resulting from non-compliance with the above and with other privacy-based statutes and laws, computer crimes, cyber-criminal acts or violations of federal and state copyright laws.

The Enterprise Information Security Program managed by the Information Security Department performs the following functions:
1. Enterprise Information Security Compliance and Oversight – This initiative provides enterprise-wide information security oversight. This oversight includes the development of enterprise-wide information security policies, procedures, and guidance for compliance with regulation, industry standards, Federal and State laws, sound security and privacy practices, and the CAISO Tariff. Additional responsibilities include providing trend analysis and Enterprise Information Security Program reporting to employees, Senior Management, and the Board of Governors.
2. Information Security Awareness and Training – Responsible for developing the enterprise-wide minimum

information security training requirements for all employees. This includes co-hosting the annual WSS Fair and other activities throughout the year to bolster the information security knowledge of employees. This is required to bring employees up to speed on information security requirements.
3. Information Security Business Analysis (Planning) – This initiative provides project level involvement, which develops detailed technical specification and gathers security requirements for information security solutions. It ensures that the Information Security Life Cycle activities are integrated within the Systems Development Life Cycle. Provides certification accreditation activities that are used to test CAISO systems and applications to ensure they meet security requirements. Perform related activities including product evaluation, vulnerability analysis, penetration testing, and defense-in-depth strategies.
4. Information Security Operations Center (ISOC) – Similar to the manner in which physical security manages and monitors security of a building, the ISOC performs oversight and monitoring of information security controls (logical security). The ISOC monitors the information security infrastructure and analyzes the data for indications of information security anomalies. It consists of ongoing configuration of the information security infrastructure components as well as the prevention and remediation of information security vulnerabilities and recovery from incidents in coordination of the Information Security Emergency Incident Response Team (ISIRT).
5. Information Security Emergency Incident Response Team (ISIRT) – Maintains information security incident response capability to address incidents across the enterprise. The ISIRT functions in dual modes – proactive and reactive. They proactively monitor federal and commercial computer incident responses and homeland security groups to determine potential threats to organization's systems and newly discovered vulnerabilities in CAISO systems and applications. Furthermore, the ISIRT is responsible for responding to anomalies and incidents related to information security in CAISO systems and applications. The team coordinates anomaly reporting to determine if potential threat activity is isolated or encompasses the entire enterprise. Additionally, the team is responsible for coordinating incident reports to outside organizations, including law enforcement and government-wide incident response teams.

Department Workload and Initiatives

Over the last several years, the responsibilities of Information Security organizations within the Electric Sector (ES) have been steadily increasing. This started with 9/11 and continues with events as recent as the Northeast Blackout. We have seen an increase in regulation, industry standards, Federal and State laws, and sound security and privacy practices concerning Information Security.

Information Security is responsible for ensuring that the CAISO complies with regulations, industry standards, Federal and State laws, sound security and privacy practices, and the CAISO Tariff. Information Security has had to modify the Enterprise Information Security Program to align with these activities.

Since the previously approved budget, Information Security has had to increase and/or create the following functions to meet regulation, industry standards, Federal and State laws, and the CAISO Tariff. These tasks are new and are not being performed by any other department within the organization. They include:

1. Perform information security risk assessments.
2. Continue to implement the ISO 17799.
3. Increase oversight and compliance reporting on information security trends to focus on initiatives around centralized information security event collection and correlation.
4. Perform mandatory Information Security Training to all employees. The Information Security Awareness and Training initiative will need to create the necessary training material and program.
5. Increase information security auditing to ensure our systems and applications meet information security requirements.
6. Increase our detection and response capabilities of information security concerning anomalies, breaches, etc.
7. To meet incident reporting requirements, the Information Security Emergency Incident Response Team will increase focus on training its members as well as reporting and tracking mechanisms.
8. Implement the NERC CIP Standards.

Discussion of Proposed Budget

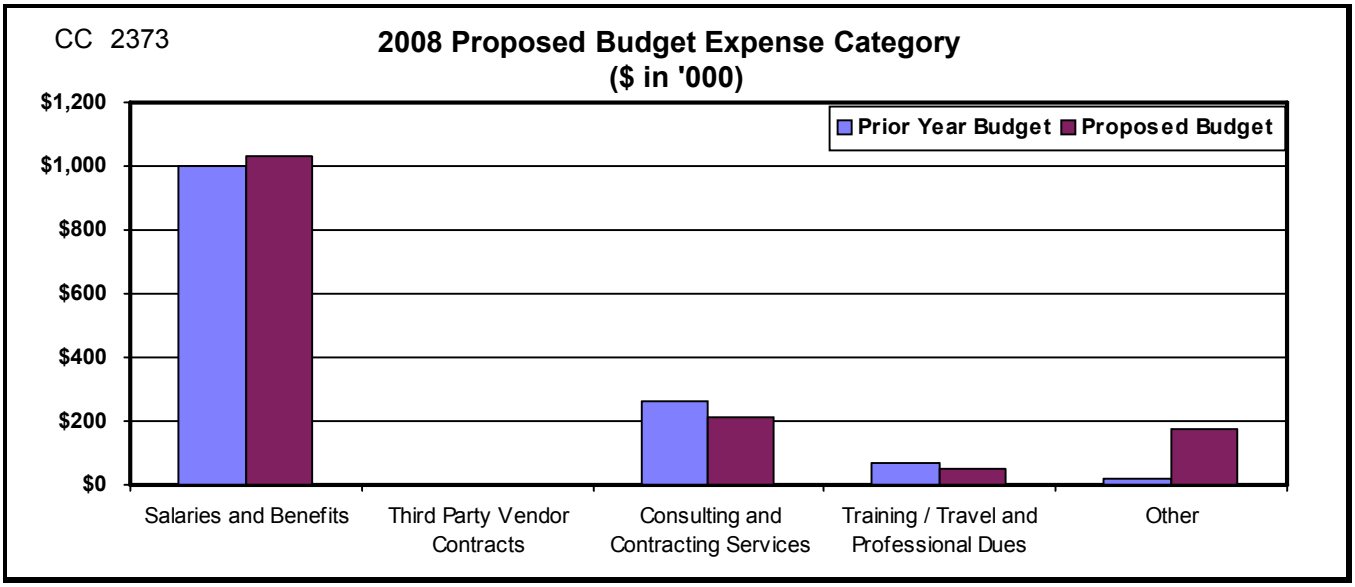
The 2008 proposed budget of $1.47 million compares with the 2007 budget of $1.35 million, which is an increase of $0.12 million or 9%. The increase includes salary/merit adjustments for 2008, with the balance of the increase related to the addition of a subscription to a consulting service to support the identification, assessment, and response to information security risks as part of the CAISO's overall Enterprise Risk Management function.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	7	7	0	0	7

Operations and Maintenance Budget

2008 Base Budget	$1,474,579
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,474,579
2007 Budget	$1,352,007



2451 IT Support & Operations-General

Departmental Description

This cost center for the IT Support and Operations group, consists of the director and potential support staff salaries, travel, training, conferences and any memberships for the oversight of the following subsidiary cost centers:

2373 Information Security
2451 IT Support & Operations - General
2452 System & Database Administration
2453 Data Center & Operations
2454 Architecture & Systems Engineering
2373 Information Security

Department Workload and Initiatives

This department now manages the outsourced computing infrastructure contract and telecommunications contracts.

Discussion of Proposed Budget

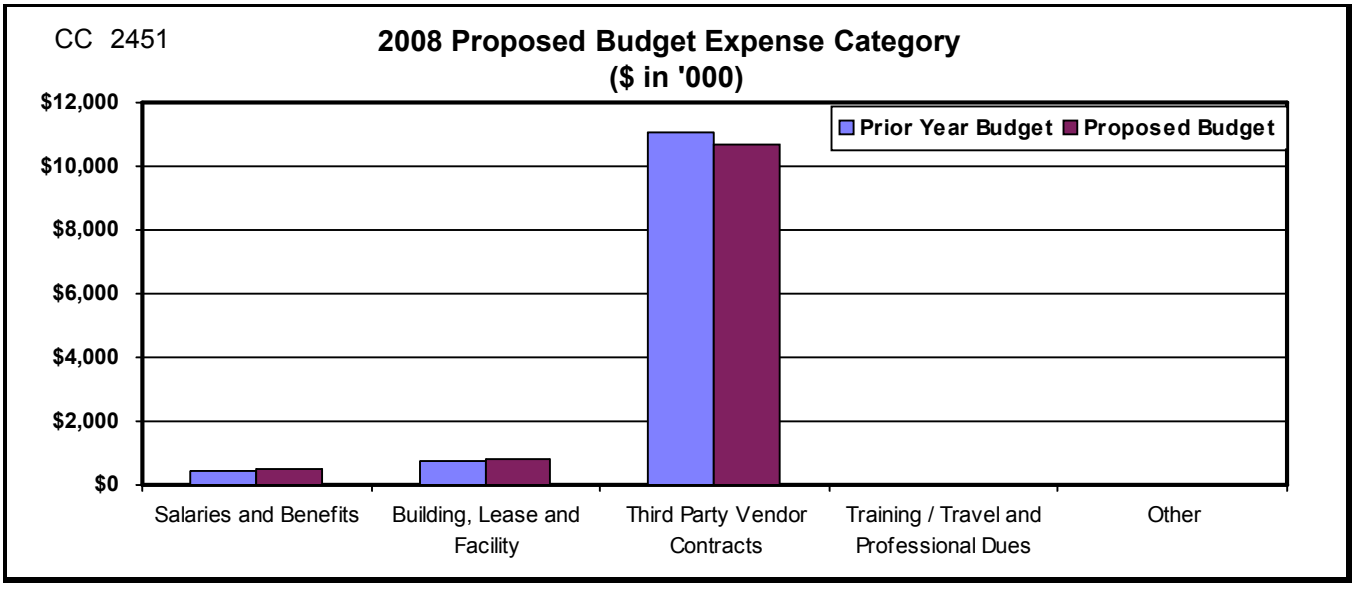
The 2008 proposed budget of $12.01 million compares with the 2007 budget of $12.33 million, which is a decrease of $0.32 million or 3%. The budget consists primarily of the outsourced computing infrastructure contract and telecommunications (third party vendor) costs. Accordingly, the decrease from the 2007 budget of $0.3 million for this cost center relates to reductions in the Outsourced Computing services contract (SAIC).

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	3	3	0	0	3

Operations and Maintenance Budget

2008 Base Budget	$12,011,242
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$12,011,242
2007 Budget	$12,331,912



2452 System & Database Administration

Departmental Description

The System Administration/DBA Department will consist of 13 CAISO staff members , 5 Vendor Managed UNIX admin, 2 backup admin, 1 storage admin , 5 windows admin providing UNIX/Windows Systems Administration and

Data Base Administration. The common goal of this department is to provide 24x7 support of over 260 Unix systems, 300 Windows system and 162 Oracle databases. This group also reviews, designs, document and implements new systems and databases into the Development, Test, Staging and Production environments. UNIX, Windows, Storage, Back up Administration and DBA support for: Market Operation Systems, Finance, OMAR, Settlements, Data Warehouse, EMS, Re-Runs, Billing and Credit, Corporate Backups, replication of key corporate data through EMC storage technology, Security Servers, Intranet and Internet servers, and all new MRTU systems.

Department Workload and Initiatives

In the UNIX and Database administration areas, we are on track to assume support for:
- a 30% increase in the number of databases supported and a 10% increase in the number of Unix systems supported;
- Thousands of corrective actions to address ESM (Enterprise Security Manager) security scan application/OS findings across the production Unix environment to address and stay in compliance for SAS70 Type II Audits;
- Significant increase in Oracle Database Upgrades as a result of version analysis which showed multiple databases going off support due to old versions;
- 15-20 projects requiring support from both groups.

Discussion of Proposed Budget

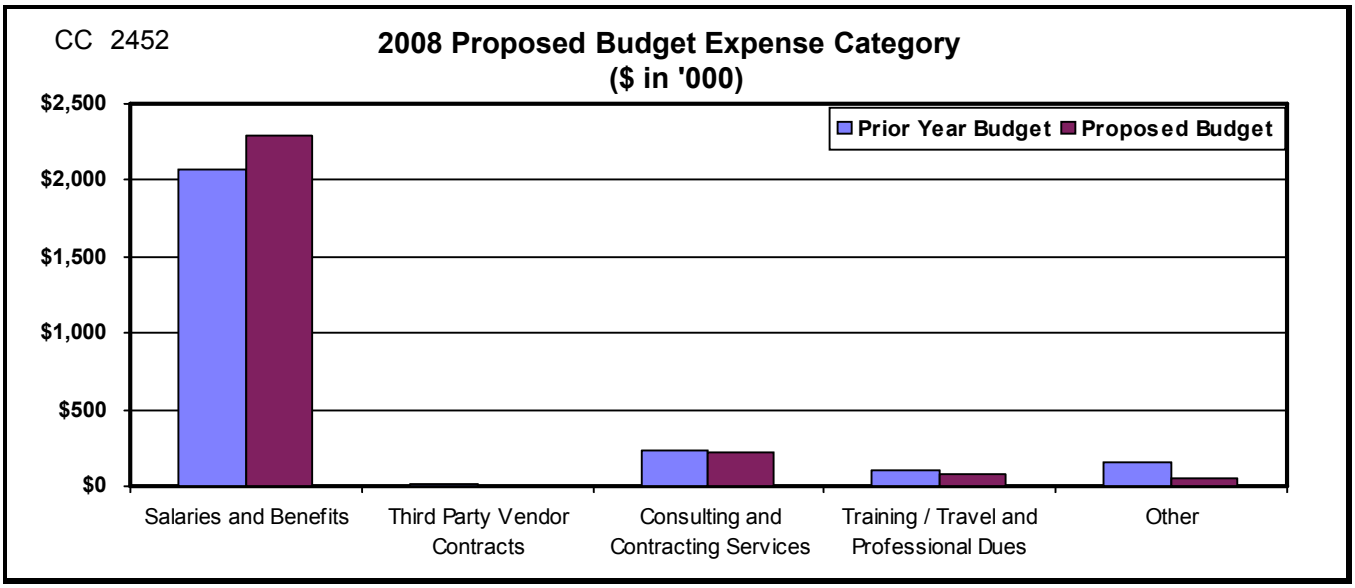
The 2008 proposed budget of $2.66 million compares with the 2007 budget of $2.57 million, which is an increase of $0.09 million or 3%, reflecting the 2007/2008 salary/benefit cost adjustments, and increases in overtime, contract staff, computer tapes and support & maintenance services.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	12	13	0	0	13

Operations and Maintenance Budget

2008 Base Budget	$2,662,935
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$2,662,935
2007 Budget	$2,572,973



2453 Data Center & Operations

Departmental Description

Data Center and Operations department areas of responsibilities and associated tasks are as follows:
LOCAL AREA NETWORK MANAGEMENT
Management and maintenance of the CA ISO's Local Area Networks, including moves, adds and changes (MACs) for users and workstations, break-fix, project-related LAN configuration modifications, incident management, change management, performance measurement and reporting, capacity planning, and fault monitoring.
WIDE AREA NETWORK VENDOR MANAGEMENT
Management of the WAN outsource vendor (AT&T), including escalation of operations issues with AT&T, submitting MAC requests on behalf of the ISO or external Connected Entities, reviewing performance reports, reviewing security reports, reviewing SLA reports, and participating in monthly and quarterly meetings with AT&T
VOICE SYSTEMS VENDOR MANAGEMENT
Management of the voice systems outsource vendor (AT&T), including escalation of operations issues with AT&T, submitting MAC requests on behalf of the ISO, reviewing performance reports, reviewing SLA reports, and participating in monthly and quarterly meetings with AT&T
RAISED FLOOR MANAGEMENT
Administration of the computer rooms and other raised floor areas in both CA ISO data centers, including cable plant management, server and other equipment installation, coordination with facilities on HVAC and power concerns, and space planning.
IT DISASTER RECOVERY PLANNING
Coordination of IT disaster recovery planning efforts including scheduling and oversight of planned fall back / fall forward events and the management of disaster recovery methods and procedures.
Oversight of data backup and restore activities

Department Workload and Initiatives

No change - Same as previous year.

Discussion of Proposed Budget

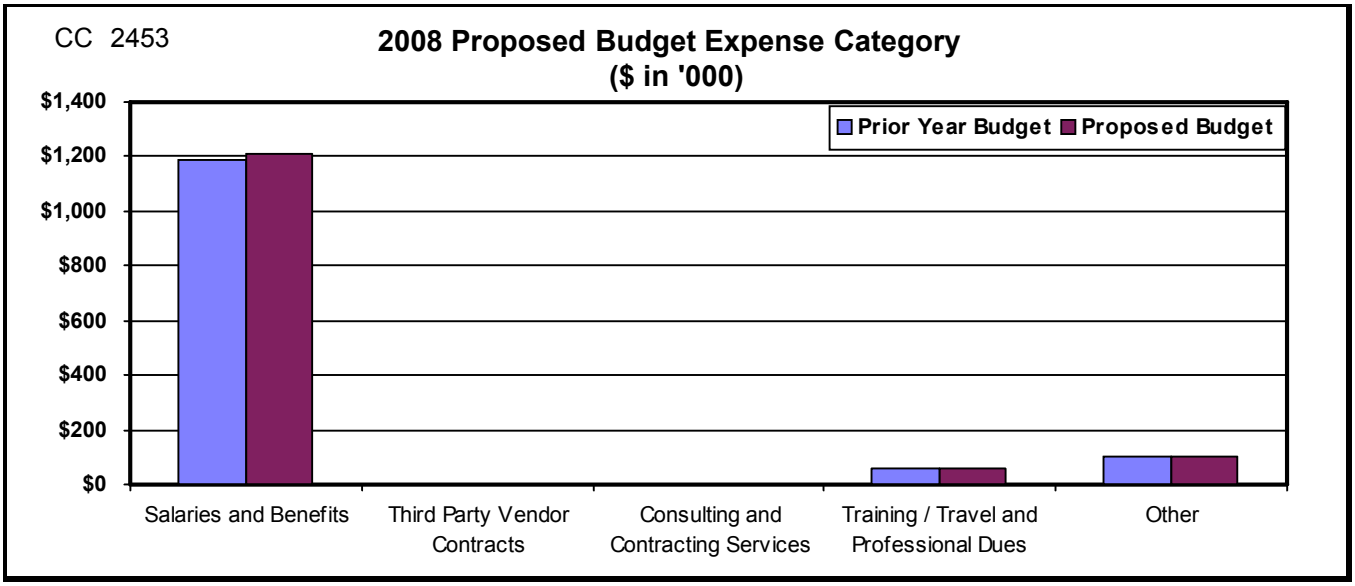
The 2008 proposed budget of $1.37 million compares with the 2007 budget of $1.35 million, which is an increase of $0.02 million or 2%, which is essentially unchanged.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	7	7	0	0	7

Operations and Maintenance Budget

2008 Base Budget	$1,374,741
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,374,741
2007 Budget	$1,351,080



2454 Architecture & Systems Engineering

Departmental Description

The Architecture and System Engineering team is responsible for maintenance of architecture and technical standards for office systems, applications, data/information, servers, networks, and security. This team provides architectural and engineering support for major acquisitions and/or development projects. This team rolls-up to cost center 2451, CIO & VP of Information Systems. Major deliverables for 2008 are:
Architecture
Create formal IT technical architecture standards/policies coupled with a review and approval process
Define roadmaps for all critical enterprise technologies
Publish architecture blue-prints for all major systems
Reduce costs by driving applications to common related application server farms
Engineering
Enable monitoring solutions for IT technical components
Design computer systems and solutions

Reduce IT costs by:
Defining and executing server consolidation plan
Defining and executing archiving/data reduction plan
Defining and executing hardware replacement/removal process

Department Workload and Initiatives

As the MRTU project nears implementation, it is expected that much of the team's expertise will be used to provide long term architecture support to MRTU and related applications modified with the implementation. Over the next budget period, exploiting IT infrastructure cost reduction opportunities will be a key focus for this team.

Discussion of Proposed Budget

The 2008 proposed budget of $1.69 million compares with the 2007 budget of $1.37 million, which is an increase of $0.32 million or 23%.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	7	7	2	0	9

Operations and Maintenance Budget

2008 Base Budget	$1,426,860
2008 Management Recommended Incremental / Decremental Programs	$260,731
Total Proposed 2008 Budget	$1,687,591
2007 Budget	$1,368,009

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 1	MRTU Benchstrength	Management Recommended	$260,731	2
		Total	$260,731	2

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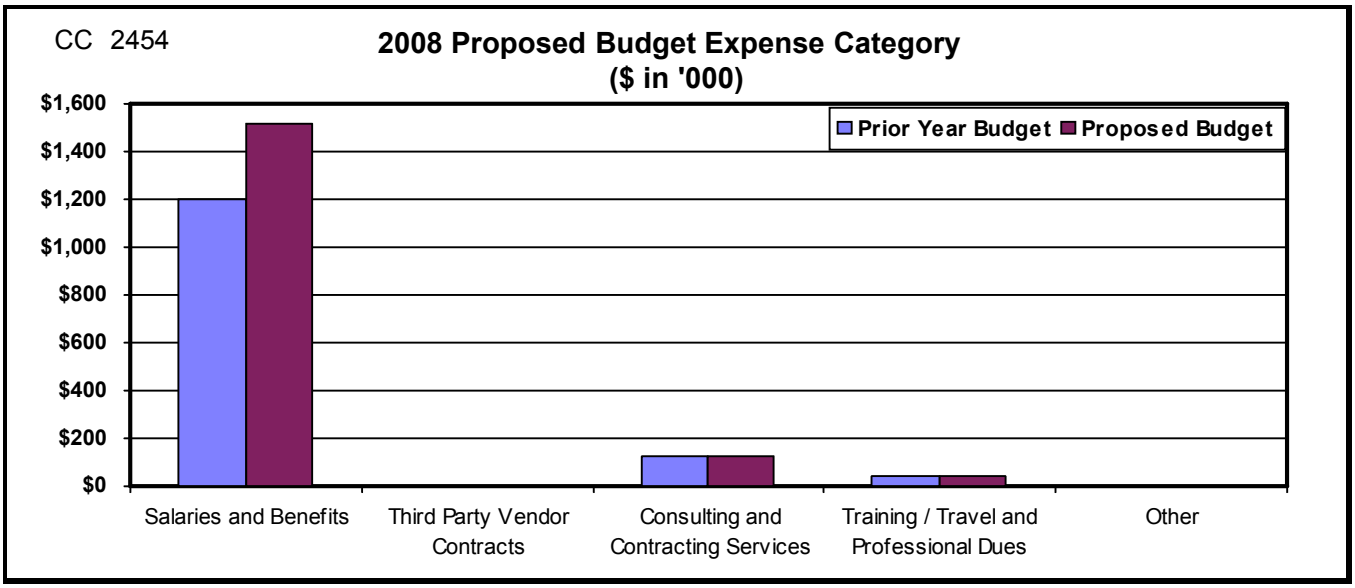

2008 Proposed Budget Expense Category
($ in '000)
$1,600
$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
Prior Year Budget
Proposed Budget
Salaries and Benefits
Third Party Vendor Contracts
Consulting and Contracting Services
Training / Travel and Professional Dues
Other

2460 CIO Direct Report Cost Centers

Group Description

This is a roll-up cost center for the CIO Direct Report Cost Centers, consisting of the following subsidiary cost centers:

2411 CIO & VP Information Services - General
2412 Asset Management
2462 EMS Information Technology
2463 Operations Information Technology
2464 Corporate Systems

Group Workload and Initiatives

The managers for these departments report directly to the CIO. Please see the descriptions of the individual units for discussion of workload changes.

Discussion of Proposed Budget

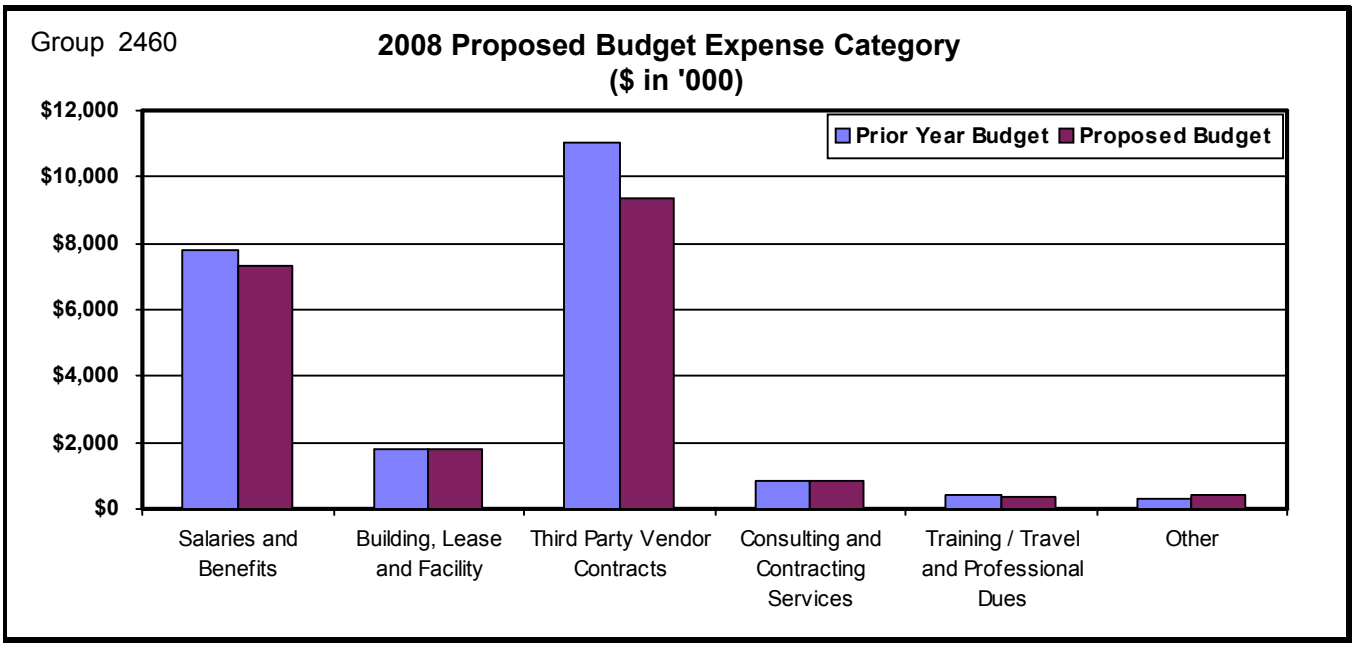
The 2008 proposed budget of $20.15 million compares with the 2007 budget of $22.24 million, which is a decrease of $2.09 million or 9%. The budget provides funding for the programs documented in the subsidiary cost center write-ups. Staffing for this group increases by one from 2007.

Staffing

		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2411	CIO & VP of Information Services-General	4	3.5	0	0	3.5
2462	EMS Information Technology	15	14	0	0	14
2463	Operations Information Technology	12	10	1	0	11
2464	Corporate Systems	15	12	0	0	12
	Total	46	39.5	1	0	40.5

Operations and Maintenance Budget

2008 Base Budget	$19,998,755
2008 Management Recommended Incremental / Decremental Programs	$150,105
Total Proposed 2008 Budget	$20,148,860
2007 Budget	$22,237,737



2411 CIO & VP of Information Services-General

Departmental Description

The Chief Information Officer and Vice President of Information Technology group assumes responsibility for setting the strategies for all ISO information technology infrastructure, budgets, and key business processes.

This cost center contains funding for the CIO & VP of this division, as well as for executive support and budget staff, and Technology Strategies Principal. It also contains funding for the Divisional Vacancy factor and salary adjustments for 2008.

Department Workload and Initiatives

There are no significant changes to the components or funding in this cost center from 2007 to 2008.

Discussion of Proposed Budget

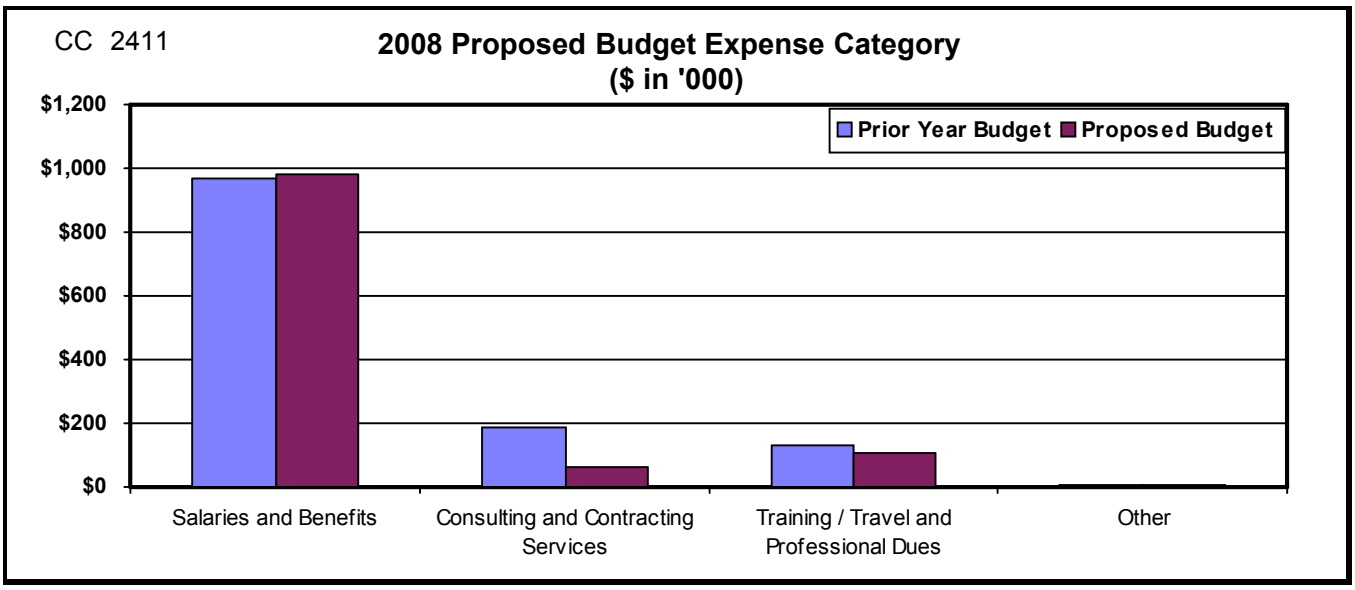
The 2008 proposed budget of $1.1 million compares with the 2007 budget of $1.3 million, which is a decrease of $0.2 million or 15%.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	4	3.5	0	0	3.5

Operations and Maintenance Budget

2008 Base Budget	$1,150,450
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,150,450
2007 Budget	$1,295,546



2412 Asset Management

Departmental Description

The IT Asset Management cost center is for budget and expense tracking ONLY.

This cost center contains the budget for enterprise-wide information technology assets including hardware, storage arrays, software licenses, all maintenance and other IT-related services through their lifecycle. IT-related services include hardware maintenance and software upgrades and support, internet access, and limited telecommunications expenses.

The Sr. IT Budget Analyst, in conjunction with the Vendor Management and Procurement Group, coordinates procurement and provisioning activities for all IT expenditures. This includes hardware warranty and maintenance contract management, software licensing and maintenance contract management, lease administration, capital asset management and technology lifecycle process, including verification of invoice accuracy and administration of processes for approval and payment.

The Sr. IT Budget Analyst is responsible for the coordination of the divisional IT budget development and administration, within this budget. All central budget and variance reports will be generated from this cost center, and IT Support and Operations, based on the final approved IT budget.

In 2008, the Asset Management cost center will continue to be one of the central funding and reporting repository for the following services:
- Procurement of hardware, or leasing equipment, and software as determined necessary, including refreshes for scheduled servers and workstations throughout ISO;
- Procurement of hardware maintenance for existing and new equipment;
- Procurement of maintenance for existing and new software upgrades and renewals;
- Coordination point for all capital and operating budget processes for the IT cost centers;
- Accounting analysis for monthly variance reports and providing year-end forecasts as needed;
- Special analyses for finance and accounting to assist corporate level funding allocations to support various requirements such as GMC rate cases;
- Provide assistance with cost analyses for Capital project requests from multiple groups within the ISO;
- Tracking of expenditures against budgets and tracking invoice payments against purchase orders.

Department Workload and Initiatives

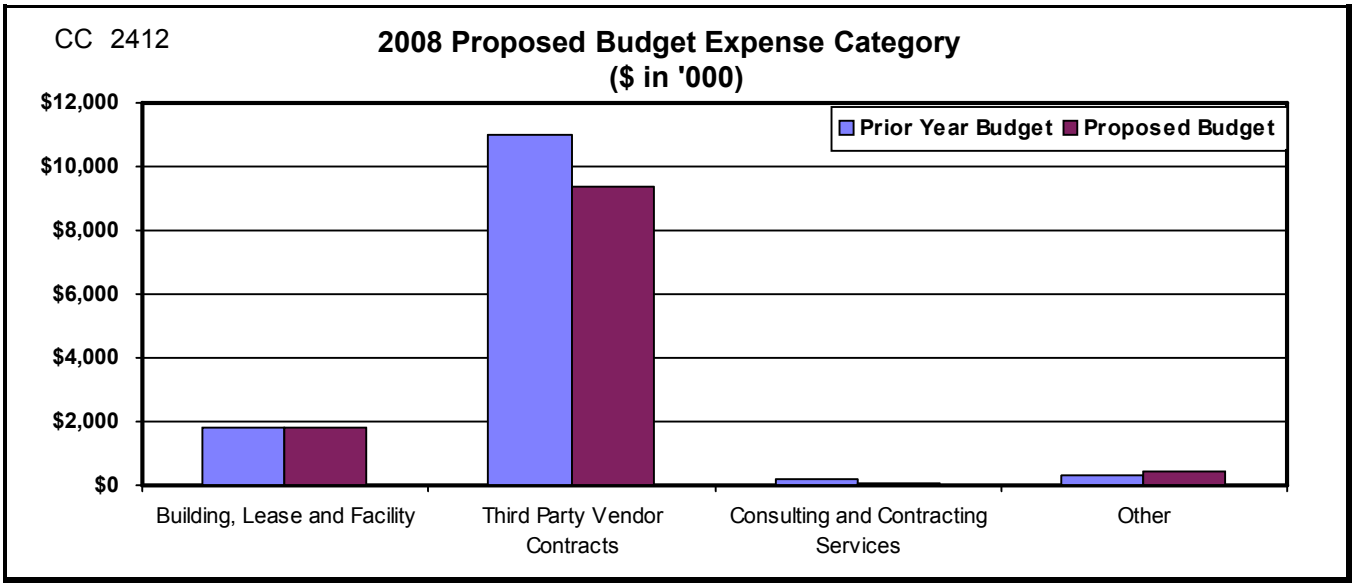
- All other expenses are being managed to maintain a flat IT budget for 2008.

Discussion of Proposed Budget

The 2008 proposed budget of $11.7 million compares with the 2007 budget of $13.34 million, which is a decrease of $1.65 million or 14%.

Operations and Maintenance Budget

2008 Base Budget	$11,686,000
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$11,686,000
2007 Budget	$13,339,850



2462 EMS Information Technology

Departmental Description

The EMS Services Group is responsible for providing real-time as well as historical operational data to Real Time Grid Operations and other related functions for the purpose of operating the California ISO grid. Responsibilities include the maintenance and operation of ISO-owned data acquisition and database and applications systems related to the delivery and display of operational data. The core applications include the Energy Management Systems and the Plant Information Systems. The EMS Services cost center ensures operational data meets or exceeds the quality, reliability and availability requirements for the safe, efficient and reliable operation of the ISO grid. The delivery and presentation of the operational data is in accordance with all applicable ISO technical standards, practices, procedures and policies. In addition to maintaining and operating the EMS and PI Applications, data acquisition and database systems; the Real Time Applications cost center also maintains interfaces to ISO internal and external systems related to the collection, archiving and dissemination of real-time operational data.

The EMS Services cost center is responsible and accountable for the following services as they relate to administering the critical Real Time Applications:

Energy Management Systems (EMS) administration, support and maintenance:
- EMS Applications (AGC, Reserve Monitor, Interface to Market systems support, development and maintenance).
- RIG / DPG and SCADA development, support, maintenance and development.
- Backup EMS system development, support and maintenance.
- PI system development, support and maintenance.
- Network Applications development, support and maintenance (Network Model, State Estimator, Contingency Analysis, Dispatcher Load Flow etc.).
- Grid Operator Training Simulator development support and maintenance (GOTS).
- EMS database development, support and maintenance.
- EMS displays development, support and maintenance.
- 24X7 On Call Support:
- Energy Management System
- SCADA systems (RIG, DPG, ICCP systems)
- Plant Information Systems
- System Interfaces (EMS to Market Systems, SLIC, ETC, TR etc.)

Support of User Organizations:
- Grid Operations
- North and South Regional Transmission
- Outage Management and Scheduling
- Reliability Coordination
- Operations Support
- Market Services
- Operations Data and Compliance
- Planning and Infrastructure Development
- Network Applications

Department Workload and Initiatives

There are many anticipated challenges in 2008 with regards to work load. Input to the 2008 Capital Budget includes the ABB NMR3 and Hewlett Packard Itanium Upgrade Project, Network Applications (Volstage Stability Analysis and Remediation), GOTS (Market and Grid Opeartions , SCADA systems and PI tools advancements. There is a growing emphasis and focus on Data Quality and its importance to EMS I.T. applications. Although this has been supported by the existing staff in EMS I.T., the functional realignment to support all applications in the Grid Ops application portfolio will increase the workload beyond the ability of the existing staff level.

2008 Projects initiated with regard to reliability and MRTU issues include:

1). Upgrade of the ABB EMS System to NMR3 and Itanium Platform
2). Enhancing ICCP security. Upgrade of existing ICCP systems to a Windows-based system that has a security layer much like that required by RIG's and DPG's.
3). Continuing development of our Upgraded EMS display environment with enhancements of displays and overall data depictions.
4). WECC / NERC data sharing initiatives. There are new requirements for data sharing instituted in 2007 regarding an expanded role for sharing grid data with other WECC reliability coordinators as well as adjacent control areas as defined by NERC.
5). MRTU involvement - currently there are two (2) staff members directly working on MRTU issues 80 to 90 % of the time. This will likely increase in 2008 with the February Go-Live of MRTU
6). R&D efforts - the Phasor Measurement projects as well as other CERTS / CEC funded projects are deemed a priority.
7). Implementation of Advanced Visulaization in the Control Room
All of these initiatives could require additional contract staff to implement or manage.

Discussion of Proposed Budget

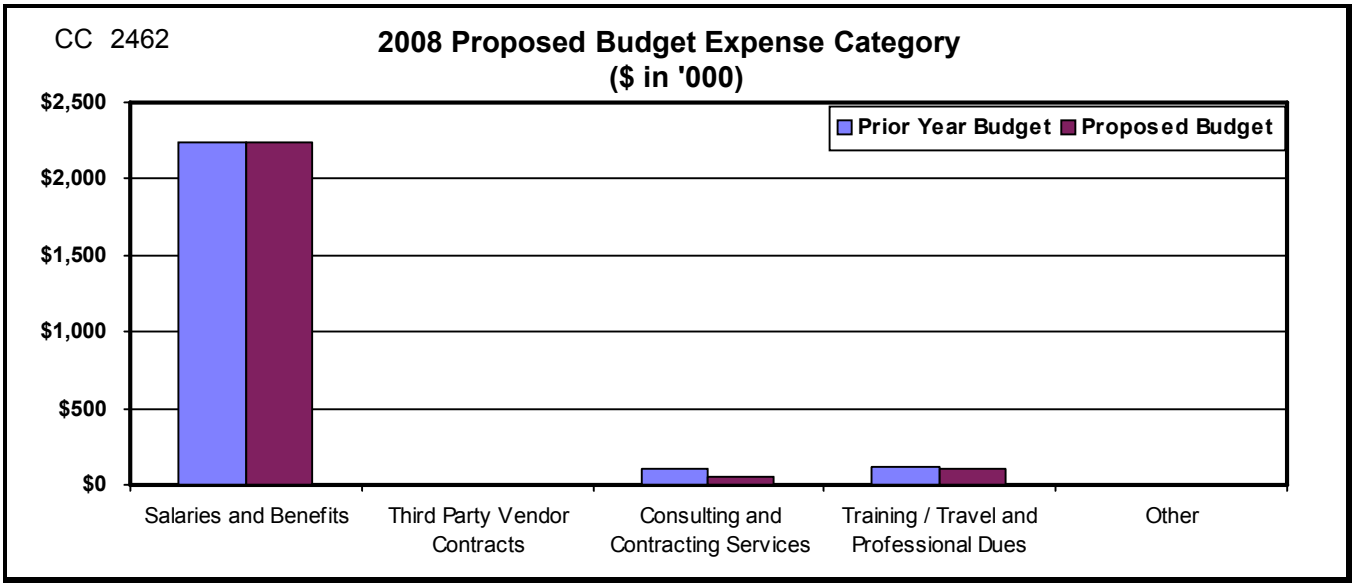
The 2008 proposed budget of $2.41 million compares with the 2007 budget of $2.46 million, which is a decrease of $0.05 million or 2%. The budget includes adequate funding for the programs as described above. Staffing remains unchanged at 14.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	15	14	0	0	14

Operations and Maintenance Budget

2008 Base Budget	$2,399,565
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$2,399,565
2007 Budget	$2,458,996



2463 Operations Information Technology

Departmental Description

Operations Information Technology (OIT) is responsible for customer relationship management, application portfolio management and production application support and maintenance supporting the California ISO Market Services, Grid Operations (excluding Control Systems), and Operations Support divisions.

This portfolio includes, but is not limited to the following major applications: SLIC, COMT, CAS, ADS, ETC, OASIS, GRRMA, ALFS, SI, SA, MF, RR, RTMA, SRS, FTR, SCUC, TRECS, PIRP, MAPP, BBS, CAPS, OMAR, MV-90, OOS Tool, IZ Tool, SI Operator, Rational Buyer, various Operations Support Tools, and Vitria. New MRTU systems in our scope include SIBR, IFM/RTM, FNM, MQS, CRR, SaMC, and Integration for all critical systems.

The OIT analyst capability provides innovation and the evolution of the new and existing business solutions in order to remain a high performing organization. The analysts are the point of contact within Information Technology for our business partners to perform strategic planning, to meet emerging business requirements, identify operational improvements or corrections against a existing business solutions, and to initiate the system development lifecycle

with business requirements.

The production support and maintenance team provides 24x7 second-level application support. This team leads investigation and recovery within Incident Management and is responsible for Service Level Management and Problem Management. Additionally OIT participates in Release and Change Management for solutions within out portfolio.

Department Workload and Initiatives

The significant changes to this department since 2006 is the transition of the Reference Data (MF and RR), Settlement, Compliance, and RMR business solutions from Corporate Systems into OIT. Additionally, 2008 will bring all MRTU systems including the integration layer into our care with the exception of the reporting solution and several common infrastructure components (i.e., Portal and LDAP).

Discussion of Proposed Budget

The 2008 proposed budget of $2.22 million compares with the 2007 budget of $2.19 million, which is an increase of $0.04 million or 2%.

Staffing

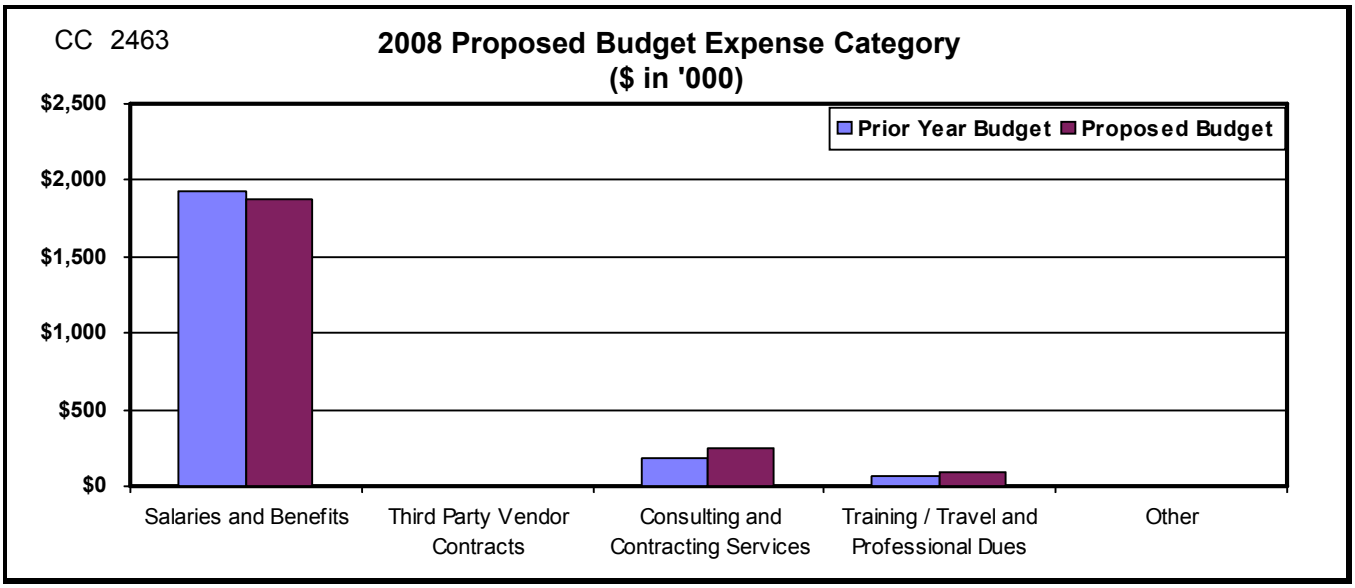
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	12	10	1	0	11

Operations and Maintenance Budget

2008 Base Budget	$2,073,773
2008 Management Recommended Incremental / Decremental Programs	$150,105
Total Proposed 2008 Budget	$2,223,878
2007 Budget	$2,185,305

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 1	MRTU Benchstrength	Management Recommended	$150,105	1
		Total	$150,105	1



2464 Corporate Systems

Departmental Description

The Corporate Systems department is responsible for the analysis, design, software development, deployment and 24X7 support of applications on an enterprise level. Support includes, but is not limited to, the following development platforms, runtime environments, Commercial-Off-the-Shelf (COTS) software products, tools, and business application software:

*Remedy Action Request System (ARS) development platform and runtime environments, including the *CHASE, NRI, SDS, TRAIN, Resource Registry and Transmission Registry applications
*Documentum Enterprise Content Management System (ECMS)
*Rational Product Suite (software engineering tool)
*CaseWise (business process modeling tool)
*External & internal web presence, including the corporate internet site: www.caiso.com, and the corporate intranet: e-Current
*Microsoft-based application development environment and applications
*Oracle HR/Financial Systems
*All Actuate development, administration, and support

Department Workload and Initiatives

We are maintaining various applications that were previously supported by other IS departments or were supported within the business units. These include, but are not limited to, SCALE, SLAP, Budget Tool, RAVE/RINO, and a host of other applications for Planning and Operations Support departments. This department is also responsible for the Data Warehouse and all Actuate Reporting needs for the company.

Additional Oracle Applications have been implemented in 2007, and more will come out in 2008 increasing the amount flexibility within the organization and streamlining processes. This will also mean an increased workload for the team as these modules are being implemented.

Support for MRTU applications/services such as ClearTrust, LDAP, and Actuate

Discussion of Proposed Budget

The 2008 proposed budget of $2.69 million compares with the 2007 budget of $2.96 million, which is a decrease of $0.27 million or 9%. This budget will cover:

* The day-to-day support of the Corporate Systems Application portfolio.
* The training, travel, and conference needs for Corporate Systems Applications staff.

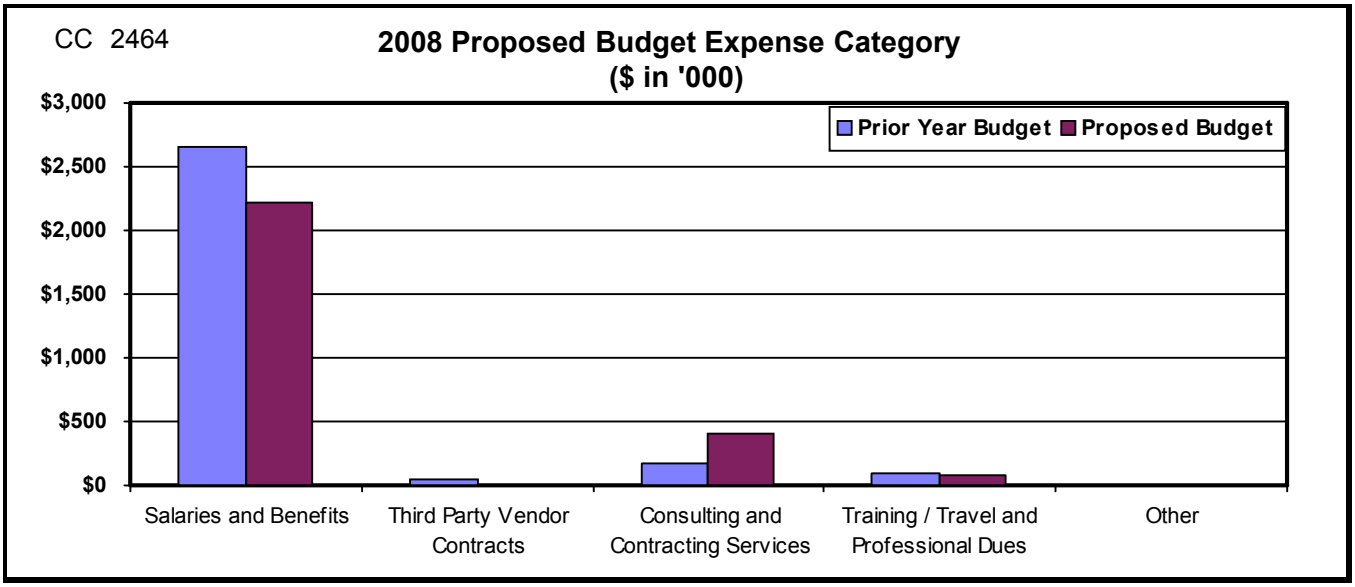
This budget does not cover additional funding for any work above and beyond normal day-to-day support of the noted applications. Any new development or training projects, additional development on existing applications, or substantial analysis work for integration projects will not be covered in this budget.

Staffing

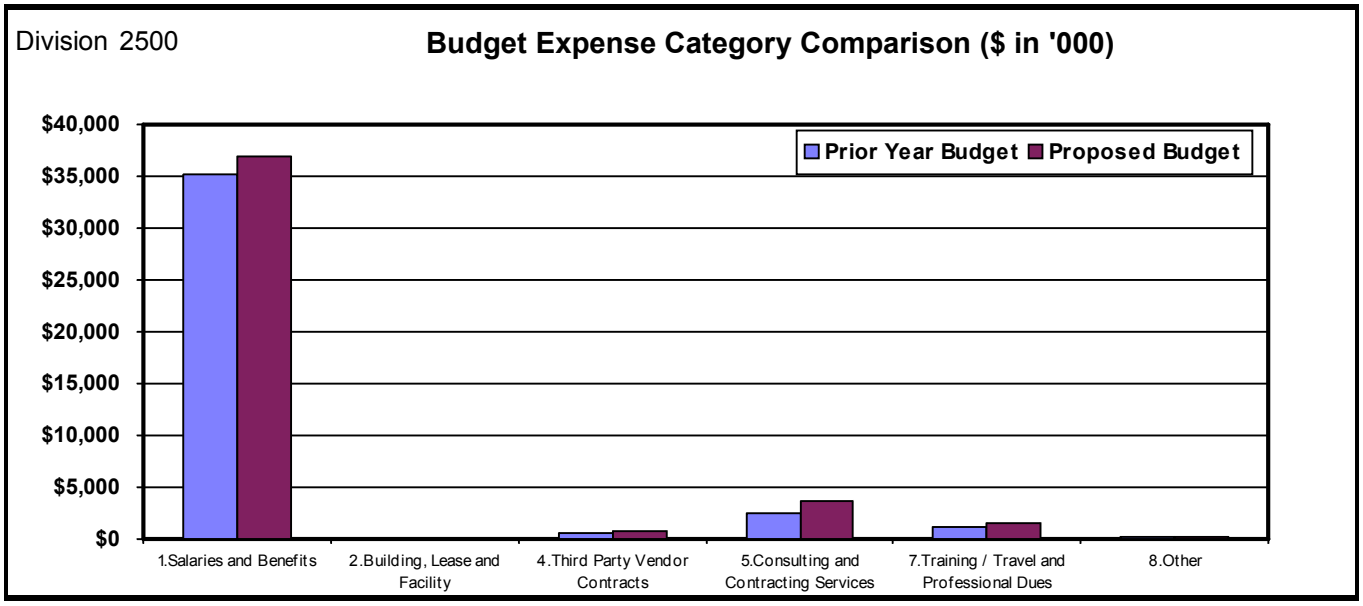
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	15	12	0	0	12

Operations and Maintenance Budget

2008 Base Budget	$2,688,967
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$2,688,967
2007 Budget	$2,958,040



Overview Chart 2500 VP of Operations



Discussion of Proposed Budget

The 2008 proposed budget of $43.02 million compares with the 2007 budget of $39.57 million, which is an increase of $3.45 million or 9%. The increase primarily relates to salaries and benefits, specifically 2007/2008 salary/benefit cost adjustments and an increase in budgeted staff of 3 positions, increased consulting of $1.25 million primarily in Market Operations for CRR support and design engineering, and increased travel/training of $275K. The 2008 budget includes funding for the programs as documented in the subsidiary write-ups.

Divisional Budget Overview

2500 VP of Operations

Division Description

This is a roll-up cost center for the Operations Division, consisting of the following subsidiary cost centers:

2511 VP-Grid Operations-General
2520 Grid Operations Group (and subsidiary cost centers)
2531 Grid Operations, Alhambra
2540 Market Services Group (and subsidiary cost centers)
2550 Operations Support (and subsidiary cost centers)
2561 Reliability Coordination

The main mission of the department is the reliable operation of the power grid and real-time operations support. For 2008, the Grid Operations Division will be comprised of Grid (Real Time) Operations (Folsom & Alhambra); Market Services; Operations Support; and Reliability Coordination.

Our 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 operating and market environments.

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.

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.

Recognizing that our people are our greatest asset, 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 Workload and Initiatives

Initiatives Identified by Operations during the Strategic Planning Process for 2007-2011 that will take place during 2008 include the following:

Achieve Excellence in Grid and Market Operations

2007–2011	Design and build a New Control Center to Improve Security, Support Reliable Operations and Transparent Market Outcomes
2008	Implement Advanced Applications

Value Added and Efficient Markets

2007–2008 Implement Long Term Transmission Rights
2008–2009 Implement Future Market Enhancements
2008–2010 Implement Centralized Capacity Pricing Mechanism
2008 Reduce Settlement Timeline from 60 Days to 9 Days
2007–2008 Improve Short term Forecast Accuracy
2007–2008 Further Integrate Resource Adequacy and ISO Operating Requirements

Affirm that Our People Are Our Greatest Asset

2007–2011 Train Operators for New Market and Advanced Applications

Staffing

Group		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2511	VP of Operations-General	1.5	1.5	0	0	1.5
2520	Grid Operations	95	96	5	0	101
2540	Market Services	55	54	2	0	56
2550	Operations Support	47	44	0	0	44
2561	Reliability Coordination	9	8	0	0	8
	Total	207.5	203.5	7	0	210.5

Operations and Maintenance Budget

2008 Base Budget	$41,143,114
2008 Management Recommended Incremental / Decremental Programs	$1,877,117
Total Proposed 2008 Budget	$43,020,231
2007 Budget	$39,572,201

2511 VP of Operations-General

Departmental Description

The VP of Grid Operations oversees all aspects of the ISO Operations division and is responsible for: the safe and reliable operation of the power grid; ensuring that transmission standards and reliability of electric operations are maintained at high levels; overseeing or influencing directly the development and implementation of numerous processes, procedures and technologies necessary to enable the deployment of the ISO organization; and developing operations capabilities necessary to promote the timely implementation of the ISO activities consistent with applicable orders of regulatory bodies, including FERC orders, NAESB, NERC and WECC policies.

Department Workload and Initiatives

The complexity of real-time operations continues at a very high level due to the market changes. For FY2007, the Grid Operations Division will include Real Time Operations (Alhambra & Folsom); Scheduling; Outage Management; Reliability Coordination; Market Operations; Operations Procedures and Training; Settlements; Compliance; and Modeling & Contract. In addition to oversight of daily operations, the VP of Grid Operations is required to spend many hours providing testimony for legislative and legal hearings.

Discussion of Proposed Budget

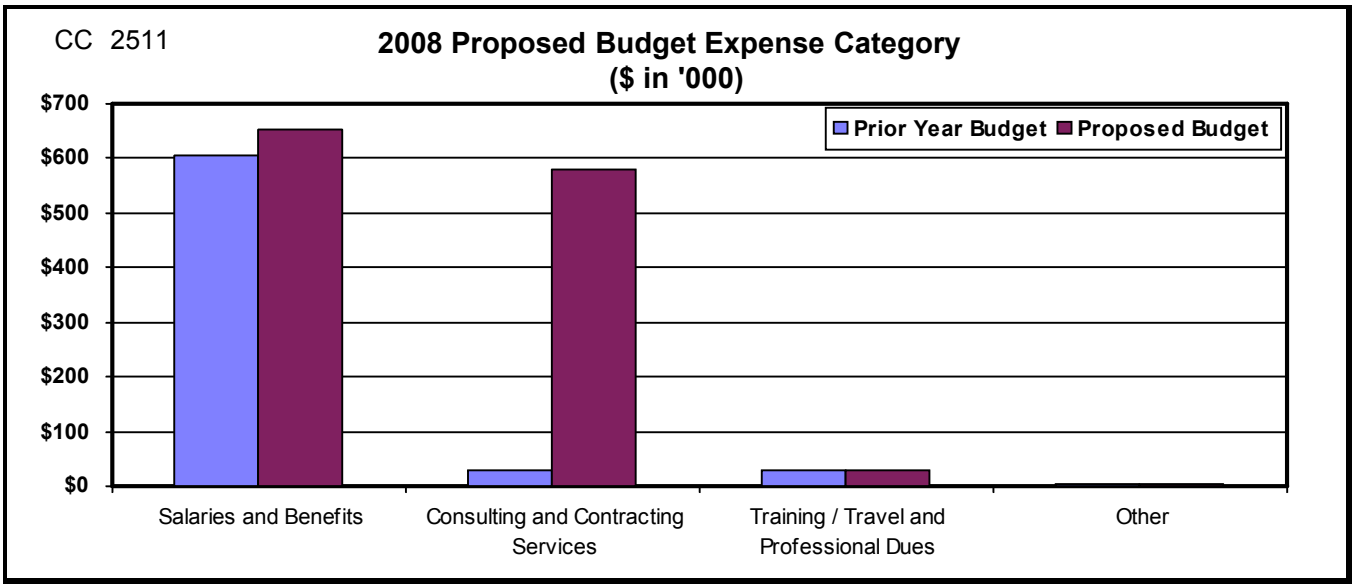
The 2008 proposed budget of $1.26 million compares with the 2007 budget of $0.67 million, which is an increase of $0.6 million or 90%. This cost center contains funding for the VP of this Division and associated costs. The budget includes $550,000 for consulting needs in operations for 2008 including CRR support, and support of IFM/RTM initiatives.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	1.5	1.5	0	0	1.5

Operations and Maintenance Budget

2008 Base Budget	$1,263,610
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,263,610
2007 Budget	$666,680



2561 Reliability Coordination

Departmental Description

Reliability Coordination monitors real-time system conditions to observe and mitigate potential problems, as well as react to system emergencies in the Western Interconnection, with the primary focus on the California-Mexico Sub-region of WECC (CAISO, LDWP, SMUD, TID, and CFE control areas). Reliability Coordinators have the final authority to direct operations before, during, and after problems or disturbances with a regional impact.

Department Workload and Initiatives

The workload and responsibilities for this group continue to expand as better tools are developed for analyzing the flows and voltages on the Western power grid. The existing workforce has been instrumental in the development of the tools, and they are leading the effort to improve reliability coordination and communications.

Discussion of Proposed Budget

The 2008 proposed budget of $2 million compares with the 2007 budget of $1.97 million, which is an increase of $0.02 million or 1%. The Reliability Coordination budget has a zero net effect on the GMC as all costs are reimbursed by WECC.

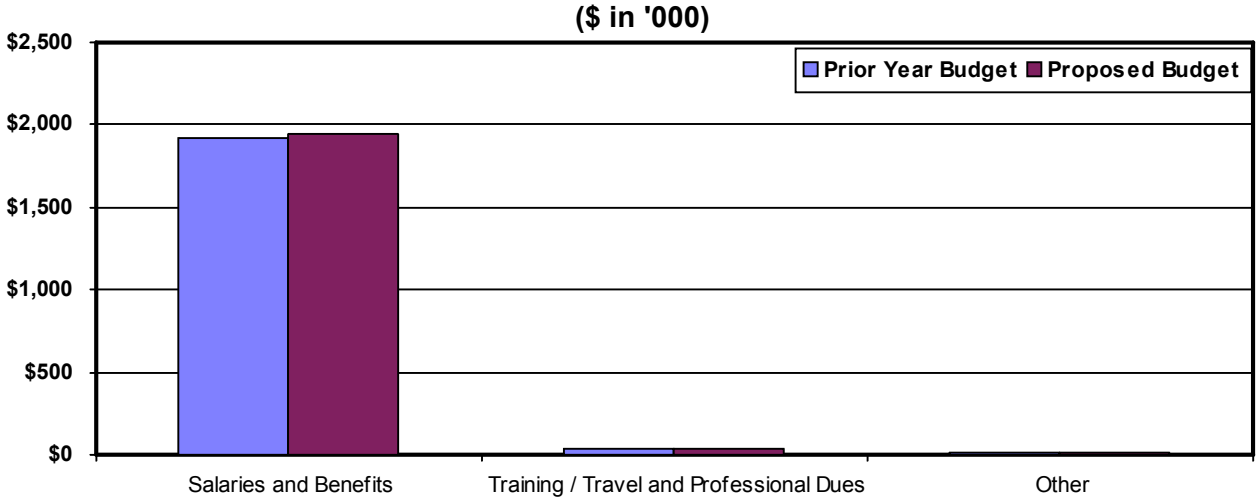
Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	9	8	0	0	8

Operations and Maintenance Budget

2008 Base Budget	$1,996,347
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,996,347
2007 Budget	$1,972,565

CC 2561



2520 Grid Operations

Group Description

This is a roll-up cost center for the Grid Operations department, consisting of the following subsidiary cost centers:

2521 Grid Operations-General
2522 Real Time Operations
2523 Scheduling
2524 Outage Management

Group Workload and Initiatives

See the descriptions for the subsidiary cost centers for details of changes in workload from last year.

Discussion of Proposed Budget

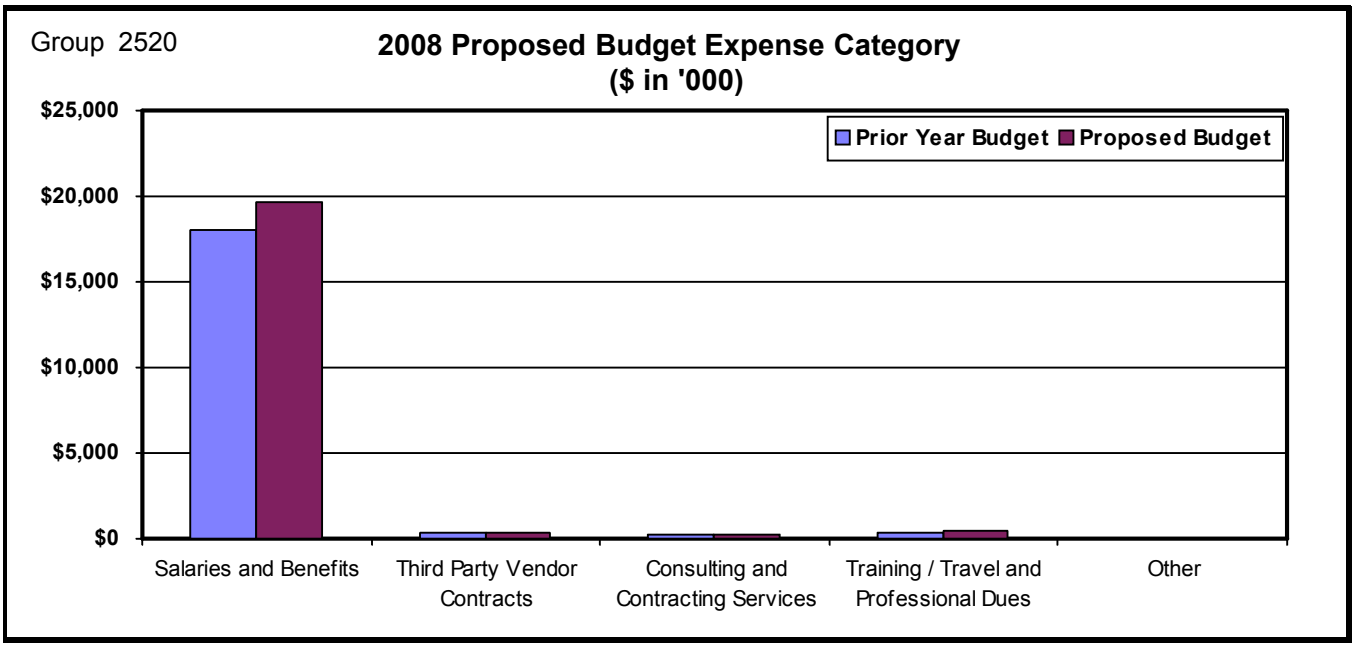
The 2008 proposed budget of $20.72 million compares with the 2007 budget of $19.53 million, which is an increase of $1.19 million or 6%. The proposed budget includes funding for the programs as documented in the subsidiary cost center write-ups. Budgeted staff increase from 95 to 101 related to the Continuous Network Model Update.

Staffing

		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2521	Grid Operations-General	3	3	0	0	3
2522	Real Time Operations	71	72	0	0	72
2523	Scheduling	8	9	0	0	9
2524	Outage Management	10	9	5	0	14
2531	Grid Operations Development (formerly Alhambra	3	3	0	0	3
	Total	95	96	5	0	101

Operations and Maintenance Budget

2008 Base Budget	$20,193,643
2008 Management Recommended Incremental / Decremental Programs	$529,780
Total Proposed 2008 Budget	$20,723,423
2007 Budget	$18,992,928



2521 Grid Operations-General

Departmental Description

Grid Operations Department is comprised of three groups: Real Time Operations; Scheduling, and Outage Management. See below for detailed description. This department contains the funding for the Director and support cost staff overseeing these functions.

Real Time Operations:

Real Time Operations is responsible for both Folsom and Alhambra control rooms. The department is responsible for the day-to-day operations of the grid and the markets. The duties are split between Folsom and Alhambra with each operator reporting to his respective shift supervisor, located in Folsom.

The Grid Operations group is responsible for the following:

- Overseeing and performing all Real Time Operations of the ISO Electrical Grid and Control Area, including managing all aspects of the California Control Area;
- Ensuring reliable and safe operation of the ISO Controlled Grid, which includes any authority needed to maintain control of the Grid (such as authority over all PTO's and Utility Distribution Companies ("UDC's") in regards to system reliability and system emergencies and the ability to order must run generating units on-line, and manual Load shedding as needed);
- Coordinating load and system restoration after any contingency or major system disturbance in cooperation with the WECC Reliability Coordinator;
- Declaring, when appropriate, a Statewide System Emergency as detailed in the Dispatch Protocol, suspending market operations, and setting Administrative prices for Ancillary Services needed to resolve the emergency;
- Ensuring compliance with all WECC and NERC criteria, as well as ISO protocols and procedures;
- Working with the WECC Reliability Coordinator to ensure compliance with all policies and operating procedures applicable to the Western Interconnection;
- Controlling applicable generation to meet intertie obligations, contributing to frequency control, and meeting any emergency responses, and WECC and NERC criteria to support the transmission system and operation of the energy market in the most reliable manner;
- Maintaining documentation for generation operations;
- Procuring additional Ancillary Services as necessary;
- Managing operation of eligible Regulatory Must-Take, Must-Run, and RMR generation;

- Dispatching interruptible loads to maintain required reserve levels during system emergencies;
- Coordinating generation resources to meet system load requirements and to satisfy contractual obligations, as well as to respond to system frequency deviations and voltage issues.

Scheduling

The staff analysts of Scheduling (Pre-Scheduling and Support) coordinate and schedule energy resources to meet system load requirements and pre-check all schedules with adjacent utilities to ensure correct intertie totals. They also perform checks after the fact to true up scheduled interchange. Primary internal contacts are with the Settlement and Billing, Legal, Department of Market Analysis, Market Quality and Client Services departments. We serve as a liaison between Real-time Grid Operations and Market Operations. We support Scheduling, Market Operations, and Market Quality as needed. In addition we manage changes as directed and maintain records of ETCs and ATCs for the PTOs, publishing them on a daily, weekly and monthly basis, as well as pushing them over daily to Settlements. The ETC/ATC maintenance and publication is a cumbersome process that requires close attention to detail. There is an increasing manual intervention due to changing market participants, contracts and a WECC-wide website affecting WECC transmission sales.

In addition to our normal duties, we are also providing support for MRTU, the ETC stakeholder process, the FTR Auction and the methodology for allocation of new PTO Transmission. There are also requests for support and analysis from the CAISO Legal Department, Information & Engineering Analysis, and the Department of Market Monitoring. We perform our normal routine of pre-scheduling the interties and following up with after-the-fact check-outs while also maintaining key involvement with testing and development of critical enhancements to the scheduling package, control area footprint changes and the efforts devoted to dynamic scheduling and pseudo ties.

Outage Management

- Approving or denying outage requests to enable necessary maintenance to preserve reliability of generation and transmission facilities while at the same time assuring real-time operating reliability;
- Long-term planning (up to 12 months) for outage coordination for both generation and transmission facilities and for interfacing complex generation and transmission facility outages into the existing ISO Outage Coordination Plan;
- Recording, maintaining, and reporting data related to outages;
- Serving as "Application Business Owner" for the SLIC Logging application;
- Ensuring accurate path ratings and integrated outages to ensure that minimum reliability standards are adhered to - the coordinators work closely with Operating Engineers to accomplish this;
- Finalizing and passing on path ratings and allocation percentages for scheduling and congestion management to the intertie scheduling group, Existing Contracts holders and the Internet as part of the Control Area responsibilities;
- Conducting generator inspections to follow-up on forced outages, ensuring that generators provide appropriate attention to repairs and monitor resource withholding opportunities; and
- Producing the following reports:
* Generator Outages,
* Website Postings,
* Forecast vs. Actual Outages, and
* Data requests from FERC, EOB, CPUC and others.

These duties and requirements continued through 2006 and the number and frequency of such reports increased as expected. It is likely these requirements will continue throughout 2007. Classification of Outage Coordinators as non-exempt requires overtime that historically had not been part of the Outage Management budget.

Department Workload and Initiatives

Real Time Operations

The department responsibility has increased since last year. Real Time Scheduling (19 staff) and Grid Resource Coordinators (approximately 15 staff) have been added to the department. The reporting structure is such that every control room operator now reports to his respective shift supervisor. Each of the shift supervisors now reports to the manager of Real Time Operations.

Scheduling

In addition to performing the normal duties associated with scheduling, the staff is also providing support for MRTU, ETC stakeholder process, the FTR Auction, and the methodology for allocation of new PTO Transmission. There are also requests for support and analysis from the CAISO Legal Department, Market Quality, and the Department of Market Analysis. The staff performs the normal routine of pre-scheduling the interties and following up with after-the-fact checkouts while also maintaining key involvement with testing and development of critical enhancements to the scheduling package, control area footprint changes and the efforts devoted to dynamic scheduling and pseudo ties.
All of this work is now being accomplished with a reduction in force that took the Scheduling group (Pre-Scheduling and Support) from eleven to eight Schedulers.

Outage Management

It is anticipated that the workload in 2007 will continue at the 2006 rate, but may experience an increase in 2007. Outage Management activities relative to the total number of outages (i.e., the core function at the base of Outage Management, including processing of Scheduled, Cancelled, and a significant portion of Forced Outages), managed by Outage Management personnel are expected to track that of 2006. The activity in the SLIC Business Owner area has increased dramatically in 2006 and is expected to increase further in 2007 with the need to update both network and market models. These changes include major redirection in the application to meet the needs of the changing business environment, and also the training of new external users (including CPUC and FERC), in addition to attending to the needs of existing users.

Discussion of Proposed Budget

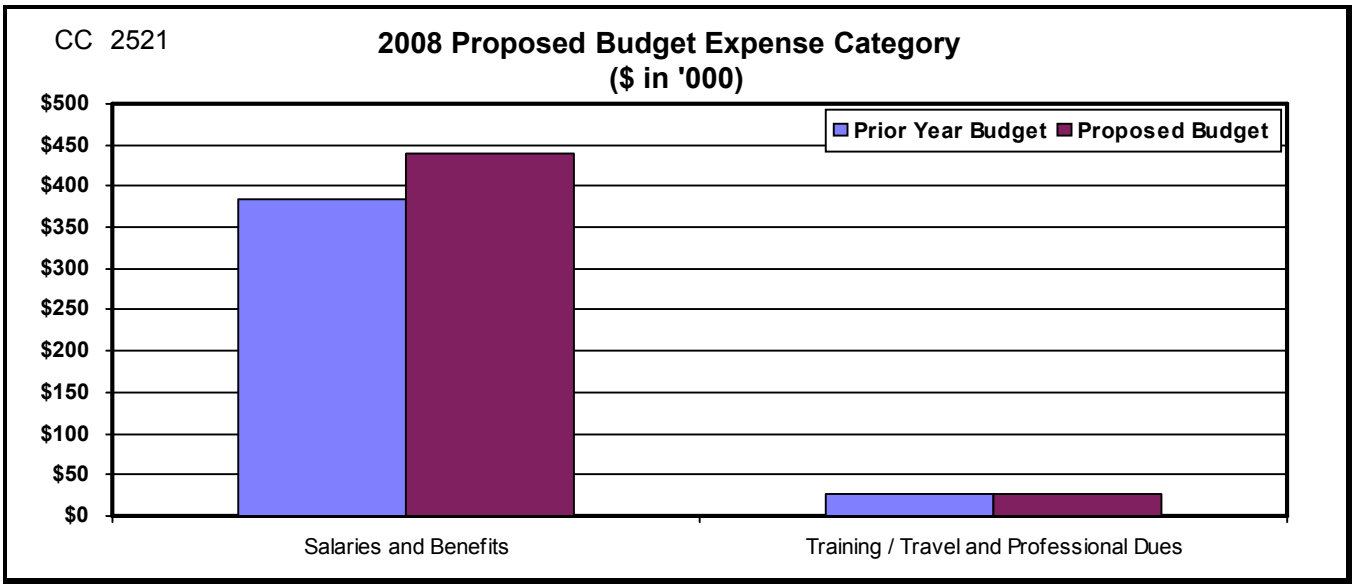
The 2008 proposed budget of $0.47 million compares with the 2007 budget of $0.41 million, which is an increase of $0.06 million or 13%.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	3	3	0	0	3

Operations and Maintenance Budget

2008 Base Budget	$466,294
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$466,294
2007 Budget	$411,222



2522 Real Time Operations

Departmental Description

Real Time Operations is responsible for both Folsom and Alhambra control rooms. The department is responsible for the day-to-day operations of the grid and the markets. The duties are split between Folsom and Alhambra with each operator reporting to his respective shift supervisor located in Folsom. The Real Time Operations group is responsible for the following:

- Overseeing and performing all Real Time Operations of the ISO Electrical Grid and Control Area, including managing all aspects of the California Control Area;
- Ensuring reliable and safe operation of the ISO Controlled Grid, which includes any authority needed to maintain control of the Grid (such as authority over all PTO's and Utility Distribution Companies ("UDC's") in regards to system reliability and system emergencies and the ability to order must-run generating units on-line, and manual Load shedding as needed);
- Coordinating Load and system restoration after any contingency or major system disturbance in cooperation with the WECC Reliability Coordinator;
- Declaring, when appropriate, a Statewide System Emergency as detailed in the Dispatch Protocol, suspending market operations, and setting Administrative prices for Ancillary Services needed to resolve the emergency;
- Ensuring compliance with all WECC, NERC criteria, and ISO protocols and procedures;
- Working with the WECC Reliability Coordinator to ensure compliance with all policies and operating procedures applicable to the Western Interconnection;
- Controlling applicable generation to meet intertie obligations, contributing to frequency control, and meeting any emergency responses, and WECC and NERC criteria to support the transmission system and operation of the energy market in the most reliable manner;
- Maintaining documentation for generation operations;
- Procuring additional Ancillary Services as necessary;
- Managing operation of eligible Regulatory Must-Take, Must-Run, and RMR generation;
- Dispatching interruptible loads to maintain required reserve levels during system emergencies;
- Coordinating generation resources to meet system load requirements and satisfy contractual obligations, and responding to system frequency deviations and voltage issues.

Department Workload and Initiatives

Budgeted Staff in Real Time Operations stays at 72 for 2008. Real Time Operations Travel Budget increases due to increased training requirements relating to NERC Standards and OIT Training.

Discussion of Proposed Budget

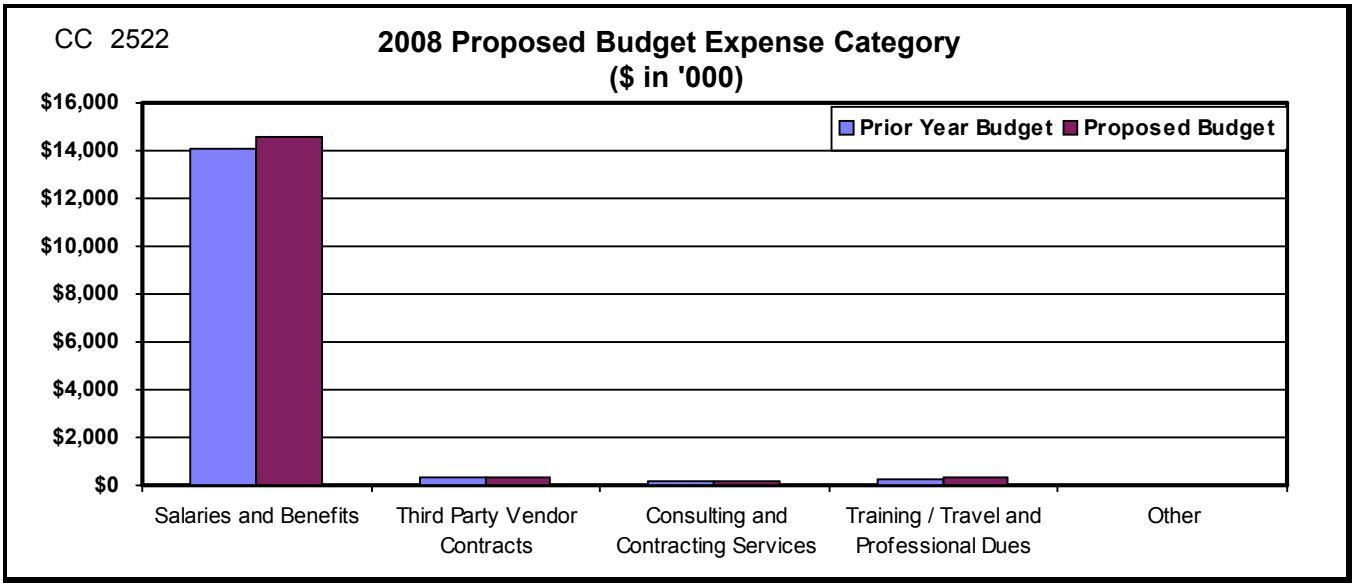
The 2008 proposed budget of $15.51 million compares with the 2007 budget of $14.88 million, which is an increase of $0.64 million or 4%, reflecting the 2007/2008 salary/benefit cost adjustments, and an additional $100,000 in training to meet NERC standards.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	71	72	0	0	72

Operations and Maintenance Budget

2008 Base Budget	$15,413,963
2008 Management Recommended Incremental / Decremental Programs	$100,000
Total Proposed 2008 Budget	$15,513,963
2007 Budget	$14,876,763



2523 Scheduling

Departmental Description

The staff of Scheduling (Pre-Scheduling and Support) coordinate and schedule energy resources to meet system load requirements and pre-check all schedules with adjacent utilities to ensure correct intertie totals. PS&S also performs checks after-the-fact to true up scheduled interchange. Primary internal contacts are with the Settlement and Billing, Legal, Department of Market Monitoring, Information & Engineering Analysis and Client Services departments. PS&S serves as a liaison between Real-time Grid Operations and Market Operations. PS&S supports Scheduling, Market Operations, and Information & Engineering Analysis as required. In addition PS&S manages changes as directed and maintain records of ETCs and ATCs for the PTOs, publishing them on a daily, weekly and monthly basis as well as pushing them over to Settlements daily. The ETC/ATC maintenance and publication is a complex process that requires close attention to detail. There is extensive manual intervention, to

modify ISO systems, due to changing market participants, ETC contracts, implementation of NERC Standards and the WECC-wide WIT validation tool implementation.

In addition to regular duties, PS&S also provides support for MRTU, the ETC stakeholder process, the FTR Auction and the methodology for allocation of new PTO Transmission. PS&S manages requests for support and analysis from the CAISO Legal Department, Information & Engineering Analysis, and the Department of Market Monitoring. PS&S performs routine, daily pre-scheduling of the interties and follows up with after-the-fact check-outs with adjacent BA's, while also maintaining key involvement with testing and development of critical enhancements to the new Control Area Software scheduling package, control area footprint changes and the efforts devoted to implementaion of dynamic scheduling and pseudo ties service requests.

Department Workload and Initiatives

There are no significant workload changes from 2007 anticipated in 2008.

Discussion of Proposed Budget

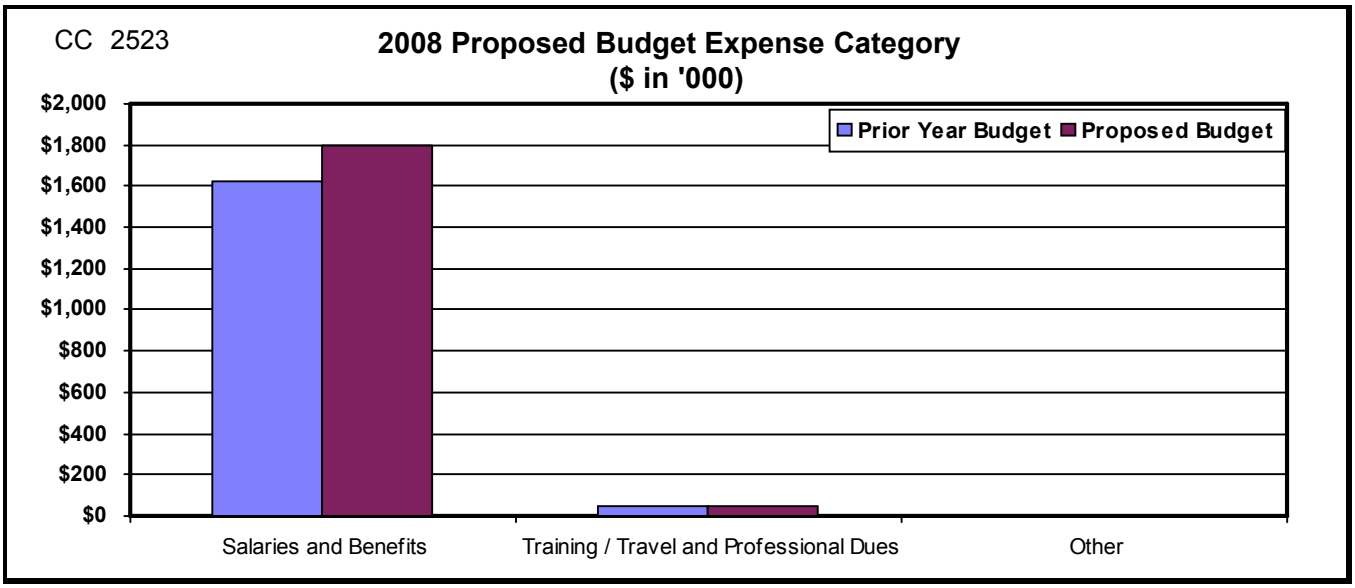
The 2008 proposed budget of $1.84 million compares with the 2007 budget of $1.67 million, which is an increase of $0.18 million or 11%. The increase includes the 2007/2008 salary/benefit cost adjustment of 4%.

Staffing

	2007 Budget	*2008 Base Budget*	*2008 Incremental*	*2008 Decremental*	*Total 2008 Mgmt Recommended Budget*
Total	8	9	0	0	9

Operations and Maintenance Budget

2008 Base Budget	$1,843,597
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,843,597
2007 Budget	$1,667,339



2524 Outage Management

Departmental Description

Outage Management performs activities related to the following:

- Approving or denying outage requests to enable necessary maintenance to preserve reliability of generation and transmission facilities while at the same time assuring real-time operating reliability;
- Long-term planning (up to 12 months) for outage coordination for both generation and transmission facilities, interfacing complex generation and transmission facility outages into the existing ISO Outage Coordination Plan;
- Recording, maintaining, and reporting data related to outages;
- Serving as "Application Business Owner" for the SLIC Logging application;
- Ensuring accurate path ratings and integrated outages to ensure minimum reliability standards are adhered to - the coordinators work closely with Operating Engineers to accomplish this;
- Finalizing and passing on path ratings and allocation percentages for scheduling and congestion management to the intertie scheduling group, Existing Transmission Contracts holders and the Internet as part of the Control Area responsibilities;
- Conducting generator inspections to follow-up on forced outages, ensuring that generators provide appropriate attention to repairs and monitor resource withholding opportunities; and
- Producing the following reports:
* Generator Outages,
* Website Postings,
* Forecast vs. Actual Outages, and
* Data requests from FERC, EOB, CPUC and others.
* Manage updates into Network Models used by EMS and Market Systems

These duties and requirements continued through 2007 and the number and frequency of such reports was as expected. It is likely these requirements will continue throughout 2008. Classification of Outage Coordinators as non-exempt will require occasional overtime as was the case in 2007. Modeling outages in the MRTU network models have the potential for increased overtime throughout 2008.

Department Workload and Initiatives

It is anticipated that the workload in 2008 will increase as compared to the 2007 rate. While Outage activities relative to the total number of outages (i.e., the core function at the base of Outage Management including processing of Scheduled, Cancelled, and a significant portion of Forced Outages), managed by Outage Management personnel are expected to track that of 2007, there will be additional activities. Firstly, the activity in the SLIC Business Owner

area increased in 2007 and is expected to increase further in 2008 as the ISO prepares to replace SLIC with an outage management application that enables downstream automation of other market systems, including network modeling. This type of activity will continue for 2-3 years until SLIC systems and applications are fully replaced in the 2009-2010 time frame. This effort is expected to require increased SME time and resources from Outage Management in combination with associated costs for benchmarking others systems, etc. The activity for the existing SLIC application includes not only those previously identified to meet the needs of the changing business environment, but also to manage the legacy system through the interim period over the next 2-3 years until a replacement can be implemented. Ongoing requirements include certificate management, training of new external users (including CPUC and FERC), as well as attending the ever-present needs of existing users. Moreover, with the need to update both State Estimator and market network models, the overall activity for each network-impacting outage will be substantially increased.

Discussion of Proposed Budget

The 2008 proposed budget of $2.33 million compares with the 2007 budget of $2.04 million, which is an increase of $0.29 million or 14%. The increase includes 5 additional staff for Continuous Network Model maintenance. The proposed 2008 budget meets the corporate needs to maintain the ISO Outage Management Office and the performance of ISO tariff-mandated tasks, and with the exception of added personnel to meet network modeling requirements, is essentially unchanged compared to the 2007 budget. In addition to these new duties, Outage Management will retain core daily Outage Coordination, Long Range Outage Planning, and the investigation of questionable generator outages.

Staffing

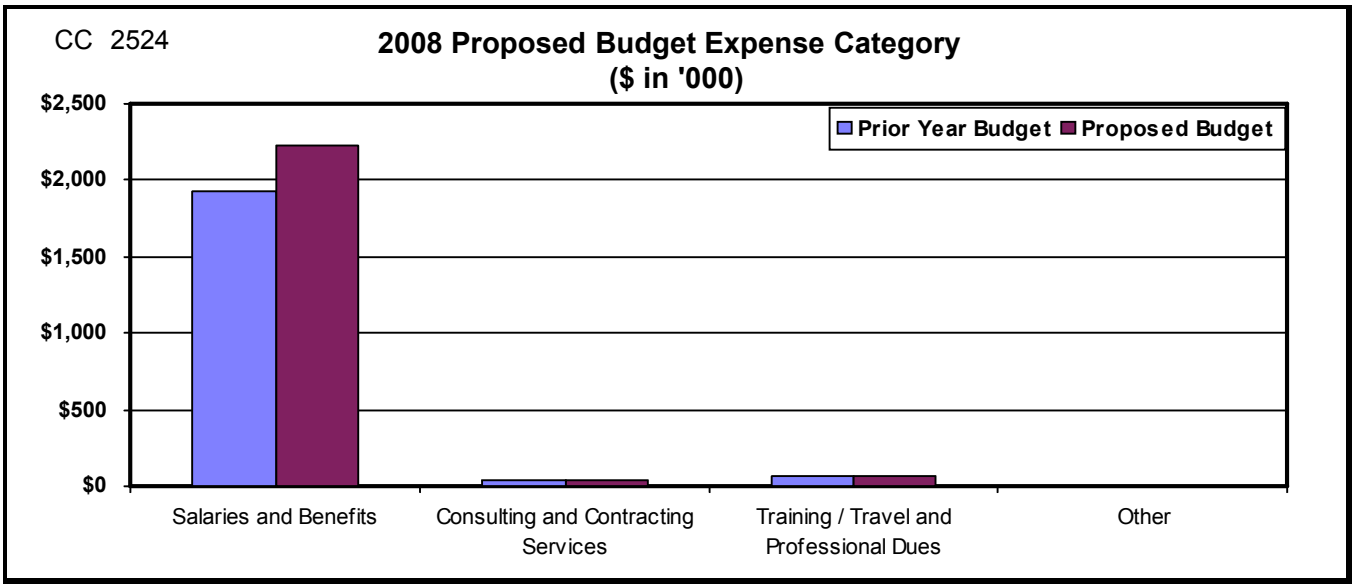
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	10	9	5	0	14

Operations and Maintenance Budget

2008 Base Budget	$1,900,585
2008 Management Recommended Incremental / Decremental Programs	$429,780
Total Proposed 2008 Budget	$2,330,365
2007 Budget	$2,037,604

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 1	Continuous Network Model Update-5 Staff	Management Recommended	$429,780	5
		Total	$429,780	5



2531 Grid Operations Development (formerly Alhambra Operations)

Departmental Description

Alhambra Operations ensures reliable and safe operation of the ISO grid, coordinates with Folsom operations for load & system restoration after any contingency or major system disturbance in cooperation with WECC Security Coordinator, maintains readiness as ISO's Back Up Control Center (BUCC), and when required, performs all real-time operations including those normally performed by Folsom operations. Alhambra also manages operation of RMR generation, coordinates generation resources to meet system load requirements, oversees all functions of the Alhambra facility, and works with all ISO departments to ensure Alhambra's readiness for long term corporate business recovery roles.

Department Workload and Initiatives

None

Discussion of Proposed Budget

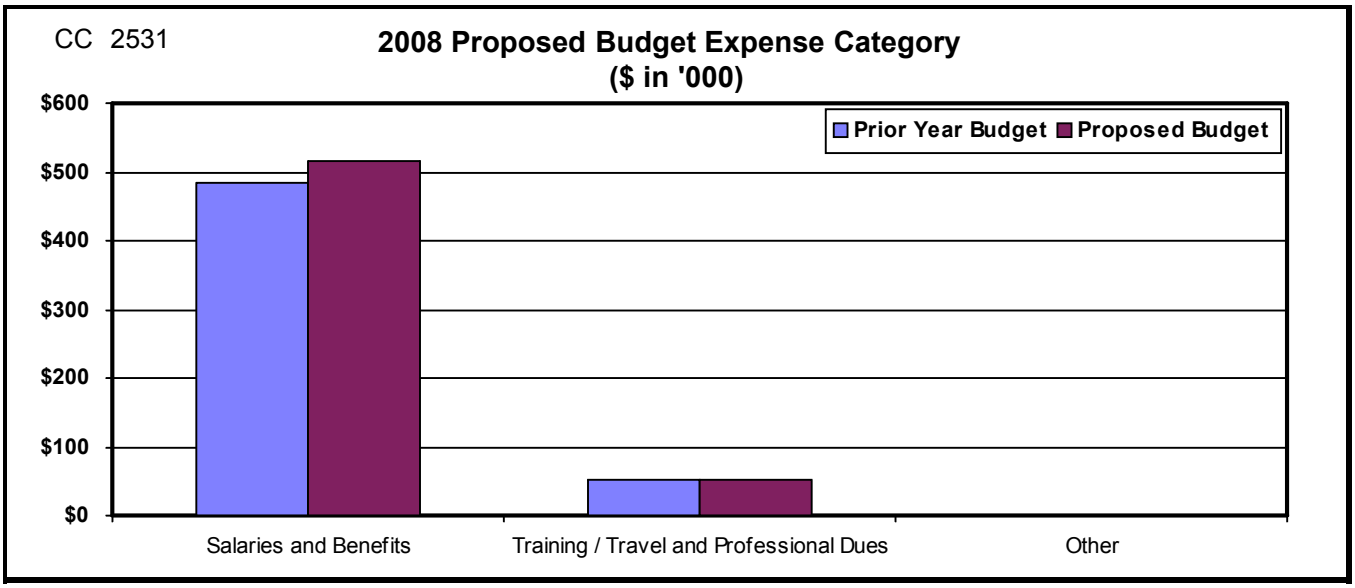
The 2008 proposed budget of $0.57 million compares with the 2007 budget of $0.54 million, which is an increase of $0.03 million or 6%, and includes adequate funding for the programs as described in above.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	3	3	0	0	3

Operations and Maintenance Budget

2008 Base Budget	$569,204
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$569,204
2007 Budget	$535,512


CC 2531
2008 Proposed Budget Expense Category
($ in '000)
$600
$500
$400
$300
$200
$100
$0
Prior Year Budget
Proposed Budget
Salaries and Benefits
Training / Travel and Professional Dues
Other

2540 Market Services

Group Description

This is a roll-up cost center for the Market Services department, consisting of the following subsidiary cost centers:

2541 Market Services-General
2542 Market Operations
2543 Billing and Settlements
2544 Settlement Projects
2545 Market Information

Group Workload and Initiatives

Market Services will implement MRTU in 2008, and prepare for the future market design enhancements.

Discussion of Proposed Budget

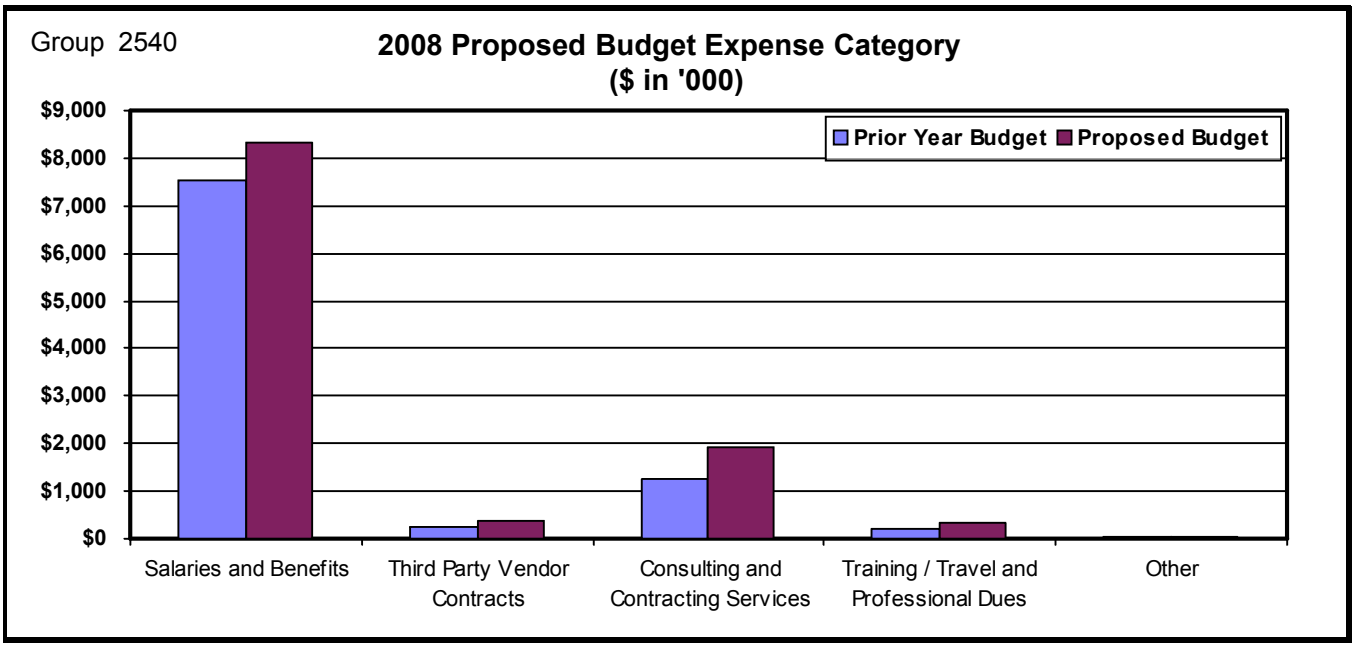
The 2008 proposed budget of $11.02 million compares with the 2007 budget of $9.29 million, which is an increase of $1.72 million or 19%. The increase reflects: (1) salary/benefit cost increases of 4% from 2007/2008, and an additional 2 budgeted staff transferred from within Operations division. (2) $700K in contract support for CRR workload and IFM/RTM initiatives in Market Operations.

Staffing

		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2541	Market Services-General	3	3	0	0	3
2542	Market Operations	16	15	0	0	15
2543	Billing and Settlements	15	17	0	0	17
2544	Settlements Projects	10	7	0	0	7
2545	Market Information	11	12	2	0	14
	Total	55	54	2	0	56

Operations and Maintenance Budget

2008 Base Budget	$9,668,624
2008 Management Recommended Incremental / Decremental Programs	$1,347,337
Total Proposed 2008 Budget	$11,015,961
2007 Budget	$9,291,536



2541 Market Services-General

Departmental Description

The Market Services Department is responsible for "bid-to-bill" operations of the ISO including providing oversight and direction for the operations and staff of the Market Operations, Market Information, Billing & Settlements and Settlements Projects business units to ensure, on a non-discriminatory basis, market and settlement reliability, accuracy and timeliness.

Department Workload and Initiatives

This department was initiated as part of the 2005 realignment of the corporation. It is a combination of the roles and responsibilities of the Vice President of Market Services, Market Operations, Market Quality, Billing & Settlements, and Market Analysis Departments. For 2007, the department will evolve again as part of the readiness and implementation of MRTU. Market Services will be responsible for most of the new systems and takes on additional functions including LMP validation, CRRs, market clearing and reliability of the new markets. These new functions increase the workload even though most of our systems should be automated.

Discussion of Proposed Budget

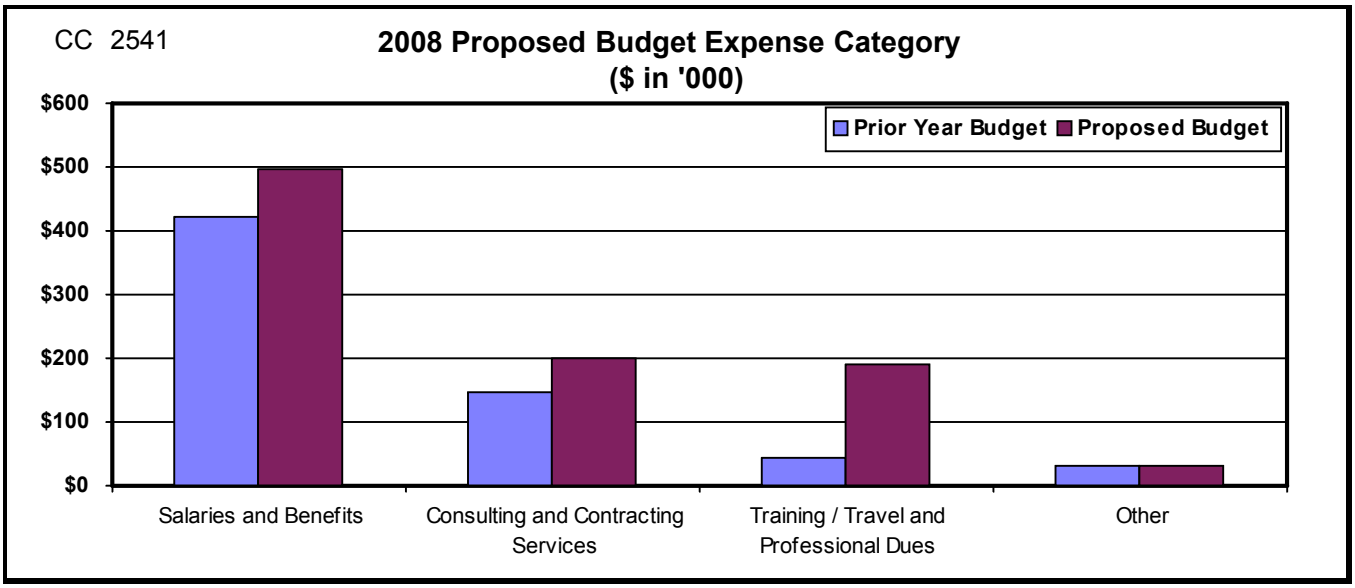
The 2008 proposed budget of $0.92 million compares with the 2007 budget of $0.65 million, which is an increase of $0.27 million or 42%. The increase is related to: (1) salary/benefit cost adjustments for 2007/2008 and (2) stakeholder meeting costs: training is anticipated for CRRs, Market Operations, LMP validation and settlements.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	3	3	0	0	3

Operations and Maintenance Budget

2008 Base Budget	$919,009
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$919,009
2007 Budget	$646,052



2542 Market Operations

Departmental Description

Market Operations focus is to help ensure that the daily, hourly and real-time markets execute in a timely and non-discriminatory manner, providing a robust financial landscape to overlay the physical characteristics of the Energy Transmission Grid.

The major components to achieve this purpose are reflected in the two teams that comprise Market Operations:

Scheduling Application, Real-Time Market Application, Scheduling Infrastructure business support and design: Ensures that market rules and system design for the Day Ahead, Hour Ahead, and Real-time markets and supporting systems are functioning in a timely and non-discriminatory manner. This group produces requirements necessary for the development of new or enhanced market functionality. The team works with Market Participants and internal staff on the appropriate usage and execution of the Market Systems. This group coordinates 24x7 business support for the external interfaces and internal Market and Operational Systems. This group also supports the MRTU project by providing testing resources and subject matter experts. During 2008 MRTU will be implemented replacing the existing applications with new ones. This group will provide similar services for the MRTU Integrated Forward Markets and Real-Time Nodal Market as they do for the current ones.

CRR markets: This group executes and analyzes the Congestion Revenue Rights (CRR) allocations and auctions. They also ensure that market rules and system design for the Congestion Revenue Rights auction are functioning in a timely and non-discriminatory manner. Furthermore, the group designs and implements functional improvements to the CRR systems.

Department Workload and Initiatives

As mentioned previously, Market Operations will be helping to implement the MRTU markets in 2008. Most of the year will be spent helping Grid Operators and Market Participants adjust to the new rules and features of the market, and ensure that any issues that arise are resolved in a timely manner. This work is expected to take up all FTE resources for 2008.

Other initiatives include support of future market enhancements such as convergence bidding and capacity markets. Market Operations will be relying on contract resources for this support in 2008.

Discussion of Proposed Budget

The 2008 proposed budget of $3.87 million compares with the 2007 budget of $3.02 million, which is an increase of $0.84 million or 28%. The increase relates to (1) salary/benefit cost adjustments for 2007/2008, (2) increased costs related to MRTU implementation, and (3) Contract support for CRR workload and IFM/RTM initiatives. Items 2 and 3 are discussed in more detail in the inc program descriptions.

Staffing

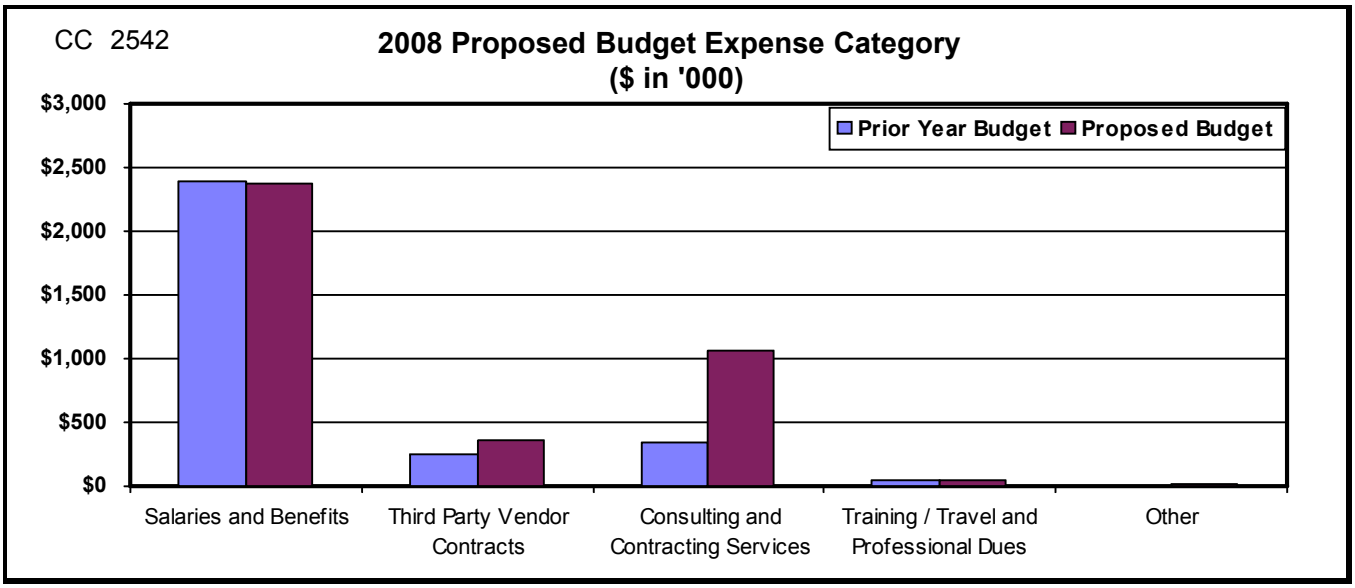
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	16	15	0	0	15

Operations and Maintenance Budget

2008 Base Budget	$3,045,260
2008 Management Recommended Incremental / Decremental Programs	$820,000
Total Proposed 2008 Budget	$3,865,260
2007 Budget	$3,024,492

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 4	Contract support for CRR workload and IFM/RTM initiatives	Management Recommended	$700,000	
Incremental - 3	Ongoing costs related to MRTU	Management Recommended	$120,000	
		Total	$820,000	



2543 Billing and Settlements

Departmental Description

Billing & Settlements is responsible for delivering daily market statements and multiple monthly invoices to Market Participants ensuring timely and accurate bills. The group also validates and uploads dispute information into the settlements system and builds and maintains application tools necessary for daily operations. The group supports the External Relations, Grid Operations and Operations Support groups in resolving Market Participant issues. The group coordinates with both the Grid Operations, Operations Support and Market Services/Market Operations departments to obtain information necessary for production of accurate Settlement Statements and supports the various ISO and stakeholder project teams. Settlements is responsible for supporting data requests, complying with discovery requirements, supporting Bankruptcy litigation, and managing market re-runs and FERC mandates as they relate to Settlements information. Additionally, the team supports the ISO's Market Redesign releases. The group also manages ad-hoc invoicing processes like FERC fee and Transmission Access Charge refunds, as well as special GFN processes and invoices.

Department Workload and Initiatives

The group is spending considerable time supporting testing and implementation for large ISO projects including MRTU R1A and SaMC enhancements, as well as Payment Acceleration and network model builds. Parallel operations of projects (SaMC and Payment Acceleration is expected to occur during 2008, which will create additional resource constraints. It is important to note that additional work is required because of the legacy system payment calendar processing delay. Billing and Settlements will be processing "pre-Payment Acceleration information after the the project is implemented. Daily production requirements have increased dramatically because of the MRTU market changes and the new system implementation, though all responsibilities currently fall under one manager and one team.

Discussion of Proposed Budget

The 2008 proposed budget of $2.74 million compares with the 2007 budget of $2.44 million, which is an increase of $0.31 million or 13%. The budget increase is due (1) salary/benefit cost adjustments for 2007/2008 (2) additional two staff transferred from other Market Operations departments, (3) $160K in funding to deliver accelerated payments in 2008.

Staffing

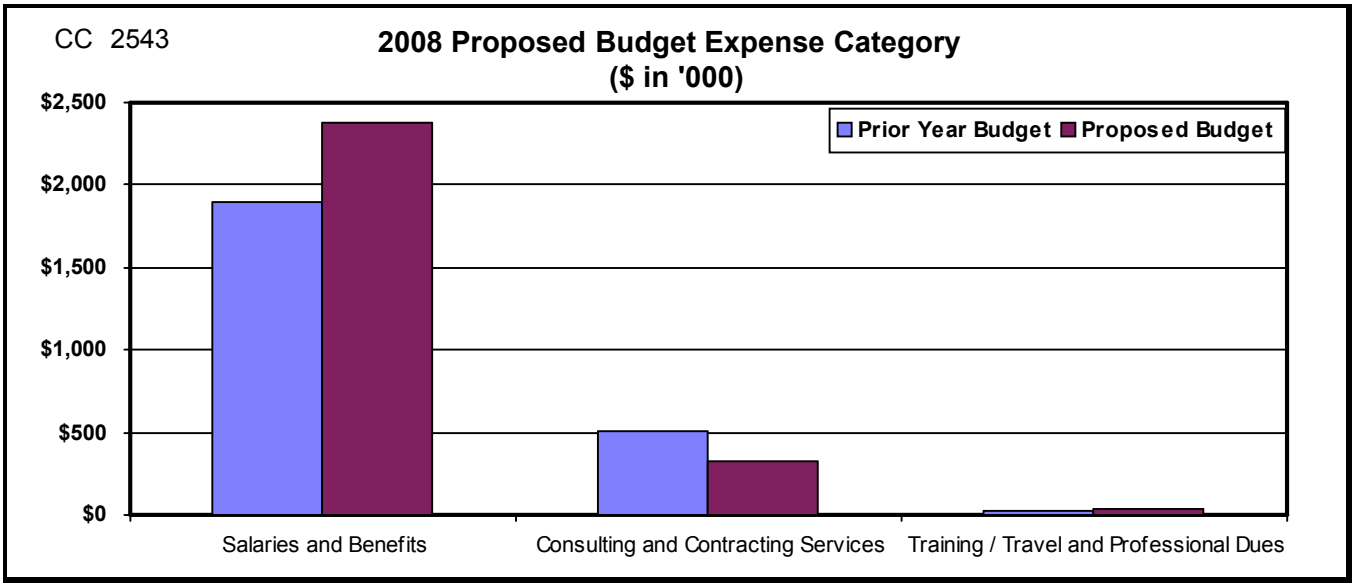
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	15	17	0	0	17

Operations and Maintenance Budget

2008 Base Budget	$2,583,217
2008 Management Recommended Incremental / Decremental Programs	$160,000
Total Proposed 2008 Budget	$2,743,217
2007 Budget	$2,435,149

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 1	Deliver Payment Acceleration Six Months after MRTU Startup	Management Recommended	$160,000	
		Total	$160,000	



2544 Settlements Projects

Departmental Description

The Settlements Projects business unit's major functions are Settlement systems to support operations RMR Settlements system support, and design of MRTU R1A items, plus successful design and implementation of the Payment Acceleration initiative.

The Settlements Projects business unit provides subject matter expertise, leadership and engineering analysis for the implementation of the technology solutions used to facilitate the expedient, timely and accurate delivery of

statements and invoices by the ISO. For 2008, a major focus for the Settlements Projects team is to support the MRTU R1A. The Settlements Project's unit acts as the primary contact with the Market and Product Development unit, the Information Technology (IT) division, the settlement system vendor and other CAISO business units for implementation of Billing & Settlements functions, including day-to-day operations and activities related to:
* Identifying and implementing technology solutions for the settlement systems used by the Billing and Settlements unit
* Maintain Settlement Business Practice Manuals
* Maintain and support Charge Code Configuration Rules and Requirements
* Maintain and support Business Process Configuration Rules and Requirements
* Ensure settlements and billing systems are properly designed, implemented and configured
* Ensure adequate maintenance, support and development capabilities are in place to support the mission of the Market Services department related to the Settlements & Billing business process.
* Design and configure settlement charge equations to meet ISO Tariff, policies and contracts

Department Workload and Initiatives

Workload for the Settlements Projects team will continue in 2008 as MRTU R1A rollout activities such as End-to-End Testing, Market Simulation and Readiness activities continue. Also, the team will continue to support current settlement production systems and new projects that must be implemented prior to the next MRTU release.

Discussion of Proposed Budget

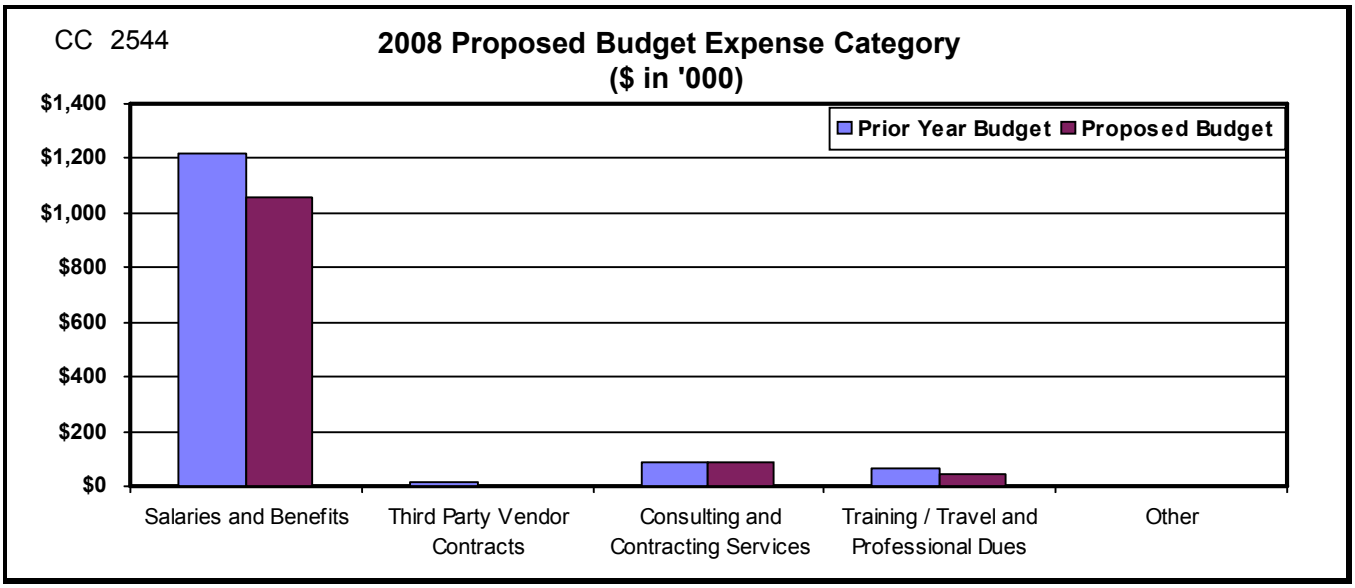
The 2008 proposed budget of $1.19 million compares with the 2007 budget of $1.39 million, which is a decrease of $0.2 million or 14%. Budgeted staffing is reduced to 7, reflecting transfers to other Market Services departments.

Staffing

	2007 Budget	*2008 Base Budget*	*2008 Incremental*	*2008 Decremental*	*Total 2008 Mgmt Recommended Budget*
Total	10	7	0	0	7

Operations and Maintenance Budget

2008 Base Budget	$1,191,392
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,191,392
2007 Budget	$1,388,857



2545 Market Information

Departmental Description

This business unit was created in 2006 to assist in organizing the Market Services department. The business unit is divided into three distinct groups.
1. The Post Process team is a production team that corrects market data prior to settlement and ensures that the settlement is consistent with the tariff.
2.The Market Performance team is responsible for providing reports to management regarding the health of the markets. It also performs ad hoc analysis on current issues as required.
3. The Market Validation team is a new and growing team that will be responsible for a new production task under MRTU. This new task is to monitor the markets in real time to ensure that the more complex solutions that are a characteristic of MRTU are consistent, and to correct prices after the fact in the event of any errors.

Department Workload and Initiatives

The workload in this group will undoubtedly increase in 2008 for a number of reasons. The Post Process group will have its hands full dealing with any pre-settlement issues that arise in the new market model. The Market Performance group will have to invest a great deal of time not only in assessing market performance, but developing and fine tuning the metrics it uses to gauge overall health. The Market Validaton group needs more people and faces significant challenges. In other ISOs it is 8-12 people. It will have to work closely with other groups to leverage their assets to perform this function properly.

Discussion of Proposed Budget

The 2008 proposed budget of $2.28 million compares with the 2007 budget of $1.8 million, which is an increase of $0.49 million or 27%. Budgeted staff increases from 9 to 14 to help meet the anticipated MRTU workload.

Staffing

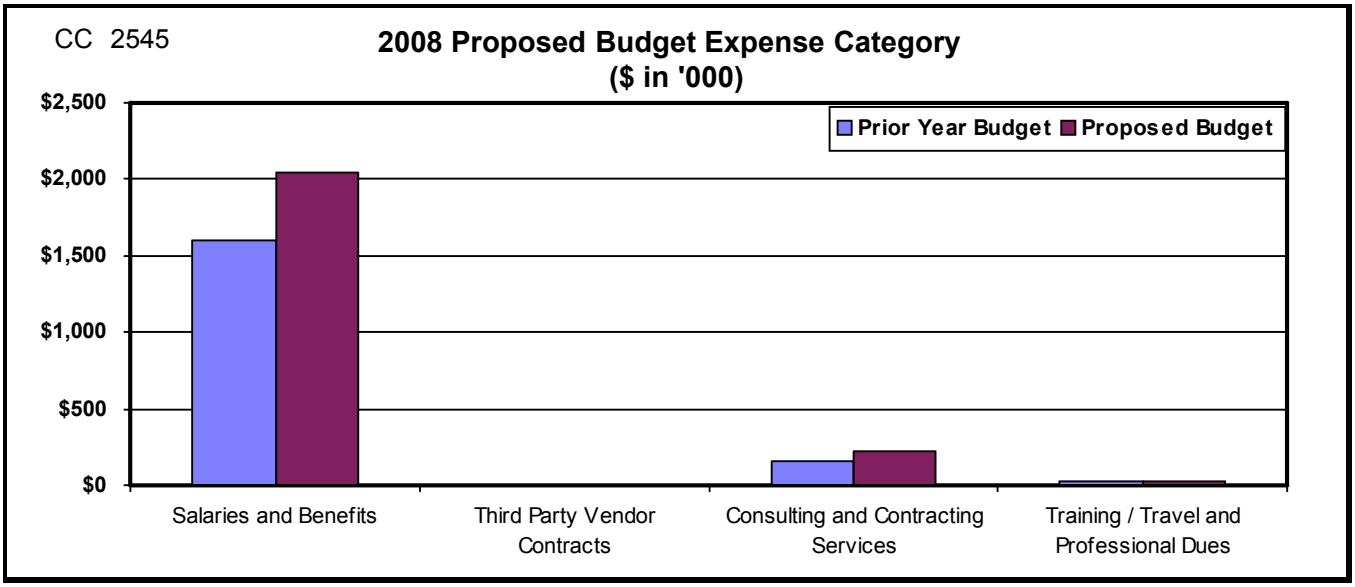
	2007 Budget	*2008 Base Budget*	*2008 Incremental*	*2008 Decremental*	*Total 2008 Mgmt Recommended Budget*
Total	11	12	2	0	14

Operations and Maintenance Budget

2008 Base Budget	$1,929,746
2008 Management Recommended Incremental / Decremental Programs	$367,337
Total Proposed 2008 Budget	$2,297,083
2007 Budget	$1,796,986

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 5	Production Consultants for Market Information	Management Recommended	$160,000	
Incremental - 4	Market Information Staff	Management Recommended	$207,337	2
		Total	$367,337	2



2550 Operations Support

Group Description

This is a roll-up cost center for the Operations Support Department, consisting of the following subsidiary cost centers:

2551 Operations Support-General (consisting of Supervisory and Assistant costs for the Operations Support Department)
2552 Operations Data and Compliance (Compliance, Metering and Field Data functions)
2553 Operations Procedures and Training
2554 Model and Contract Implementation
(Commercial model implementation, and Contract (RMR and Non-RMR Implementations and Administration))
2555 Operations Analysis (Operational information analysis and Settlement dispute analysis)

Group Workload and Initiatives

In 2008, the Operations Support Department will be providing services similar to that of 2007, and with additional workload related to MRTU implementation.

Discussion of Proposed Budget

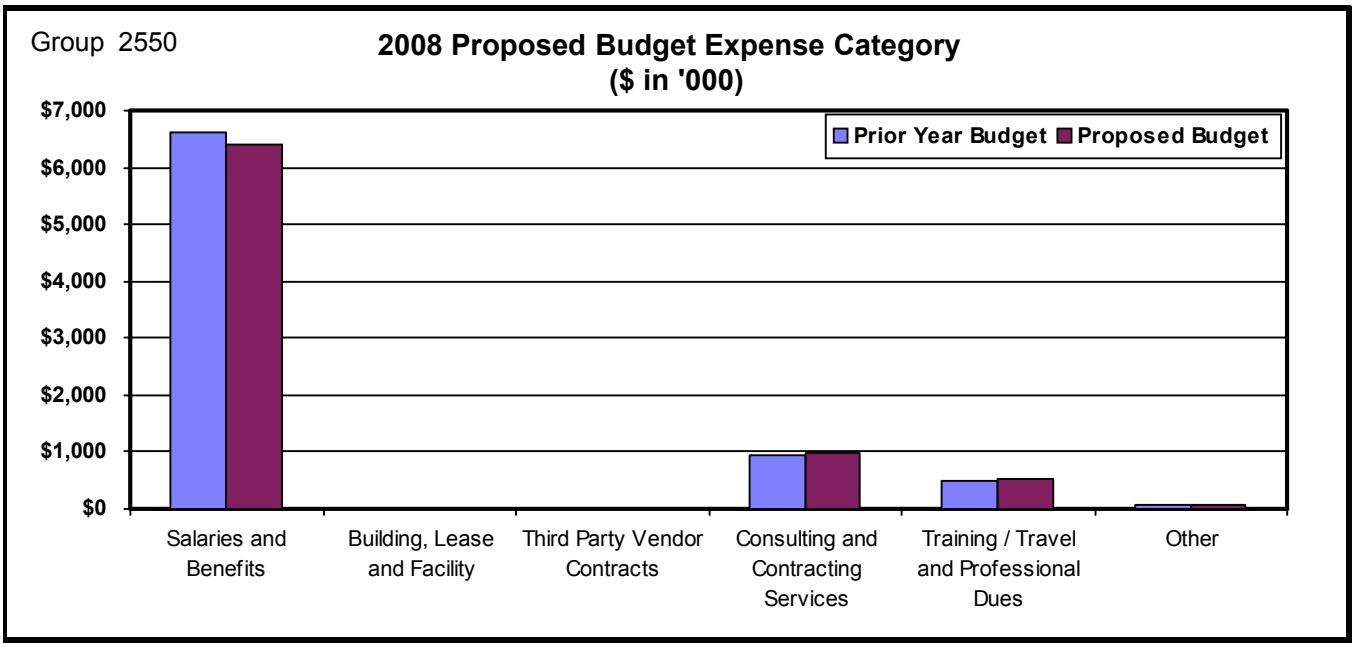
The 2008 proposed budget of $8.02 million compares with the 2007 budget of $8.11 million, which is a decrease of $0.09 million or 1%. Budgeted staff decrease from 47 to 44, reflecting transfers within Operations.

Staffing

		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2551	Operations Support-General	2	2	0	0	2
2552	Operations Data and Compliance	14	13	0	0	13
2553	Operations Procedures and Training	10	10	0	0	10
2554	Model & Contract Implementation	9	9	0	0	9
2555	Operations Analysis	12	10	0	0	10
	Total	47	44	0	0	44

Operations and Maintenance Budget

2008 Base Budget	$8,020,890
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$8,020,890
2007 Budget	$8,112,980



2551 Operations Support-General

Departmental Description

The Operations Support-General Business Unit includes the Budget for the Director and Technical Assistant for the Operations Support Department. The cost center 2551 includes the supervisory and assistant costs for the following Business Units: Compliance, Metering, Field Data Acquisition, Operations Procedures, Operations Training, Operations Information Engineering & Analysis, Commercial Model and Contract Implementation.

Descriptions of these Business Units can be found under the following Cost Centers:

Cost Center 2552 – Operations Data and Compliance (Compliance, Metering and Field Data functions)
Cost Center 2553 – Operations Procedures and Training
Cost Center 2554 – Model and Contract Implementation (Commercial model implementation, Contract (RMR and Non-RMR Implementations and Administration)
Cost Center 2555 – Information Engineering and Analysis (Operational information analysis and Settlement dispute analysis).

Department Workload and Initiatives

With the implementation of MRTU in 2008, it is anticipated that the work effort will increase significantly for the first 6 to 8 months and at some level continue to the end of 2008. All Operations Support business units will be affected by this effort. The increase in workload is due to the need to support the current systems and the MRTU systems for several months after "go-live", the anticipated increased volume in client inquiries and disputes, and the number of manual workarounds required by the business units to meet the implementation date. In addition, the continued monitoring and compliance with NERC standards and the manual nature of the RA programs and continued policy issues and implementation will have a significant impact on staff workload.

Discussion of Proposed Budget

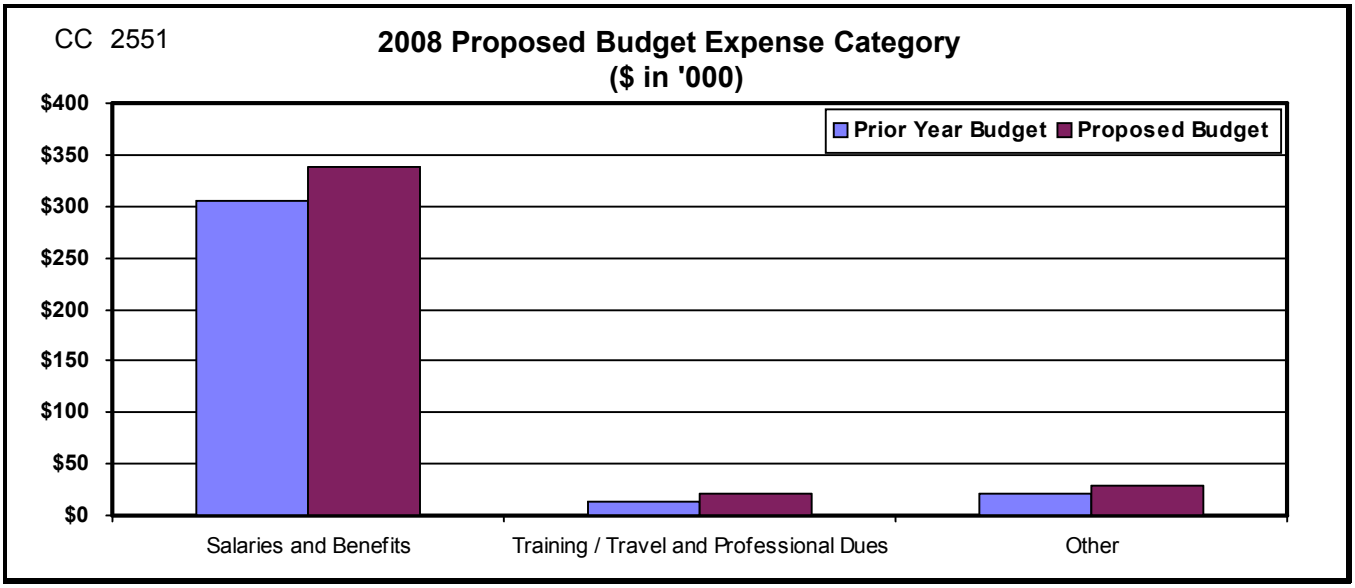
The 2008 proposed budget of $0.39 million compares with the 2007 budget of $0.34 million, which is an increase of $0.05 million or 14%.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	2	2	0	0	2

Operations and Maintenance Budget

2008 Base Budget	$388,471
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$388,471
2007 Budget	$339,583



2552 Operations Data and Compliance

Departmental Description

The Operations Data and Compliance Department has combined three main functional capabilities which include Field Data Acquisition, Meter Data Acquisition and Analysis, and Compliance. The following is a description of each area of responsibility:

Field Data Acquisition:
Supports the business functionality required for Remote Intelligent Gateway ("RIG") interface system in the daily operation of power generation, scheduling, and control of the ISO Controlled Grid. The Automatic Generation Control (AGC) system, which simultaneously controls Generating Unit output to match resources to load and maintain frequency. Generating Units offering regulation services must be capable of being controlled by the ISO EMS. RIG interface units meet the ISO standards for transporting AGC signals. The ISO has the ability to send

either set point or raise/lower signals. Additionally, the RIG has multiple ports to allow control to be switched between the Generator and the ISO.

Meter Data Acquisition and Analysis:
Providing Revenue Quality Meter Data (RQMD) for the ISO settlements system, including:
* Auditing the ISO meter inspection process and providing engineering judgment related to proposed and existing metering systems;
* Operating and maintaining business functions of the Meter Data Acquisition Systems ("MDAS") -including MV90 and OMAR - that directly acquire metering data from ISO-metered entities and receive SQMD from SCs;
* Performing meter data validation, editing and estimation;
* Auditing field metering data collection and configuration of the ISO Metered Entities;
* Ensuring accurate metering to Transmission Grid Point of Delivery (POD);
* Maintaining the metering standards and specifications for approved meters and metering systems;
* Coordinating and approving proposed metering system-engineering designs;
* Technical design review of Station Power Program applications, determining applicable Station Power Portfolio for MasterFile & MDAS setups.
* Configuration and maintainance of Station Power Program Reallocation process.
* Processing meter data disputes;
* Adhoc queries and reports for SC's;
* Developing enhancements to meet changing business needs and implement process improvements.

Compliance:
Compliance Department responsibilities fall within three business process areas: Operational Compliance, Compliance Audits and Compliance Program development support & implementation.

Operational Compliance:
*Monitors, measures and reports on operational performance (e.g. fulfillment of capacity obligations and the delivery of specific quantities of energy within specific timeframes) consistent timeframe's actual commitments and tariff requirements, and produces all settlement adjustments for non-compliance, which requires daily monitoring of production processes production of compliance adjustments for settlement.
*Performs validation on submitted Resource Adequacy (RA) annual and monthly LSE showings and SC supply plans in support of the Reliability Requirements Program. Reports on exceptions, resolves issues on incomplete or invalid report information and reports finding so that, if necessary, penalties on non-compliance can be administered. Maintains and performs process of data input to the Resource Reliability database.
*Staff of Operational Compliance support the investigation of violations of rules relating to compliance with operating orders, feasible schedules, and availability reporting requirements, as well as other operational issues based on internal and external referrals.
*Provides compliance subject matter expertise in ISO system design, modification, policy development and support.
*Supports investigations by multiple external agencies; providing data, analyses, and interviews, as required.
*Provides efforts to state agencies related to demand programs, and in developing the ISO's Participating Intermittent Resource program, and availability to support other ISO groups in answering compliance questions, resolving problems or solving compliance disputes.
*Develop, coordinate and maintain processes for the testing and certification of generating units and/or system resources for service provision and participation in various ISO markets.

Compliance Audits (supporting the ISO's Oversight and Investigation O&I Program):
*Monitors and corrects UFE, monitors meter data timeliness and accuracy, and oversees the Self-Audit process performed by Scheduling Coordinators.
*Analysis of trends in order to identify potential meter errors.
*Site visits to test participants' meter data management processes, and training and assistance to Scheduling Coordinators on self-audit requirements.
*Monitors the quality of Ancillary Services and to assure that the ISO only pays for services from resources that are available and capable of performing.

Compliance Program Development:
*Developing business rules and requirements for the specification and design of compliance systems and processes necessary to monitor and enforce compliance with tariff obligations.
*Developing and implementing processes to ensure the most efficient means of delivering compliance programs,

relying on automation where necessary using the "Compliance Automation Production System" (CAPS), a system. Used to calculate billable quantities for Uninstructed Deviation Penalties, No Pay for Ancillary Services, Regulation Non-Compliance charges, RUC non-compliance charges and MSS Load-following Deviation Penalties.
*Developing and documenting compliance procedures and maintaining documentation consistent with SAS 70 Type 2 requirements.

Department Workload and Initiatives

Operations Data and Compliance Department includes business functions associated with the 1462 Field Data Acquisition FDAS Group (including Meter Data Acquisition and Analysis, RIG Engineering and Field Meter Auditing), 1661 Compliance Group (including Operational Compliance, Compliance Audits and Compliance Program development support & implementation) and some business functions from the 1555 Operations Support Group (Emergency Response Coordination, Ancillary Service and RMR certification testing and documentation, and Process development in coordination with Engineering, including requirement compliance for new generators and continued interconnection with the ISO Grid).

All system support of applications associated with business functions performed within the Operations Data and Compliance group have been centralized within the Information Services Department. Business Analysts providing development of business rules/requirements, testing and implementation, and support of business applications have remained within the group. These applications include, but are not limited to, MV90, MDAS, OMAR and CAPS.

The overall workload in 2008 for the Operations Data and Compliance group will increase for the following reasons:
-Increase in number of Metered Entities requireing Inspection and Auditing - approximately 50 new sites since late 2006 into early 2008.
-Increase in number of Metered Entities requiring polling, validation, estimation and editing services
-Increase in number of RIG Sites and Sites performing RIG upgrades (estimated project workload listed)
New DPGs:Chowchilla Biomass,El Nido Biomass, Sidewinder Mountain, Wintec III, SES Solar One, Corum Brody
New RIGs: Inland Empire
DPG Replacements: 8 Calpine DPGs, Delano DPG
RIG Replacement: 3 Reliant RIGs, 4 PGE RIGs with multiple resources.
DPG Testing: 5 SCE Peakers
Projects: RIG Validation Procedure, Validation Testing, Supporting PKI upgrade
-Implementation of MRTU affecting both Metering and Compliance applications and daily work process increases.
-Expansion of Compliance Programs in MRTU
-Metering and Compliance process/application gap resolution in 2008 with additional work toward automation and/or implementation of manual processes.
-Design and development activities arount 2008 implementation of Payment Acceleration impact to Metering and Compliance Business Processes and Process timelines.

Discussion of Proposed Budget

The 2008 proposed budget of $2.46 million compares with the 2007 budget of $2.41 million, which is an increase of $0.05 million or 2%. Budgeted staffing decreases by one, and this is offset in part by the salary/benefit cost adjustment for 2008.

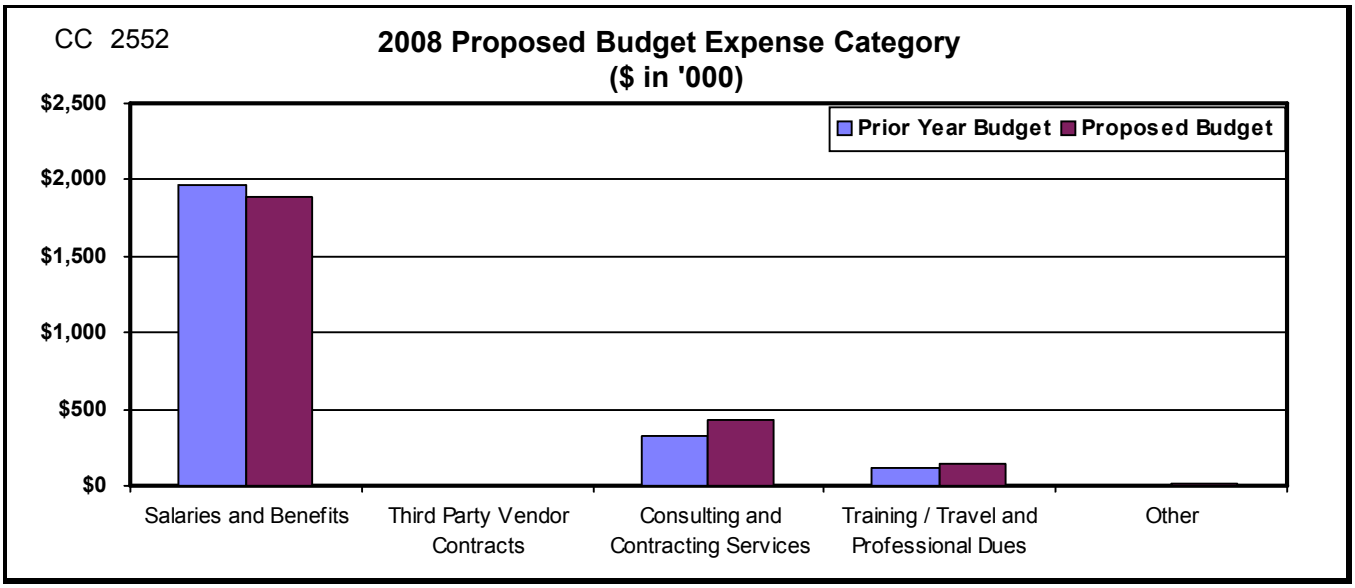
Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	14	13	0	0	13

Operations and Maintenance Budget

2008 Base Budget	$2,461,055

2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$2,461,055
2007 Budget	$2,412,163



2553 Operations Procedures and Training

Departmental Description

The Operations Procedures and Training Department is responsible for development, tracking, management and maintenance of Operations Procedures for Grid, Market, and Scheduling Operations; and for identifying, developing and delivering or facilitating and administering appropriate operation-related training for Grid and Market Operations, Scheduling Coordinators, MRTU, other ISO departments, PTOs & UDCs. This department monitors the activities of various internal and external groups (such as: MRTU, operations engineering, NERC & WECC) to support the various operations procedure and training needs including reports, EMS needs, tools development and other support activities as needed.

Specific roles and responsibilities include:

- Directing the activities of the staff responsible for development and the provision of procedures and operations training to assure appropriate processes are utilized to develop procedures and provide training for operations, other ISO departments and external entities;
- Preparing and managing the Operations Procedures and Training Cost Center budget;
- Representing the ISO in WECC, NERC, PTO and other forums as required;
- Identifying and integrating changes in the tariff, protocols, and market design that would improve market and grid operations;
- Managing and participating in projects related to the creation or enhancement of ISO operations, functions, processes, procedures or communications;
- Managing vendor relationships and maintaining accountability for work performed.

Department Workload and Initiatives

Operations Procedures: There will be no workload reduction in procedure development and maintenance group - we will look for efficiencies to accomplish the required tasks. This includes: formatting; revision; development; distribution and conversion to “Information Mapping” of operations procedures.

In any given year, approximately:
* 200+ procedures are formatted;
* 500+ procedures are revised;
* 15-20 new procedures are developed;
* 30+ procedures are stream-lined or converted to “Information Mapping” style.

There is anticipated to be additional workload in 2008 that would justify another FTE, including Business Processes and NERC Standards Documentation. However, this is not budgeted, and the department will be challenged without this additional support.

Operations Training:
* The Operator-in-Training (OIT) program will be staffed in accordance to the needs of the Control Room.
* The Summer Workshops will be expanded to accommodate additional entities (LADWP; BPA; IID; etc.) These external entities will be charged a nominal fee.
* Grid Operations Training Simulator (GOTS) – the majority of the training will be conducted on the GOTS.
* NERC training requirement will be 70 hrs/yr., up from 32 hrs/yr.
* Continued MRTU project will require assistance from the training staff (IFM/RTN; SIBR)

See details below:

Operators-In-Training (OIT) Staff:
Operators-In-Training Program (OITP) - Due to ongoing changes in the industry and high turnover of System Operators there is a need to continue and maintain the OIT Program, which requires recruiting, PSP testing, hiring, creation and maintenance of (OIT) training modules, use of an off-site simulator, and field visits for OITs. The OIT program will be staffed in accordance to need in the Control Room.

Summer Workshops:
Operations Training provides and/or facilitates training for Participating Transmission Owners and adjacent control areas, which will include, but not be limited to, PG&E, SCE, SDG&E, Riverside, Anaheim, Banning, Vernon, Pasadena, NCPA, Roseville, WAPA, SMUD, etc. This training is conducted prior to the summer and is focused on enhancing communications and operational transactions between CAISO, PTOs, adjacent control areas and other entities. The CAISO and three major PTOs plan on sharing their training resources. Also, the CAISO will charge a nominal fee to the non-CAISO participants.

Grid Operations Training Simulator:
Grid Operations Training Simulator (GOTS): The training department plans to utilize the GOTS extensively for Operator training. With GOTS we will utilize the same type of EMS System as the real-time Control Room, and it will be capable of taking "snapshots" of real-time operating conditions in addition to retrieving data from a storage bank of past conditions. Running training on GOTS requires 2-3 trainers for each training opportunity.

Ongoing Training:
The System Operators are required to complete 70 hrs of training every year. In the past, we have been able to provide this training (50+ hrs.) by holding Summer Workshops; Wednesday Training; before/after shift training; and on-the-job training. The implementation of the Training Week (6th Shift) puts additional challenges on the training staff. We will continue to provide this training to the System Operators with adjustments as required including more computer based training. The training areas include system emergencies, system applications (EMS; SLIC; PI; etc.), operating procedures, MRTU, communications, etc.

MRTU Training:
Operations Training will have at least 3 FTE (Trainer) dedicated solely to the MRTU project. In addition, we will help out with the design, development, and administration of MRTU training (Analyst & Administration) where necessary.

Job/Task Analysis:
Continuation of this project is now in the maintenance phase. Maintenance for the project consists of adding processes or positions as, or if, they occur, updating the existing processes and all corresponding information as processes change, and updating the processes based on the new EMS system. Necessary continuation of the JTA project is budgeted for 2007 in the items "Course Plan," "Module Development," and "Skill/Knowledge Gap Analysis."

Discussion of Proposed Budget

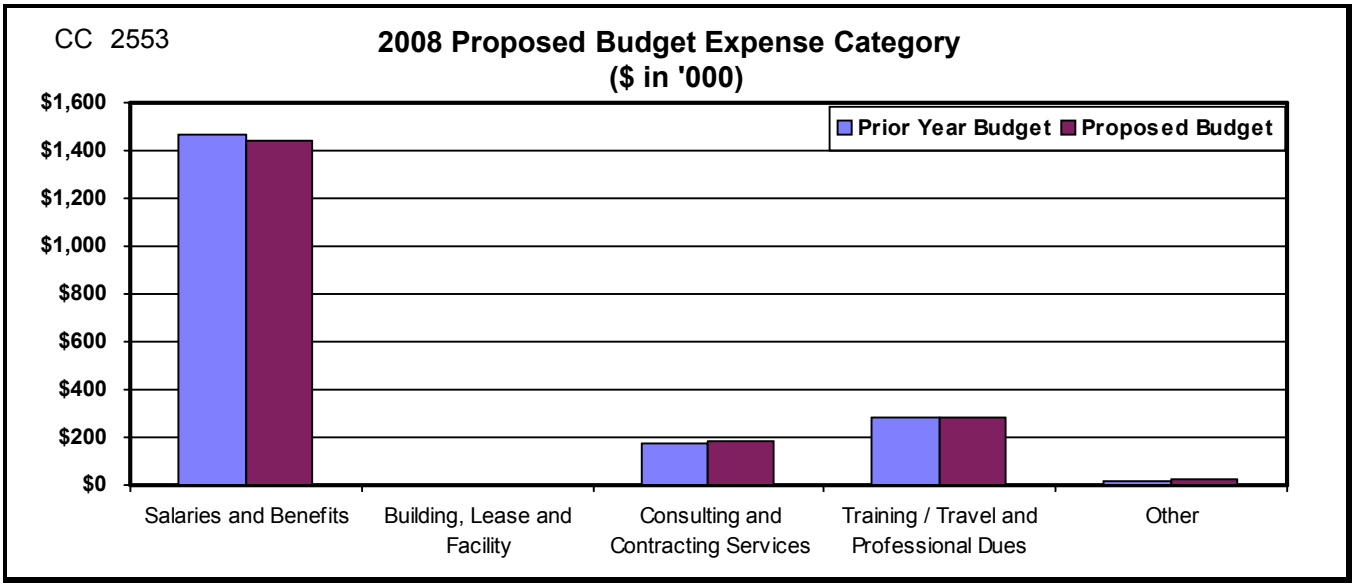
The 2008 proposed budget of $1.94 million compares with the 2007 budget of $1.94 million, which is unchanged. Staffing remains at 10.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	10	10	0	0	10

Operations and Maintenance Budget

2008 Base Budget	$1,943,566
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,943,566
2007 Budget	$1,943,626



2554 Model & Contract Implementation

Departmental Description

The Model & Contract Implementation business unit is tasked with:

1) Implementation of Pro-forma Agreements such as Participating Generator Agreement and Meter Service Agreement including project management of new resource interconnections (NRI) now know as the Participating Generator Interconnection (or "PGI") process. [from Contracts and Grid Assets]
2) Maintain Master File and coordinate Master File Data validation and update process to ensure that transactional Operations processes and procedures adhere to the highest standards, controls and procedures. (Business

Process, Maintenance and Redesign). [from Mkt Quality]
3) Manage Non-Pro-forma Participant Agreements (including client interactions). [from Contracts]
4) Administrate RMR Agreements including: assisting Settlements in the monthly invoicing process, assisting Operations with implementation issues, negotiating amendments to RMR Agreement, negotiating settlement for all disputes issues, negotiating rates for existing RMR contracts, and providing support to Product Development business unit in negotiation of new agreements, managing annual rate update of extended RMR Agreements (reviewing FERC filings or rate submittals, facilitating meetings with internal and external stakeholders to discuss issues, working with internal and/or external legal counsel to draft and file documents to represent the ISO's interests in each proceeding); and coordinating all filings with the Market & Product Development and Tariff & Contract Administration Departments. [from Contracts]
5) Manage RMR Agreements (including client interactions). [from Contracts]
6) Manage RMR Disputes including: correspondence and communications with interested parties regarding issues that arise in connection with reliability agreements and facilitating the resolution of issues; participate in RMR proceedings at FERC, negotiate the settlement of issues, or if settlement cannot be reached, participate and provide testimony for the litigation proceedings. [from Contracts]
7) Support business requirements of RMR and various contracts. [from Contracts]
8) Coordinate UDC/MSS formation of settlement and metering requirements. [from Compliance]
9) Coordinate Customer Registration regarding UDC set-up. [from Compliance]
10) Coordinate contract support such as training, setup, and procedure revisions. [from OSAT]
11) Maintain Market Model. [from Market Operations]
12) Support development of new agreements to expand participation in the ISO, Interconnected Control Area Operating Agreements ("ICAOAs") with other Control Area operators that have not yet executed the ICAOA, and others. [from Contracts]
13) Implement changes to special agreements, such as the TCA and MSS. [from Contracts]
14) Implement all pro-forma contracts executed with Market Participants. [from Contracts]
15) Review operating procedures and operating instructions for consistency with the ISO agreements and ISO Tariff. [from Contracts]
16) Maintain the reliability resource data base including data provided via Resource Adequacy and ISO backstop procurement mechanism. [from Market & Product Development]
17) During the 2007 Budget Year the Model & Contract Implementation business unit acquired the following new responsibilities: (a) New resource interconnection process (previously managed by the Grid Assets group) (b) Station power application process (new tariff initiative), and (c) Reliability resource database maintenance (required to satisfy CPUC requirements and related ISO tariff provisions).

Department Workload and Initiatives

During the end of 2007 and through much of 2008, the Model & Contract Implementation business unit will require additional resources to manage the transition to MRTU for its network model maintenance and master file maintenance activities to cover the ramp up of workload for MRTU prior to go-live and the ramp down of current production work to cover disputes and error corrections following the end of current production activities.

Discussion of Proposed Budget

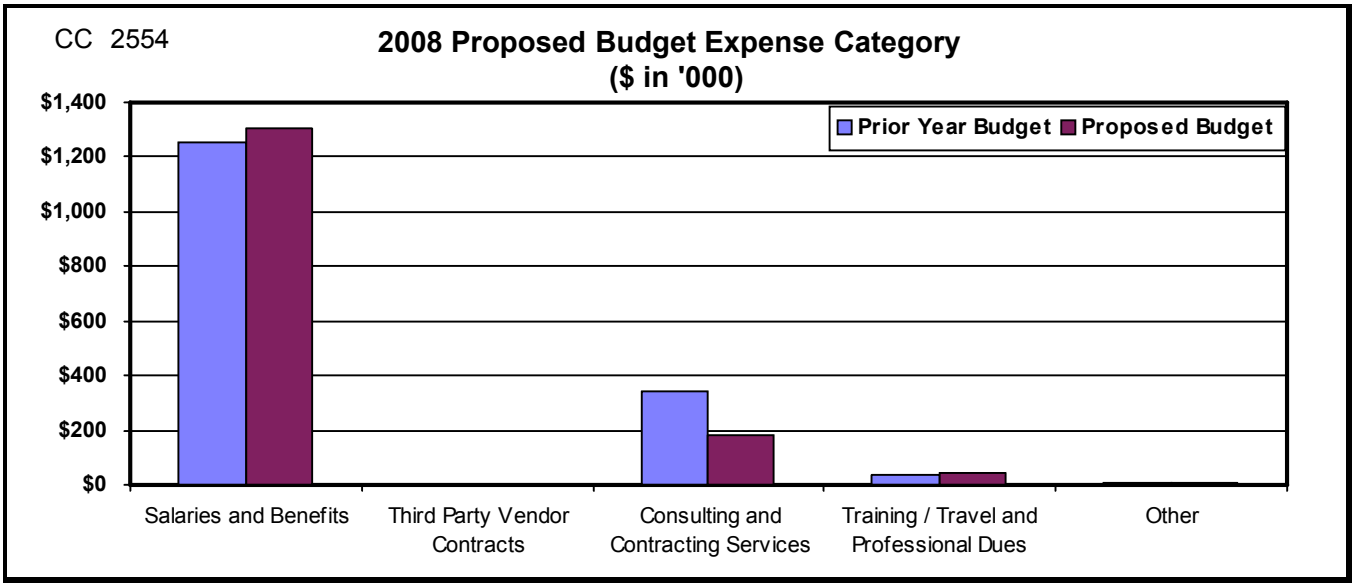
The 2008 proposed budget of $1.54 million compares with the 2007 budget of $1.64 million, which is a decrease of $0.1 million or 6%. Budgeted staff are 9 in both years, and the budget includes a 4% salary/benefit cost adjustment for 2008.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	9	9	0	0	9

Operations and Maintenance Budget

2008 Base Budget	$1,536,249
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,536,249
2007 Budget	$1,640,786



2555 Operations Analysis

Departmental Description

The Operations Information Analysis Group is responsible for identifying issues that impact efficient and reliable Grid Operations, especially as they interface with outside entities (such as CPUC, FERC, EOB, et. al.) and internal groups (such as Grid Ops, OE, MO, Operations Support, Scheduling, Settlements, Legal & Regulatory, Policy, Compliance, and Outage Coordination), and then developing requirements for enterprise-wide solutions and reports for the benefit of the CAISO.

Responsibilities include:

- A lead role in and coordination of the annual PWC Operational Audit, WECC/NERC compliance audits, and legislative bill review (making recommendations on possible impact to grid/market operations);
- Coordinating inquiry requests through the Operations department for Legal & Regulatory from state and federal agencies, as well as for other discovery requests as needed;
- Identifying policy issues, conducting impact assessment and working with Client Relations, ISO business system

owners and the policy office to ensure issue resolution;
- Reviewing new ISO tariff and contract language to ensure the intent of agreements is being met by business rules, manual process and floor procedures, and ensuring controls and processes are in place to avoid relevant client disputes;
- Monitoring disputes, resolving discrepancies, and identifying, developing and deploying necessary changes to business process, procedures and controls to resolve issues;
- Continuous review of current market, settlement and operational processes to ensure efficiencies, identifying potential problems and designing quality assurance solutions for preventative and/or corrective actions;
- Monitoring and reporting on Grid Operations performance metrics, and systems to support that effort;
- Various reporting functions including WECC RMS data collection and reporting;
- Identifying software inefficiencies on business systems; working with business owners to enhance software efficiency and designing solutions for monitoring and quality control;
- Participating in market, settlement and operations design teams in developing new functionalities that ensure the quality of information and transactions throughout the business process;
- Ancillary Service and RMR certification testing and documentation;
- Compliance reporting for the WECC Reliability Management System.

Department Workload and Initiatives

The Coordinated Operations, Operations Support from OSAT and the Dispute Analysis group from Market Quality were consolidated under the ISO realignment in 2005 to form the newly created Operations Information Engineering & Analysis group within Operations Support. One of the primary responsibilities of this group is to eliminate unnecessary work for the Real-Time operators and to be the first line of communications, interfacing with both the internal and external entities. This mission will require streamlining and consolidating various efforts of the groups and departments of the past, as well as creating processes and infrastructure backbone to centralize information inquiries (i.e. disputes and data subpoenas) and reporting duties.

Discussion of Proposed Budget

The 2008 proposed budget of $1.69 million compares with the 2007 budget of $1.78 million, which is a decrease of $0.09 million or 4%. Budgeted staff decrease from 12 to 10.

Staffing

	2007 Budget	*2008 Base Budget*	*2008 Incremental*	*2008 Decremental*	*Total 2008 Mgmt Recommended Budget*
Total	12	10	0	0	10

Operations and Maintenance Budget

2008 Base Budget	$1,691,549
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,691,549
2007 Budget	$1,776,822

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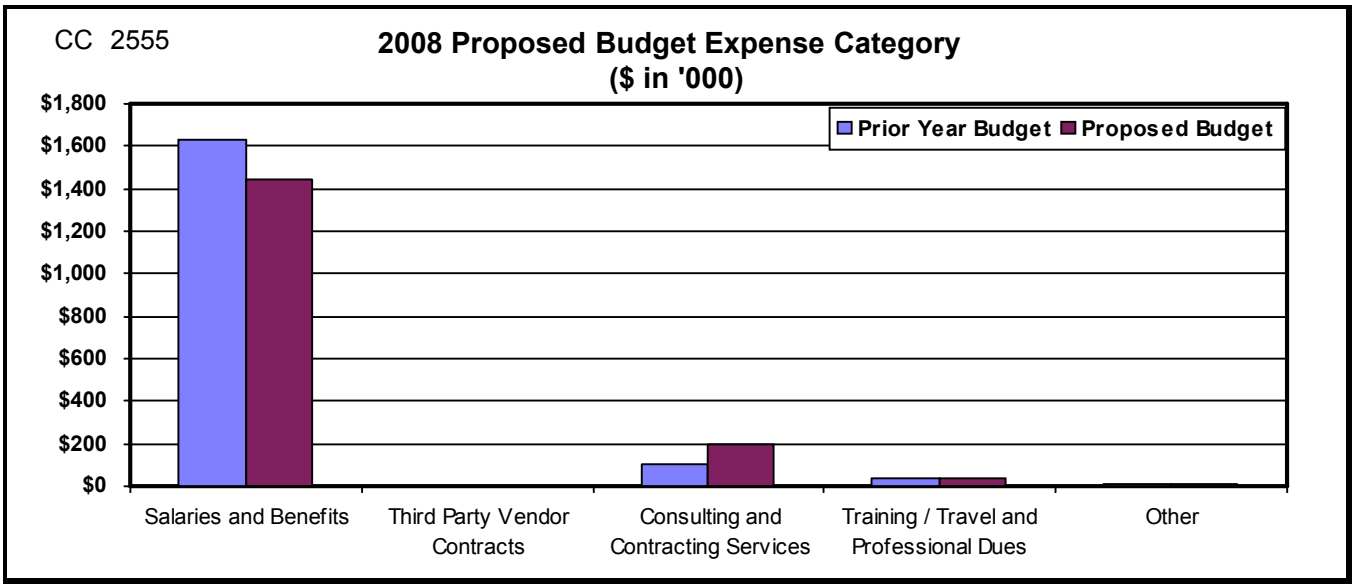
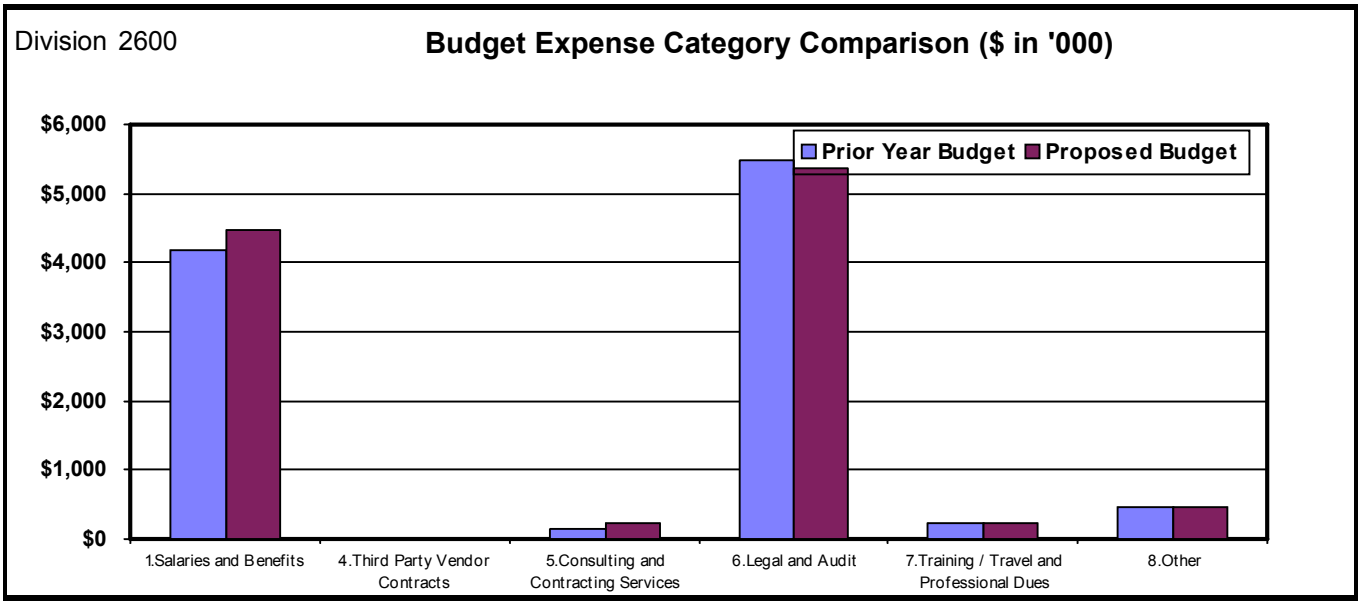

2008 Proposed Budget Expense Category
($ in '000)
$1,800
$1,600
$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
Prior Year Budget
Proposed Budget
Salaries and Benefits
Third Party Vendor Contracts
Consulting and Contracting Services
Training / Travel and Professional Dues
Other

Overview Chart 2600 General Counsel/VP Legal Affairs & Corporate Secretary



Discussion of Proposed Budget

The 2008 proposed budget of $10.76 million compares with the 2007 budget of $10.47 million, which is an increase of $0.29 million or 3%, primarily related to increases in salaries and benefits for 2008 merit increases. The budget will provide for the scope of work documented within the subsidiary cost center writeups.

Divisional Budget Overview

2600 General Counsel/VP Legal Affairs & Corporate Secretary

Division Description

This cost center is the roll-up for the following subsidiary work groups:

2611 General Counsel-General
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)
2651 Asst Corporate Secretary

Our 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.

Division Workload and Initiatives

Regulatory Strategy

2007–2011 Develop and Support Key Regulatory Filings
2007–2008 Support Implementation of New Transmission Planning Process

Legal Compliance

2007–2008 Implement Compliance Training Program
2007–2008 Create Intellectual Property Inventory
2007–2009 Standardize and Centralize Corporate Principles, Policies and Standards

Improve Delivery of Legal Services Through Automation

2007–2009 Evaluate and Implement Knowledge Management Tools and Processes

Pursue Corporate Governance "Best Practices"

2007–2010 Implement Corporate Governance Training
2008–2009 Implement Board Standing Order Process
2007–2009 Implement Electronic Tracking of Corporate Records

Strengthen the Legal Team

2007–2008 Enhance In House Legal Expertise
2007–2011 Implement Cross Training Program

In addition to the GC Division's own inititatives, the GC Divisioinitiativespporting many of the initiatives sponsored by other departments. Specific activities in 2008 will include among other things, ongoing legal support for MRTU implementation and compliance; enhancements to MRTU, such as convergence bidding and scarcity pricing and integrating demand response opportunities; GMC; design of capacity markets; transmission planning initiatives;

revised reliability standards; and greenhouse gas and renewable energy policies.

Staffing

Group		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2611	General Counsel-General	1.5	2	0	0	2
2621	Corporate Counsel	3	3	0	0	3
2631	Regulatory Counsel	11	11	0	0	11
2641	Tariff and Tariff Compliance	5	5	0	0	5
2651	Asst Corporate Secretary	1	1	0	0	1
	Total	21.5	22	0	0	22

Operations and Maintenance Budget

2008 Base Budget	$10,757,511
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$10,757,511
2007 Budget	$10,466,279

2611 General Counsel-General

Departmental Description

The General Counsel-General department contains funding for the General Counsel and associated administrative and office support. This cost center also contains all non-salary (and related) costs for the following departments:

2621 Corporate Counsel (Assistant General Counsel-Corporate)
2631 Regulatory Counsel (Assistant General Counsel-Regulatory)
2641 Tariff and Tariff Compliance (Assistant General Counsel-Tariff and Tariff Compliance).

This cost center also contains funding for the Divisional Vacancy factor and salary adjustments for 2007.

Department Workload and Initiatives

The General Counsel department focuses on providing legal services and Board administration. The tasks to be performed by the department in 2008 will be similar to the tasks performed in 2007. The overall level of workload is expected to be comparable to that in 2007.

Discussion of Proposed Budget

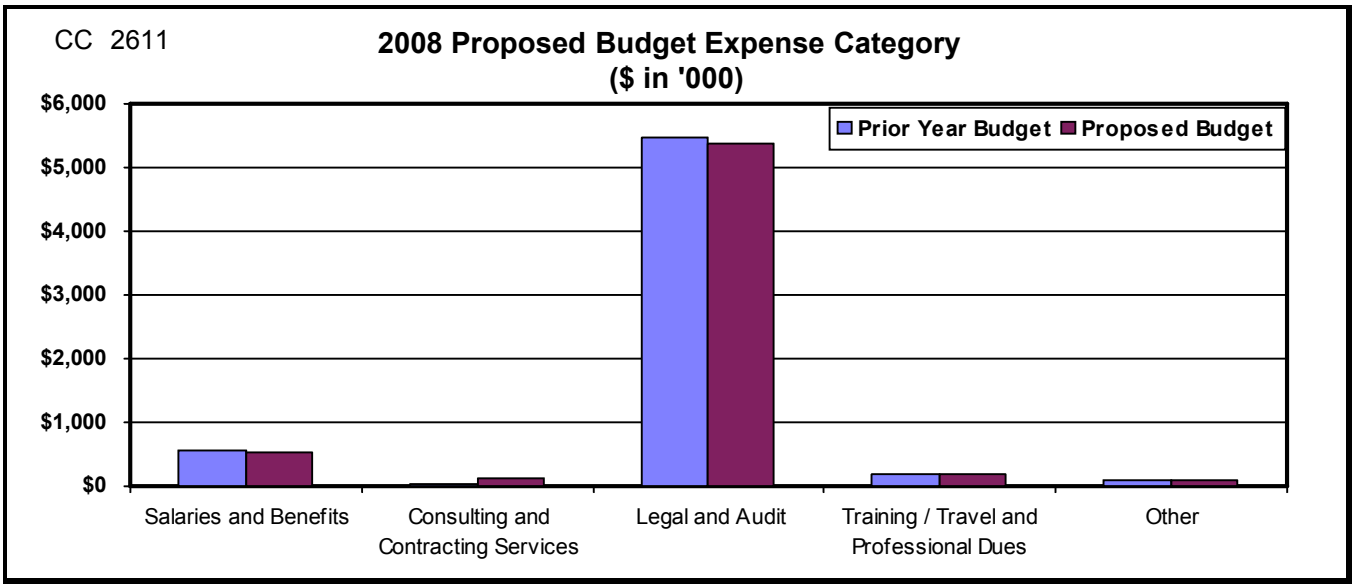
The 2008 proposed budget of $6.31 million compares with the 2007 budget of $6.34 million, which is essentially unchanged from 2007.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	1.5	2	0	0	2

Operations and Maintenance Budget

2008 Base Budget	$6,305,885
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$6,305,885
2007 Budget	$6,338,276



2621 Corporate Counsel

Departmental Description

The Corporate Counsel department is responsible for negotiating and drafting 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. Additionally, the group provides corporate secretarial services, including maintaining corporate records and bylaws. The group is responsible for conflicts and ethics advice as well.

Department Workload and Initiatives

The attorney workload for this cost center is expected to approximate the workload from 2007. Workload could be impacted by HR/employment matters.

Discussion of Proposed Budget

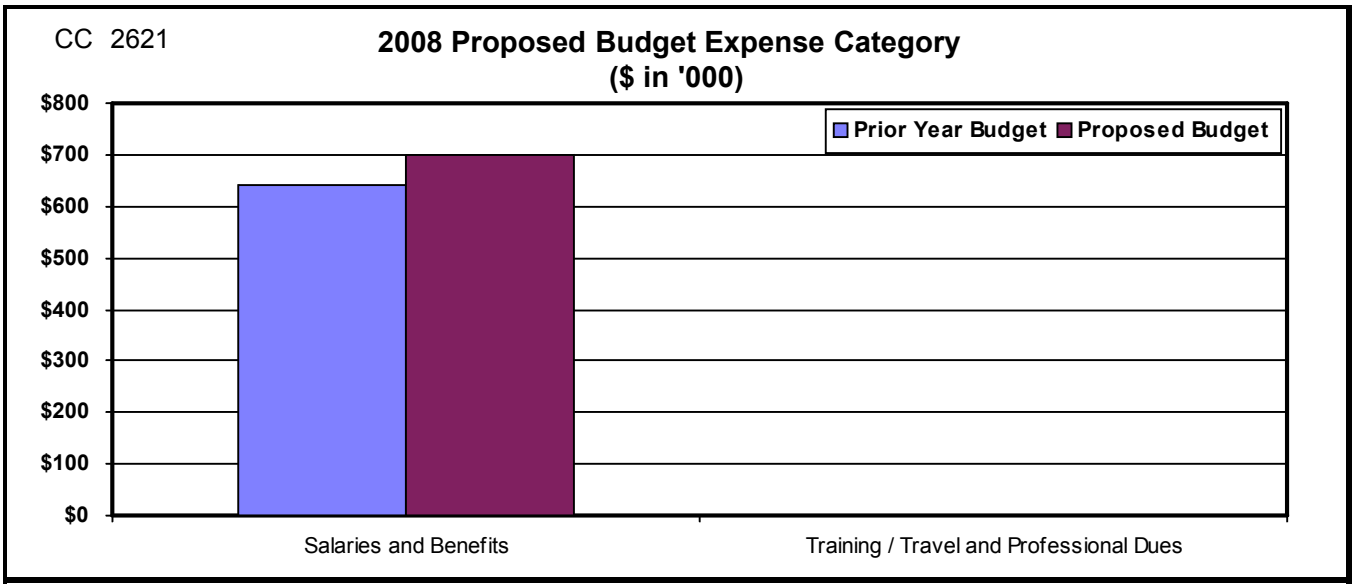
The 2008 proposed budget of $0.7 million compares with the 2007 budget of $0.64 million, which is an increase of $0.06 million or 9%. The change is primarily related to increases in salaries and benefits for 2008 merit increases, and for staffing changes in 2007.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	3	3	0	0	3

Operations and Maintenance Budget

2008 Base Budget	$698,933
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$698,933
2007 Budget	$643,150



2631 Regulatory Counsel

Departmental Description

The Regulatory Counsel department has oversight over Legal/Regulatory functions, regulatory matters, and litigation. Responsible for:
- Preparing and filing regualtory pleadings, comments, tariff amendments, briefs, and other regulatory filings.
- Represents the Company in proceedings before the FERC and the CPUC, including rate cases (e.g., TAC and GMC).
- Reviews and monitors regulatory activities as they may affect the Company's objectives and provides advice to the Company on regulatory matters.
- Responds to regulatory inquiries and investigations.
- Represents the Company in regulatory appeals, civil complaints, bankruptcy proceedings, civil appeals and arbitral forums.
- Advises management on disputes and dispute resolution matters, represents the Company in GFNs, oversees internal and external investigations of the Company and produces ISO records and materials for investigators of third parties.
- Serves as a contact point for members of the public, regulators, and other interested parties in obtaining ISO information and records.

The work of the paralegal and legal administration staff also falls within this cost center.

Department Workload and Initiatives

The workload for the in-house attorneys in this group should be comparable to that in 2007. The Regulatory Counsel department will have primary oversight responsibility with respect to regulatory functions and regulatory matters, except that Tariff and Tariff Compliance will have primary oversight responsibility with respect to tariff maintenance and tariff interpretations.

Discussion of Proposed Budget

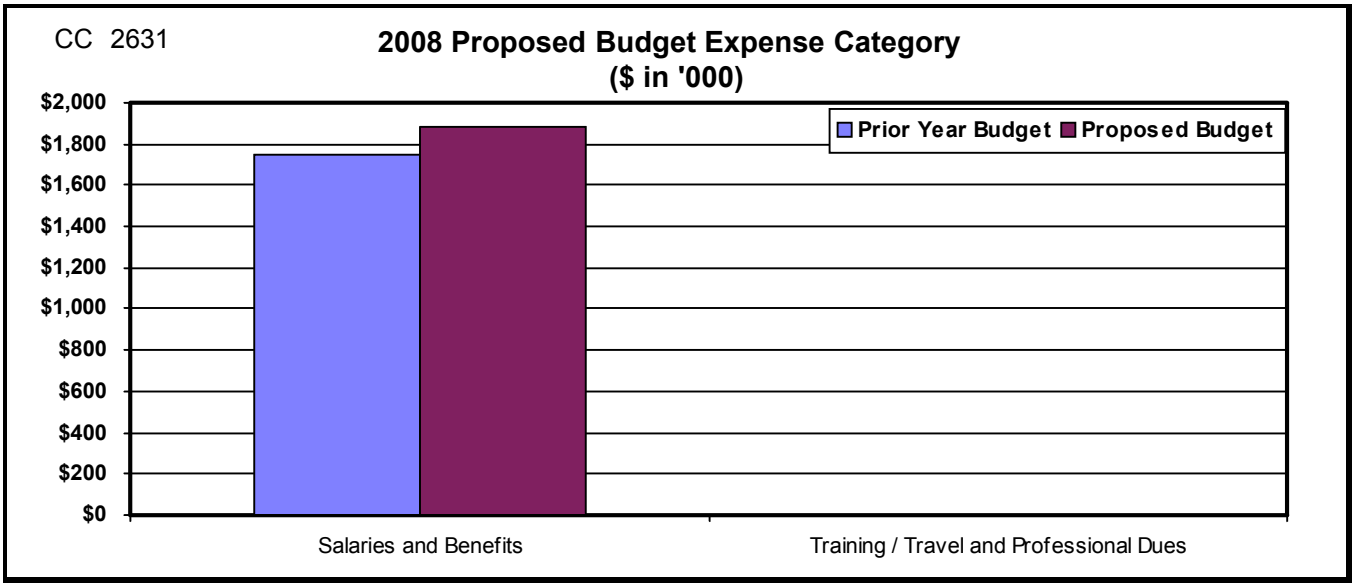
The 2008 proposed budget of $1.89 million compares with the 2007 budget of $1.75 million, which is an increase of $0.14 million or 8%. The change is primarily related to increases in salaries and benefits for 2008 merit increases, and for staffing changes in 2007. Overall staffing remains unchanged at 11 in 2007 and 2008.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	11	11	0	0	11

Operations and Maintenance Budget

2008 Base Budget	$1,887,097
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,887,097
2007 Budget	$1,750,907



2641 Tariff and Tariff Compliance

Departmental Description

The Tariff and Tariff Compliance department is responsible for tariff interpretations, tariff maintenance (including maintenance of an electronic tariff), tariff compliance, and putting together the MRTU tariff. The Tariff and Tariff Compliance and the Regulatory Groups are both involved with tariff amendments.

Department Workload and Initiatives

The attorney workload for this cost center will be comparable to the workload in 2007. The group will also be responsible for maintaining the tariff and putting together the tariff sheets (clean and blacklined) for tariff filings.

Discussion of Proposed Budget

The 2008 proposed budget of $1.2 million compares with the 2007 budget of $1.09 million, which is an increase of $0.12 million or 11%. The change is primarily related to increases in salaries and benefits for 2008 merit increases,

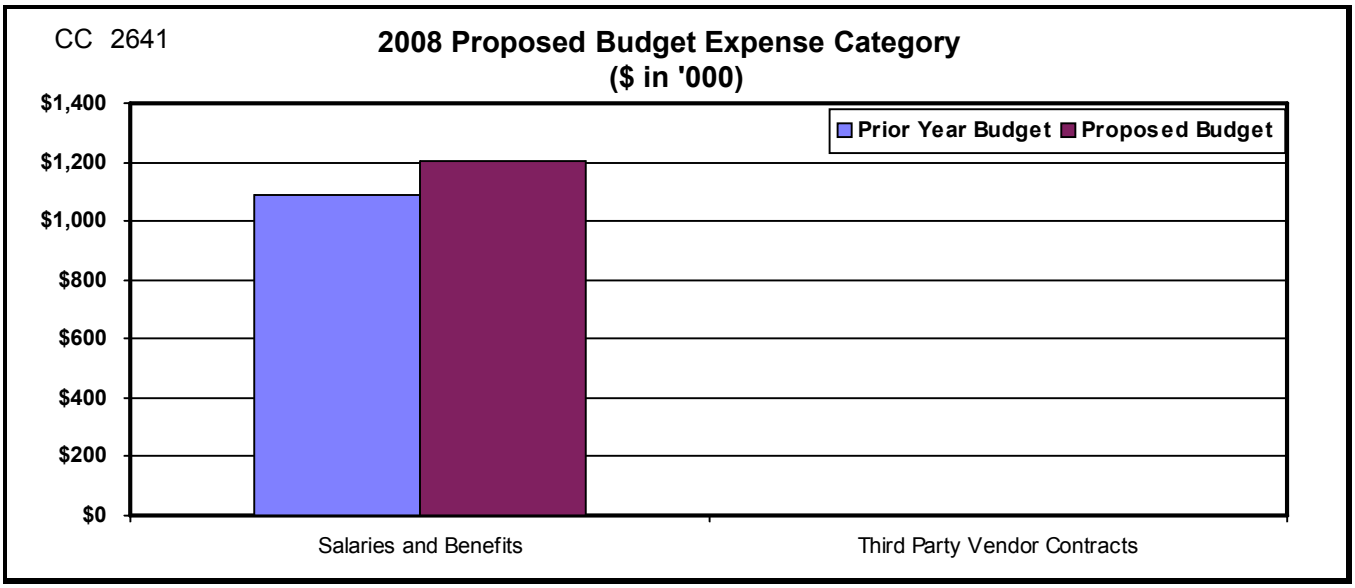
and for staffing changes in 2007. Staffing remains unchanged at 5 in both years.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	5	5	0	0	5

Operations and Maintenance Budget

2008 Base Budget	$1,203,764
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,203,764
2007 Budget	$1,086,746



2651 Asst Corporate Secretary

Departmental Description

This cost center captures Board of Governors (BOG) expenses for Board meetings, Board member compensation, and travel and expense reimbursement for Board members to attend Board meetings and to perform other duties on behalf of the ISO. This cost center also captures the salary of an Assistant Corporate Secretary who will be involved, inter alia, in BOG communications, setting meeting agendas, and reviewing and coordinating the submission of BOG documents.

Department Workload and Initiatives

There are no substantial changes in 2008 workload for the Board.

Discussion of Proposed Budget

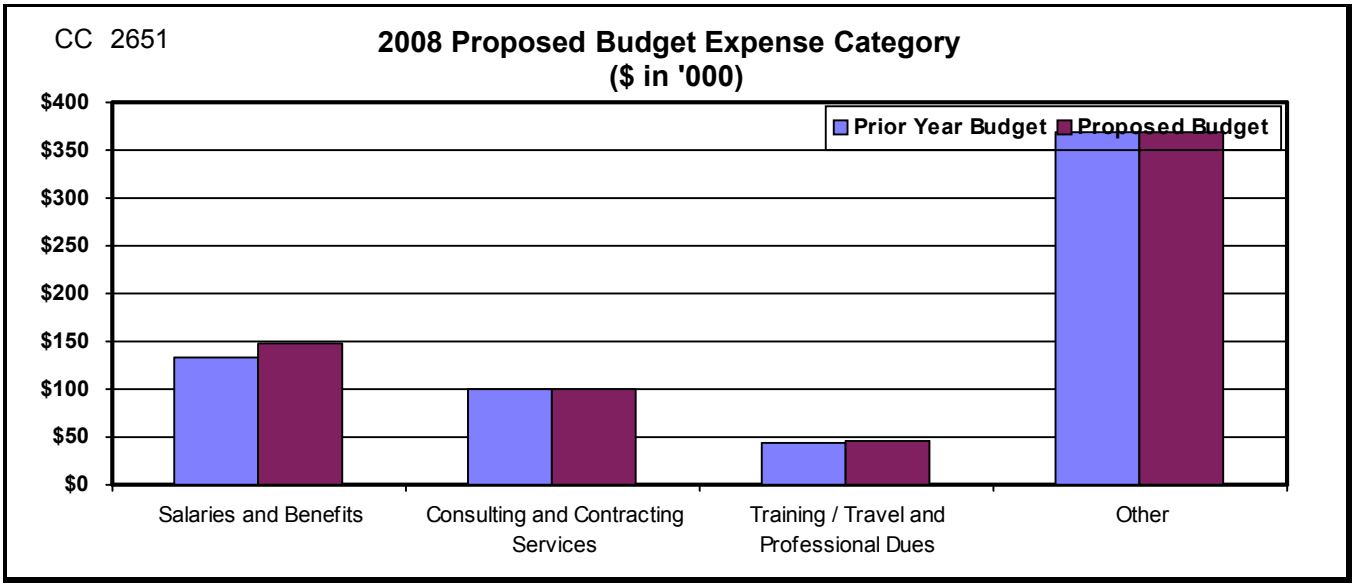
The 2008 proposed budget of $0.66 million compares with the 2007 budget of $0.65 million, which is an increase of $0.01 million or 2%. The change is related to increases in salaries and benefits for 2008 merit increases. Staffing remains unchanged at 1 in both years.

Staffing

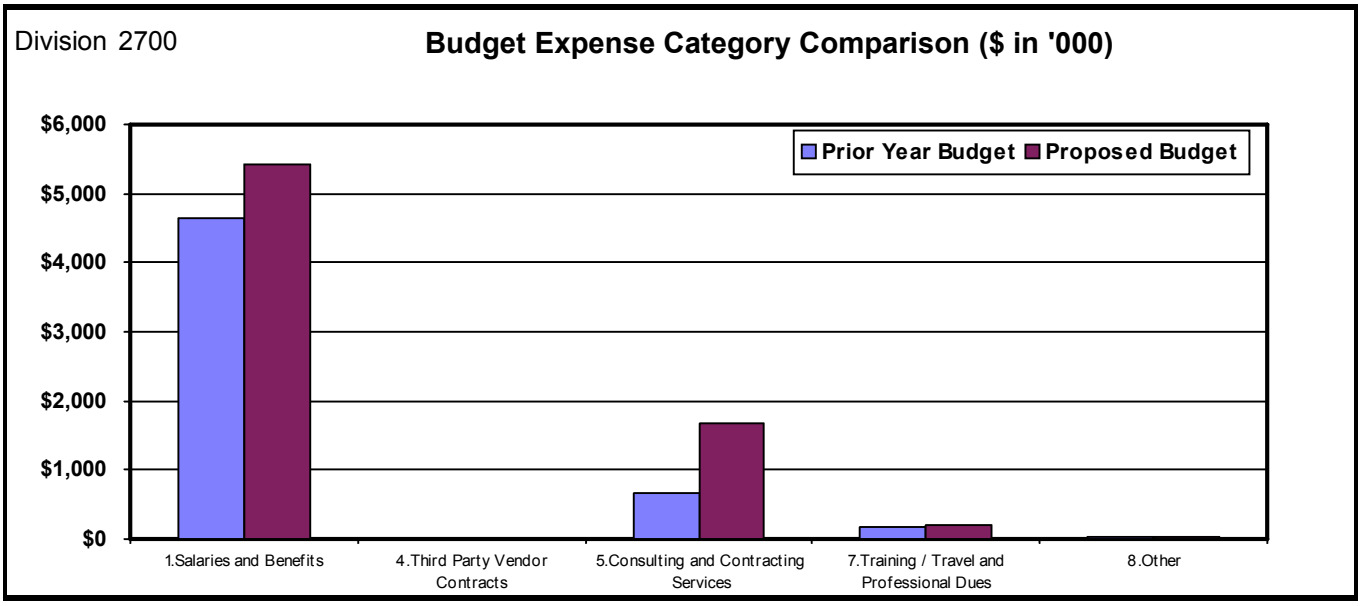
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	1	1	0	0	1

Operations and Maintenance Budget

2008 Base Budget	$661,832
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$661,832
2007 Budget	$647,200



Overview Chart 2700 VP of Market Development and Program Management



Discussion of Proposed Budget

The 2008 proposed budget of $7.34 million compares with the 2007 budget of $5.49 million, which is an increase of $1.85 million or 34%. The proposed 2008 budget will provide for the scope of work documented within the subsidiary cost centers. The drivers for the net O&M budget increase include:

(1) Salary cost changes of $834K, including 2007/2008 salary/benefit cost adjustments of $285K, and 3 additional budgeted staff in the net O&M in 2008 vs. 2007. Costs from the MRTU and Program Management Office Staff (other than two staff) are excluded from the O&M budget and capitalized as part of the MRTU program (and subsuquent market design enhancements in 2008). However, in 2007, a total of 9 staff were excluded from the O&M budget, while in 2008 six staff are excluded from the O&M budget. Accordingly, while the gross staffing is constant in both years at 33.5, the net budgeted staffing included in the O&M budget increases from 24.5 (33.5 less 9 capitalized) to 27.5 in 2008 (33.5 less 6 capitalized). The staff to be capitalized reflects the nature of work that is to be capitalized under the accounting guidelines. Two staff in the PMO will have an increased emphasis on ongoing process documentation.

(2) consulting/temporary contract staff of $750,000, and

(3) project initiation costs for project planning and initial conceptual design.

Divisional Budget Overview

2700 VP of Market Development and Program Management

Division Description

This cost center is the roll-up for the following departments and work groups:
2711 VP of Market Development and Program Management-General
2720 Market and Product Development
- 2721 Market and Product Development-General
- 2722 Tariff and Regulatory/Policy Development
- 2723 Infrastructure Policy/Regulatory Contract Negotiation

2731 Program Management Office (PMO)
2741 MRTU Program
MDPM was created as part of the 2005 corporate realignment effort. The primary purpose behind the division's creation was to establish a seamless and well coordinated policy development through implementation process. Throughout the 2006 and 2007 period, the division has been primarily focused on the timely and successful resolution of MRTU-related policy issues and related implementation efforts. During this period, the division has experienced upward workload pressure due to increased market design and regulatory activity associated with the new policy initiatives associated with the 2006-2008 Business Plan. That pressure will likely further increase in 2008 due to the expanded corporate objectives associated with the newly adopted 2007-2011 Business Plan.

Division Workload and Initiatives

In the 2008 timeframe, the division will be fully engaged in supporting the timely and successful implementation of MRTU as well as both the design and implementation of the next generation of market enhancements. These enhancements will necessarily build off and complement the market platform created through the MRTU program and are essential if the CAISO is to Achieve Excellence in Grid and Market Operations, Value-added and Efficient market and Infrastructure Development. Key 2008 market initiatives include the conceptual development and implementation of Convergence Bidding, Scarcity Pricing, and other design enhancements included in the CAISO's Market Initiatives Roadmap.

In addition, during 2008 the division will also be dedicated to the key market product and infrastructure development initiatives necessary to support Federal and State policy initiatives. These initiatives include the development of Demand Response products, the examination of Capacity Markets and other appropriate enhancements to the State's resource adequacy program, and technical and implementation support for State/Federal efforts regarding the development and integration of Renewable Resources, reduction in Green House Gas emissions, and other environmental initiatives.
In support of the successful implementation both the division's as well as the corporation's key initiatives and projects, during 2008 the division's Program Management Office (PMO) will continue to lead the MRTU effort through successful completion as well establish the enduring program management and business practices necessary to support future projects. In 2005 the division was created to establish an effective design-through-implementation process. The PMO is integral to the success of that effort. In 2008, building off the processes and procedures established to support the MRTU program, the PMO will continue to focus on the development of the skill sets, tools and processes key to good project management and effective business operation. Among other efforts, the PMO will focus on the expansion of its business requirements development capability and on the administration and development of sound corporate-wide business processes, with an eye toward improving overall process efficiency and quality.

Finally, during the 2008 budget period and consistent with its commitment toward regional coordination, the CAISO will continue to be engaged in outreach and coordination efforts the purpose of which is to identify and mitigate seams issues with the CAISO's regional partners. As the fulcrum of the CAISO's efforts on many key business plan initiatives, the division will be increasingly challenged to both lead, coordinate and provide substantive input to all of these efforts at existing staffing levels and under the known budgetary constraints. As always, division as well as corporate management will need to continually reassess the commitment of resources and project schedules in order to satisfactorily achieve the stated objectives.

Key MDPM Business Plan Initiatives and their timeframes include:

Provide Value Added Market Products and Efficient Market Design

2008–2011 Design Future Market Enhancements
2008 Successfully Implement MRTU by Resolving Open Policy Issues and Addressing Unforeseen Design Problems
2008–2009 Develop Conceptual Design of Capacity Pricing Mechanism
2008–2011 Maintain and Enhance Market Initiatives Roadmap
2008–2011 Improve Inter Regional Coordination and Trade
2008–2011 Reliable Integration of Renewable Resources

Establish the California ISO as a Center of Excellence

2008–2011 Promote a Business Process Oriented Culture
2008–2011 Promote "Best Practices" Project/Program Management

Continuing Commitment to Excellence

2008 Implement Employee Development Plans
2008–2011 Support the California ISO Academy

Staffing

Group		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2711	VP of Market Development and Program Managem	1.5	2.5	1	0	3.5
2720	Market and Product Development	22	22	0	0	22
2731	Program Management Office	1	5	0	-3	2
2741	MRTU Program	0	3	0	-3	0
	Total	24.5	32.5	1	-6	27.5

Operations and Maintenance Budget

2008 Base Budget	$7,600,067
2008 Management Recommended Incremental / Decremental Programs	($255,572)
Total Proposed 2008 Budget	$7,344,495
2007 Budget	$5,492,404

2711 VP of Market Development and Program Management-General

Departmental Description

The VP of Market Development and Program Management-General, through subordinate Directors, is responsible for setting strategic direction for market and product development and its subsequent implementation.
The Division is responsible for the conceptual development and promulgation of regulatory and market related policy initiatives from inception through implementation. This includes consideration, interaction, coordination and cooperation with CAISO stakeholders including market participants as well as state and federal regulatory agencies. Consistent with these responsibilities and as detailed below, the Division will spearhead key corporate business plan initiatives, as detailed in the CAISO's 2007-20011 Business Plan.
The VP, funded in this department, oversees the work for the Market Development and Program Management Division. In addition, during 2007, a newly created Director of Regional Market Initiatives position was established. The Director of Regional Market Initiatives reports directly to the VP and is included in this cost center.

Department Workload and Initiatives

In 2008, The VP of MDPM will continue to provide executive management and direction to the MRTU implementation program. In addition, the VP will oversee the launch and implementation of key new corporate initiatives regarding new market enhancements, new market products, resource adequacy, renewable resource development and integration, while providing support for State and Federal public policy initiatives. In addition, the VP will continue to oversee the development of an effective and enduring corporate program management structure and related processes.
In addition, during the 2008 budget period, the Director of Regional Market Initiatives will continue to be engaged in outreach and coordination efforts the purpose of which is to identify and mitigate seams issues with the CAISO's regional partners. The Director will lead and be directly involved in efforts to mitigate and address purported MRTU-related seams issues. In addition, the Director will continue to engage in the appropriate regional (WECC) and national (FERC, NERC, NAESB) forums to identify and mitigate potential seams issues and create a platform for future regional coordination and collaboration on key issues and common interests (regional congestion management, transmission planning, infrastructure development).

Principle Market Developer, MRTU will continue provide overall technical leadership to the MRTU program, with the initial focus in 2008 remaining on the pending MRTU implementation. Historically, much of this work had been performed almost exclusively by external consultants with no provision for knowledge transfer to CAISO staff. The creation of this position in late 2006, signals the shift to creating and maintaining critical business expertise among CAISO staff, while minimizing the use and reliance upon external consulting resources. Activities in this area include the analysis of technical and functional design gaps and their associated resolution; the development and coordination of business and technical requirements for all new scope related to the CAISO market platform; continuous coordination with key vendors and ISO business units to insure "no suprise" implementation of automated and manual functionality; technical support of western regional seams resolution intiatives in support of the Director of Regional Initiatives; and finally, the provision of market and operational expertise in support of CAISO corporate initiatives where appropriate. As the implementation of MRTU draws closer, emphasis will shift to supporting the development and implementation of post MRTU market functionality including convergence bidding and scarcity pricing.

Discussion of Proposed Budget

The 2008 proposed budget of $1.81 million compares with the 2007 budget of $0.63 million, which is an increase of $1.18 million or 189%. The increase is related to two staff transfers to this department (Regional Market Initiatives, and principal for Market Design), salary/benefit cost adjustments for 2007/2008, and $450,000 in consulting.

Staffing

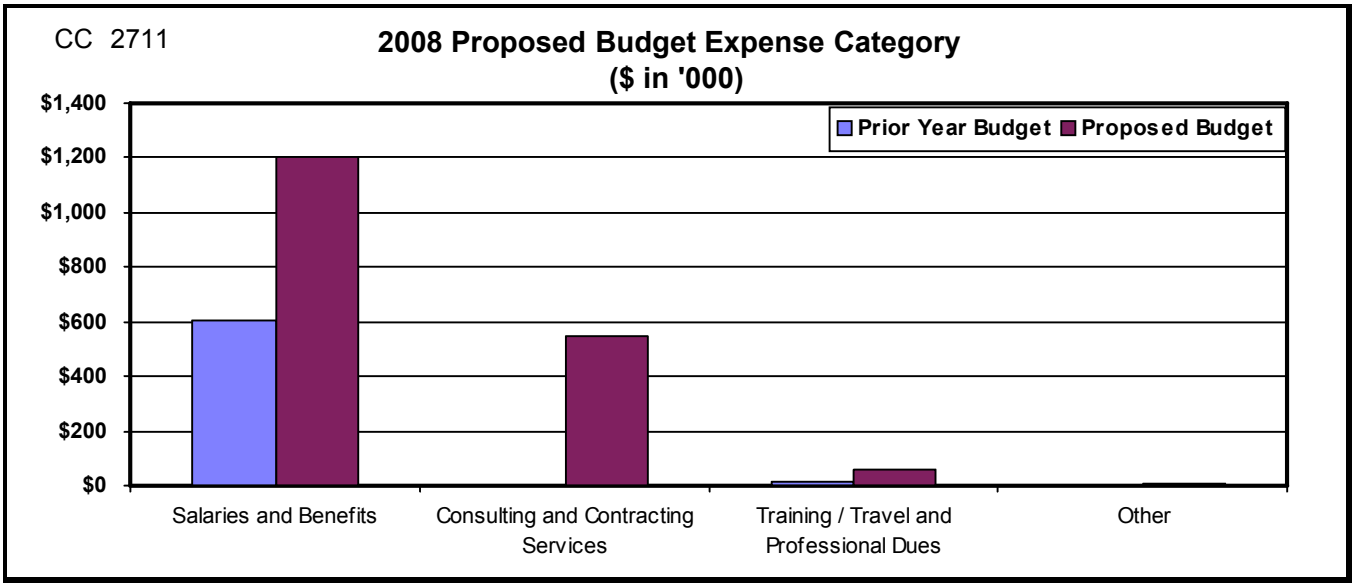
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	1.5	2.5	1	0	3.5

Operations and Maintenance Budget

2008 Base Budget	$1,502,107
2008 Management Recommended Incremental / Decremental Programs	$307,838
Total Proposed 2008 Budget	$1,809,945
2007 Budget	$626,621

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 2	Expenses for Principal, Market Developer	Management Recommended	$3,210	
Incremental - 1	Regional Market Initiatives Program	Management Recommended	$304,628	1
		Total	$307,838	1



2731 Program Management Office

Departmental Description

To ensure the successful achievement of CAISO's strategic objectives, the CAISO will enhance and increase its maturity level for planning and executing projects and programs. The CAISO will build on the existing PMO foundations to achieve the following corporate objectives.

1. Enhanced communication and cooperation with the production floor business owners with regard to project

scope and deliverables. This implies earlier and more up-front involvement of the business units in the specification and design of the proposed project features.
2. Adoption and adherence to PMO "best practices" for planning, monitoring, and executing all major projects (MRTU and other large capital projects).
3. Establishment of a Business Process and Quality Lead within the PMO who will recruit and develop Business Process Liaisons within each of the major functional areas of the company. The PMO Business Process Initiative will serve to build upon the existing "as is" business processes with the goal of promulgating a business process oriented culture at CAISO which would include objectives to improve and enhance existing processes to gain greater efficiencies and to improve process execution quality. The objective is to work towards "to be" processes which achieve CAISO quality targets while mining efficiencies which allow CAISO to take on additional work with existing resources.
4. Establish a Business Requirements Specification Function within the PMO which would develop and implement standard practices and procedures for the development and documentation of business requirements for all major projects. The Business Requirements Leads within the PMO would recruit and develop Business Requirements Liaisons within each of the major business areas and work across the CAISO in a matrix-like fashion to formalize and standardize the processes for developing and documenting business requirements for all major projects.

Department Workload and Initiatives

In 2008, the PMO will assist in completing the deployment of MRTU. Beyond MRTU, the PMO will work with MPD to transition new market initiatives from the conceptual design phase into project initiation. The following initiatives will be transitioned into project during 2008: Convergence Bidding, Scarcity Pricing), and other Year 1 market design enhancements.

Furthermore, the PMO will advance the Business Process and Business Requirements functions using the established baselines and extending to the full enterprise.

Discussion of Proposed Budget

The 2008 proposed budget of $0.54 million compares with the 2007 budget of $0.3 million, which is an increase of $0.25 million or 84%. The 2008 budget includes $250,000 for project initiation costs not covered in the capital budget. The 2008 budgeted staff includes 5 total, of which 3 are excluded from the O&M budget, leaving two in O&M. The two staff in O&M will focus on process documentation.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	1	5	0	-3	2

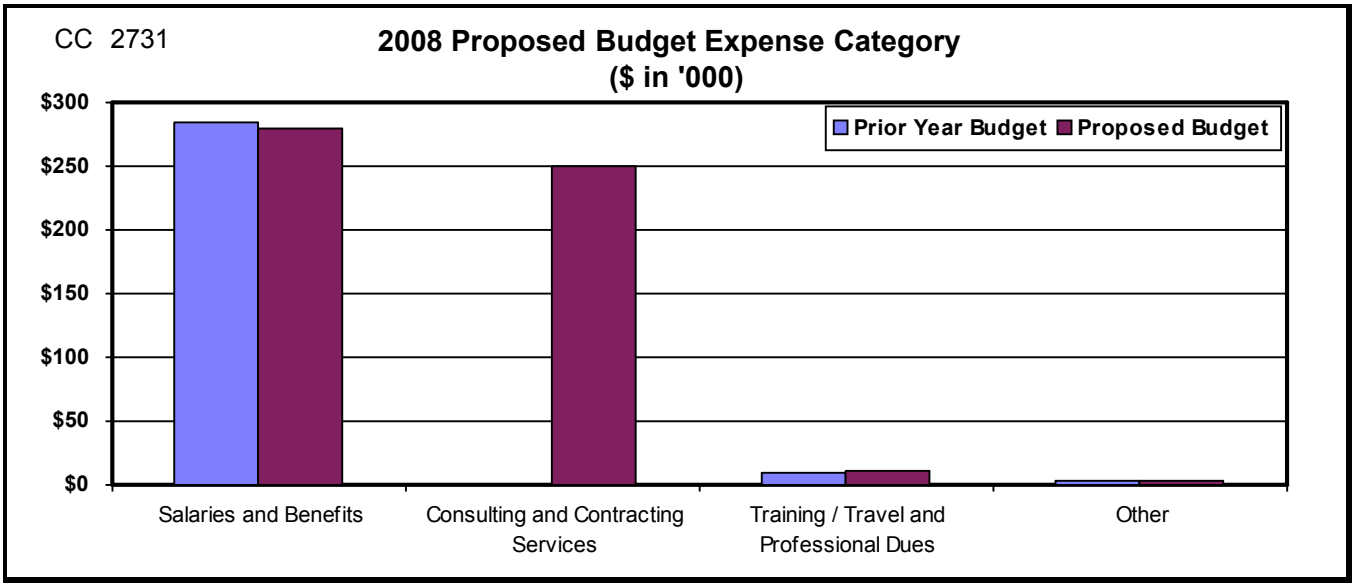
Operations and Maintenance Budget

2008 Base Budget	$863,606
2008 Management Recommended Incremental / Decremental Programs	($319,362)
Total Proposed 2008 Budget	$544,244
2007 Budget	$295,455

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 4	Increase in travel, training and office meeting expenses	Management Recommended	$3,500	

Incremental - 3	Funding for Project Planning/Initiation Costs	Management Recommended	$250,500	
Decremental - 1	Capitalized Program Office Costs	Management Recommended	($573,362)	-3
		Total	($319,362)	-3



2741 MRTU Program

Departmental Description

The primary responsibility of the MRTU program is to implement market design features that will enhance the reliable and efficient operation of the electric grid in California. This will be accomplished by providing appropriate pricing incentives to encourage market participants to follow instructions of the ISO. In doing so, these enhancements are expected to improve operating efficiency through both lower production costs and lower out-of-merit costs to operate the grid.

The secondary goal of MRTU is to upgrade the technology infrastructure that supports the markets to a stable, flexible, and robust platform. The Market design is detailed in the July 22, 2003 Conceptual Market Design Filing, with subsequent FERC orders and filings.

Objectives:
The primary objectives of the MRTU program are to:
A. Develop and implement new tools and processes that are able to satisfy business and regulatory stakeholders and applicable audit requirements.
B. Implement integrated forward and real-time markets that simultaneously optimize the procurement of energy and reserves while assuring their feasibility with respect to all operational constraints. This is accomplished though the use of a full network model and will produce Locational Marginal Prices that provide increased price transparency that informs the most efficient location of electricity infrastructure upgrades.
C. Ensure that adequate capacity is committed to meet ISO forecast load through a unit commitment process that ultimately utilizes resources procured through a workable form of resource adequacy.
D. Provide a financial hedge for load serving entities with respect to congestion costs that may be incurred in delivery of electricity to end-use customers.
E. Provide stable, user adaptable systems that offer clients timely access to appropriate and accurate data.
F. Migrate from the current monolithic, tightly coupled systems to an open architecture through a Service Oriented Architecture (SOA).
G. Include appropriate protections against market manipulation including economic and financial withholding.

H. Architect and design systems with applicable processes and controls to assure conformance with system development best practices.

Department Workload and Initiatives

The majority of the staff in this department continue to focus exclusively in 2008 on the MRTU project. After MRTU implemention the staff will work on other market design enhancements.

Discussion of Proposed Budget

Substantially all the costs for this department are to be capitalized as part of the MRTU budget. Accordingly, the net O&M budget for 2008 budget is only $27,000 representing miscellaneous travel/training costs. The 2007 budgeted staff and costs reflect a negative amount. The unadjusted 2007 budget reflects zero cost for this department. During 2007, one of the staff was transferred to another department, while the budget application assumes the staff is to be deducted from this cost center.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	0	3	0	-3	0

Operations and Maintenance Budget

2008 Base Budget	$511,836
2008 Management Recommended Incremental / Decremental Programs	($484,548)
Total Proposed 2008 Budget	$27,288
2007 Budget	($163,540)

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Decremental - 1	Capitalize MRTU and subquent Year One Enhancements	Management Recommended	($484,548)	-3
		Total	($484,548)	-3

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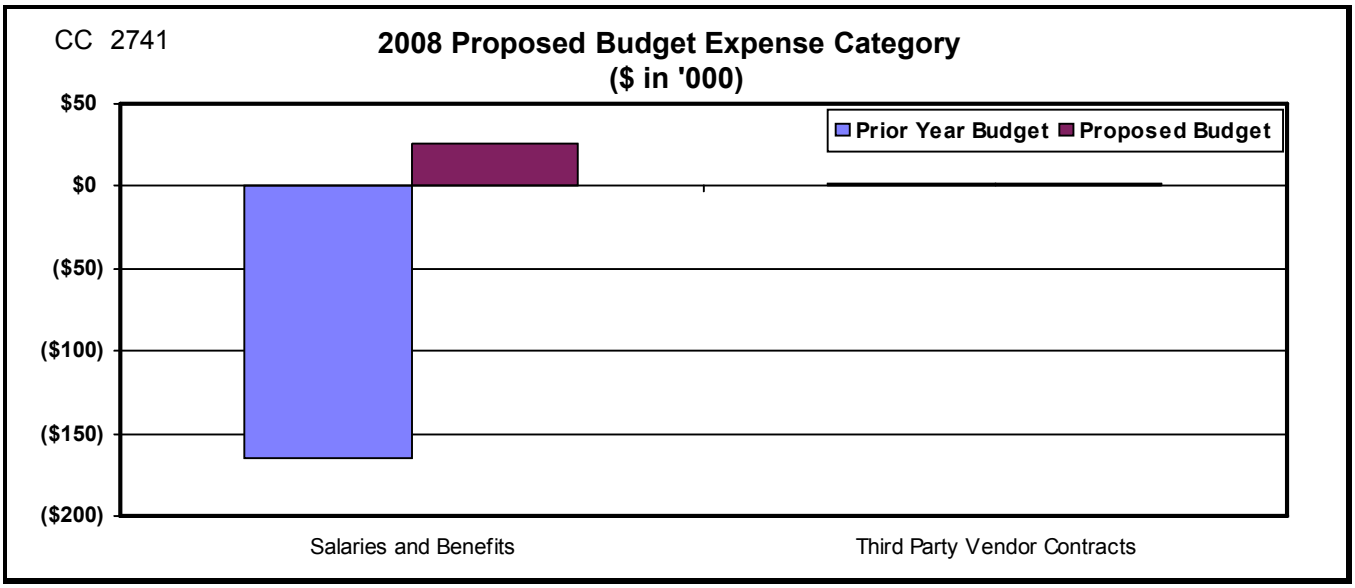

2008 Proposed Budget Expense Category
($ in '000)
$50
$0
($50)
($100)
($150)
($200)
Prior Year Budget
Proposed Budget
Salaries and Benefits
Third Party Vendor Contracts

2720 Market and Product Development

Group Description

This cost center is the roll-up for the following work groups:

2721 Market and Product Development - General
2722 Tariff and Regulatory/Policy Development
2723 Infrastructure Policy/Regulatory Contract Negotiation

Group Workload and Initiatives

Major initiatives include design of proposed market rules, stakeholder involvement and review, Board decision support, tariff development and software requirements definitions for Year 1 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. Provide 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, Provide subject matter expert support to other divisions such as Planning and Infrastructure Development division 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.

Discussion of Proposed Budget

The 2008 proposed budget of $4.96 million compares with the 2007 budget of $4.73 million, which is an increase of $0.23 million or 5%. The budget provides funding for the scope of work noted. Staffing remains constant at 22. The budget increases include the 2007/2008 salary/benefit increases and a $300K increase in consulting and temporary contract staff.

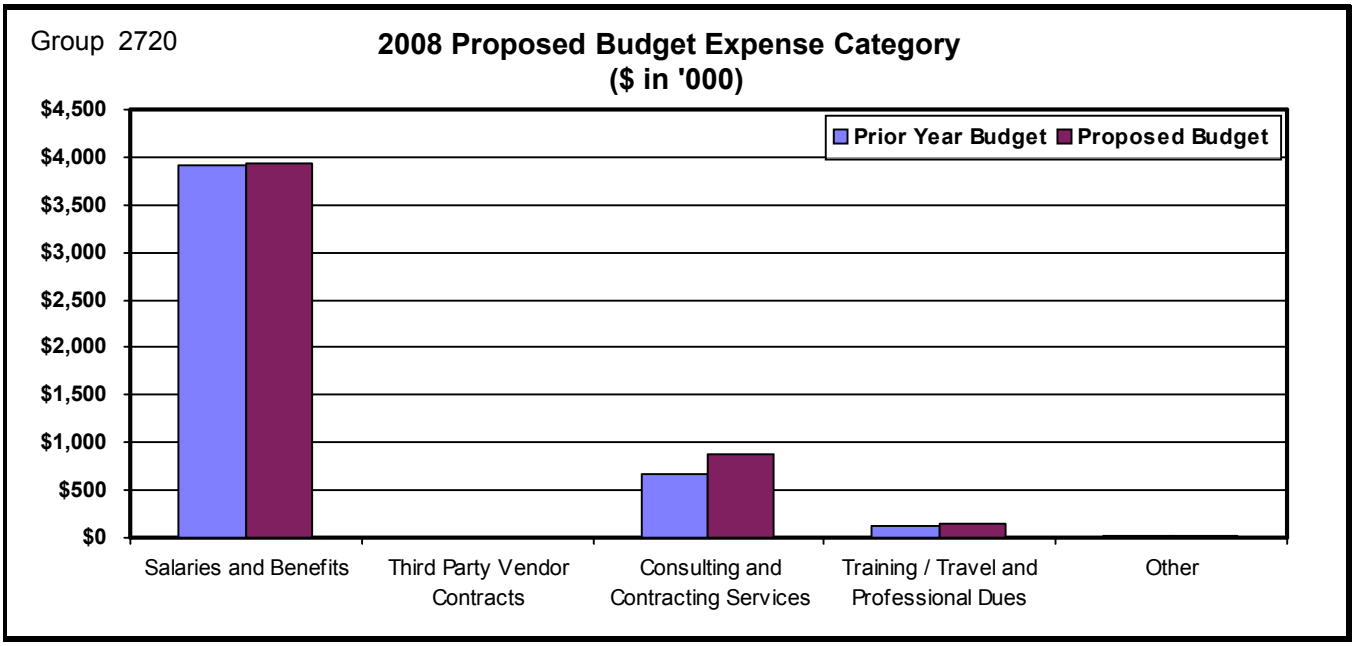
Staffing

		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2721	Market and Product Development-General	6	5	0	0	5
2722	Tariff and Regulatory/Policy Development	9	9	0	0	9
2723	Infrastructure Policy / Regulatory Contract Negotiati	7	8	0	0	8
	Total	22	22	0	0	22

Operations and Maintenance Budget

2008 Base Budget	$4,722,518
2008 Management Recommended Incremental / Decremental Programs	$240,500
Total Proposed 2008 Budget	$4,963,018
2007 Budget	$4,733,868

Group 2720



2721 Market and Product Development-General

Departmental Description

The Market and Product Development - Department (MPD) is responsible for identifying, designing, and developing ISO markets and market-related rules as well as infrastructure-related products and services, from inception through specification of business requirements suitable for tariff preparation and system development, and contracts where required. Such markets and products may be identified to respond to needs identified by stakeholders, to solve deficiencies or problems in the existing ISO markets, to expand current ISO product and service offerings, or as elements of a larger program of change at the ISO level or potentially at a broader Western regional or national level.

MPD's process includes:

- Identification of a new market, product, or service to be developed, or a need to change an existing market, product, or service because of a flaw or deficiency. This step includes clear articulation of goals and objectives of the change;
- Research on similar markets or products offered by other ISOs, including their overall performance and utilization by market participants as well as any relevant regulatory actions;
- Comparative evaluation of alternative design options, including assessment of their compatibility with existing ISO markets and the current ISO tariff, and analysis of their impacts on ISO markets, market participants and other stakeholders;
- Leadership of a stakeholder process to discuss and receive stakeholder input on all aspects of the initiative;
- Development of an ISO proposal that is consistent with corporate policy, compatible with the roles and responsibilities of all affected internal departments, responsive as far as possible to the expressed concerns of stakeholders, and is consistent with FERC guidelines and requirements;
- Presentation of the proposal to the ISO Governing Board for approval;
- Preparing documentation describing the ISO proposal in sufficient detail to be handed off to: (a)Legal and Regulatory Division for developing FERC filings and associated tariff language; (b) Program Management Office as a blueprint for the implementation effort; and (c) where needed, to the Contract Negotiations Group for negotiating associated contracts.

Additional duties of MPD include:

- Providing subject matter expertise for state, federal, and legislative proceedings;
- Monitoring regulatory developments; and
- Conducting contract negotiations.

Department Workload and Initiatives

There will be significant workload increase in 2008 associated with CPUC regulatory proceedings and stakeholder activities in the area of long term resource adequacy proceedings and demand response proceedings, renewable transmission tariff development, and design of MRTU Year 1 and Year 2 market enhancements, greenhouse gas initiatives and designing a capacity pricing mechanism.

Discussion of Proposed Budget

The 2008 proposed budget of $1.51 million compares with the 2007 budget of $1.58 million, which is a decrease of $0.07 million or 5%. The reduction is due to a transfer of 1 staff person to another MPD department, offset by 2007/2008 salary cost adjustments.

Staffing

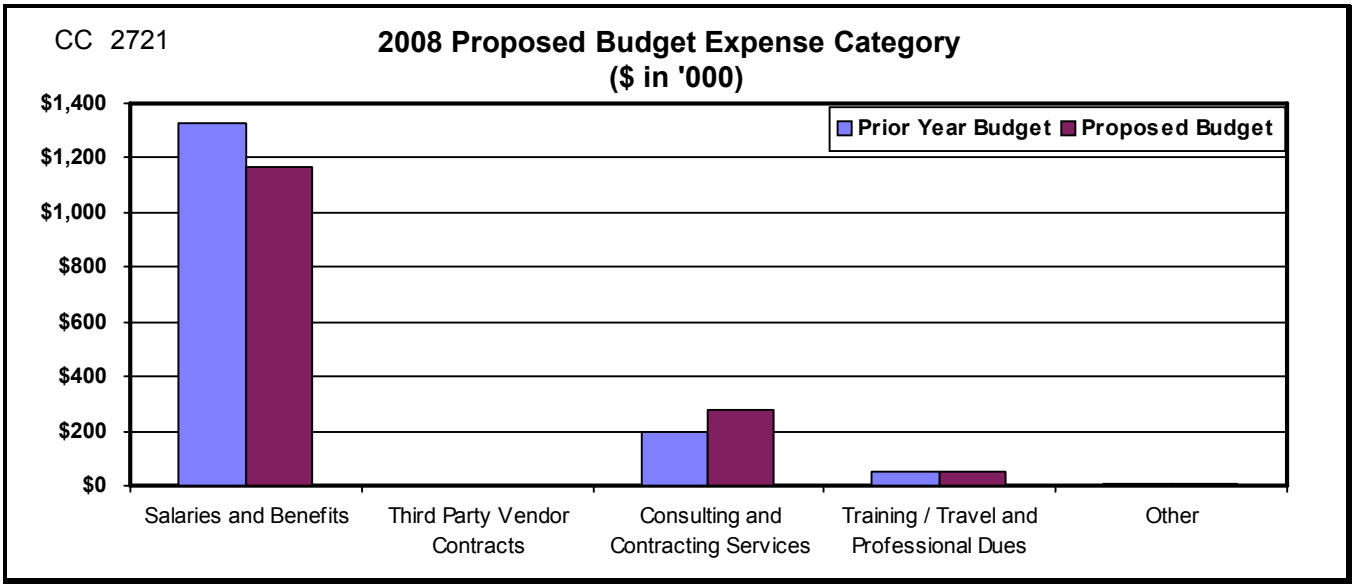
	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	6	5	0	0	5

Operations and Maintenance Budget

2008 Base Budget	$1,409,276
2008 Management Recommended Incremental / Decremental Programs	$100,000
Total Proposed 2008 Budget	$1,509,276
2007 Budget	$1,582,806

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 2	Technical Studies- Green House Gas	Management Recommended	$100,000	
		Total	$100,000	



2722 Tariff and Regulatory/Policy Development

Departmental Description

The Tariff and Regulatory/Policy Development department (TRPD) is responsible for designing and developing new ISO markets and market-related products and services. TRPD's primary responsibilities include:
- Identification of any shortcomings in the existing market design;
- Development of design alternatives, economic studies to analyze the alternatives based on observed or simulated market data; and
- The development of the preferred design for appropriate Tariff language.

Specific areas include identifying needed tariff changes, aligning settlements with efficient market incentives, improving design of the CAISO run markets, i.e, Day-ahead and Real-time markets, Transmission Rights, and Inter-Control Area Exchanges), as well as economic analysis and new tariff design.

TRPD's process includes:
- Identification of a new market, product, or service to be developed or a needed enhancement to an existing market, product, or service, including clear articulation of goals and objectives;
- Research on similar markets or products offered in other markets, including their overall performance and utilization by market participants as well as any relevant regulatory actions;
- Formulation and comparative evaluation of alternative design options, including assessment of their compatibility with existing ISO markets and the current ISO tariff;
- Conducting stakeholder processes to receive stakeholder input on all aspects of the initiative;
- Development of an ISO proposal that is compatible with the roles and responsibilities of all affected internal departments and, as far as possible, responds to the expressed concerns of stakeholders;
- Preparing documentation and presentation material to the Governing Board for approval;
- Preparing documentation describing the ISO proposal in sufficient detail to be handed off to: (a) Legal and Regulatory Division for developing FERC filings and associated tariff language; (b) Program Office as a blueprint for the implementation effort; and (c) where needed to the Contract Negotiations Group for negotiating associated contracts;
- Ensuring that tariff amendments are consistent with MPD conceptual market designs and policy determinations; and
- Developing expert testimony to support policy decisions in regulatory proceedings before FERC and the CPUC.

Department Workload and Initiatives

TRPD will continue to have a significant workload as it supports the implementation of MRTU and develops future market design enhancements identified by stakeholders and mandated by the FERC. The major market initiatives that TRPD will be working on in 2008 include developing tariff language for market design enhancements that have been mandated by FERC and proposed by market participants and designing enhanced market rules market rules for a capacity pricing mechanism. MPD has identified and defined over seventy proposed or mandated market design enhancements for potential implementation after the initial release of MRTU. Due to resource constraints, TRPD is in the process of prioritizing the identified market design enhancements to ensure that enhancements that provide the greatest benefit at the least cost are implemented first in addition to those items mandated by FERC. In addition, TRPD require resources to provide market design analysis of MRTU market outcomes to verify that the MRTU market design is functioning as intended. If any dysfunction in MRTU market rules are identified, TRPD will develop market design enhancements to ensure that the intended market benefits of MRTU are ultimately achieved.

Discussion of Proposed Budget

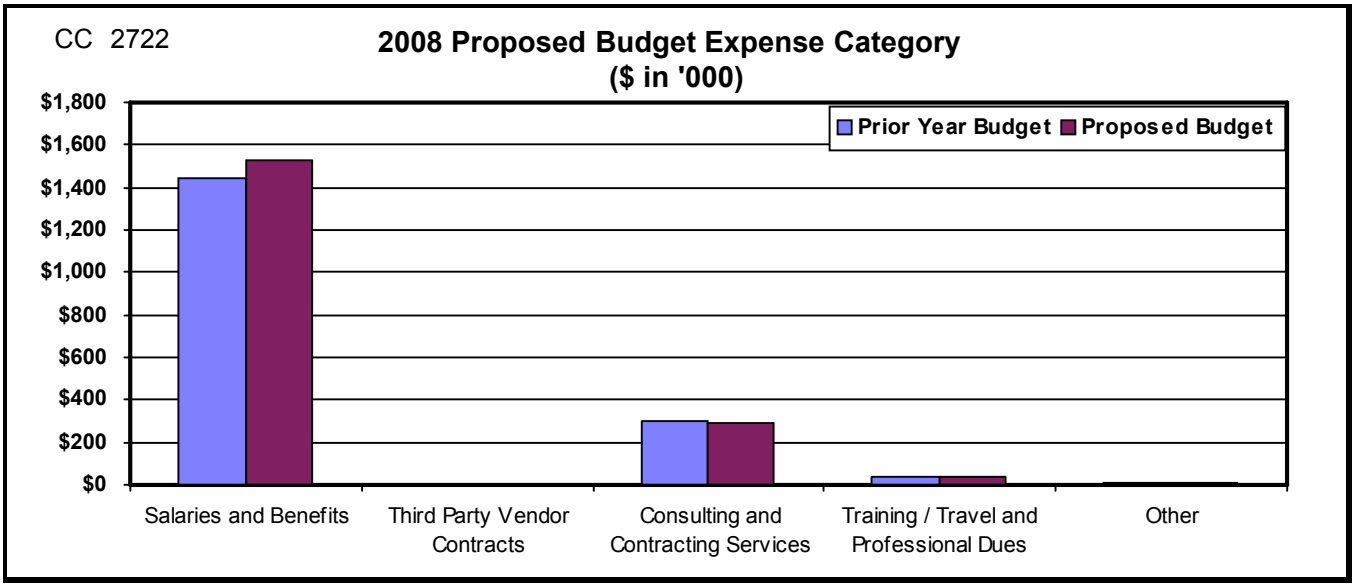
The 2008 proposed budget of $1.87 million compares with the 2007 budget of $1.8 million, which is an increase of $0.07 million or 4%. The 2008 budget provides funding for the scope of work noted above. TRPD's budget is based on its current workplan. Incremental modifications to the plan will require additional resources to meet previously established timelines.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	9	9	0	0	9

Operations and Maintenance Budget

2008 Base Budget	$1,870,312
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,870,312
2007 Budget	$1,800,278



2723 Infrastructure Policy / Regulatory Contract Negotiation

Departmental Description

The Infrastructure Policy and Regulatory Contract Negotiation department (IPRC) is responsible (1) the development of corporate and regulatory policies related to the physical infrastructure of the electric power system, (2) the negotiation, drafting, and administration of the ISO pro-forma and special agreements with market participants and operators of other control areas. Each of these works towards expanding current ISO product and service offerings, as elements of a larger program of change at the ISO level or at a broader western regional or national level.
IPRC process includes:
1) Identification of a new product or service to be developed or a needed change to an existing product or service, related to contracts and critical infrastructure elements;
2) Comparative evaluation of alternative options, including assessment of their compatibility with existing ISO markets and the current ISO tariff;
3) Leadership of a stakeholder process to discuss and receive stakeholder input on all aspects of the initiative and/or conduct the needed negotiations for associated contracts;
4) Development of an ISO policy or contract proposal that is compatible with the roles and responsibilities of all

affected internal departments and, as far as possible, responds to the expressed concerns of stakeholders;
5) Preparing documentation describing the ISO policy proposal and providing subject matter expertise in sufficient detail to be handed off to: (a) Legal and Regulatory Division for developing FERC filings and associated tariff language; (b) Program Management Office as a blueprint for an implementation effort;
6) Preparing final contract documents and coordinating the internal and external authorization process;
7) Representing ISO's position before the CPUC. These initiatives require development of ISO policy, coordination between internal departments, provision of written and oral testimony, etc. This includes an ongoing subject matter expert support to other divisions such as Planning and Infrastructure Development division for Resource adequacy initiatives that include LCR, LOLP, Import Allocation, etc.
8) Administration of over 700 regulatory contracts, working with internal and external stakeholders to ensure all contract provisions are being followed. Includes processing of all changes, re-execution where required, and all FERC filings.

Department Workload and Initiatives

This is an established workgroup that is performing ongoing functions with an increasing workload from new responsibilities. The workload increase comes from new initiatives such as the creation and execution of 70 new agreements in support of Congestion Revenue Rights for MRTU and full implementation of generator interconnections tariff leading to 130 new agreements, as well as supporting negotiations on inter-control area agreements.

Discussion of Proposed Budget

The 2008 proposed budget of $1.58 million compares with the 2007 budget of $1.35 million, which is an increase of $0.23 million or 17%. The increase includes one additional budgeted staff transferred from within the MPD division, and 2007/2008 salary/benefit cost adjustments. The proposed 2008 budget provides funding for the scope of work noted above.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	7	8	0	0	8

Operations and Maintenance Budget

2008 Base Budget	$1,442,930
2008 Management Recommended Incremental / Decremental Programs	$140,500
Total Proposed 2008 Budget	$1,583,430
2007 Budget	$1,350,784

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 1	Contractor - Contracts Analyst	Management Recommended	$140,500	
		Total	$140,500	

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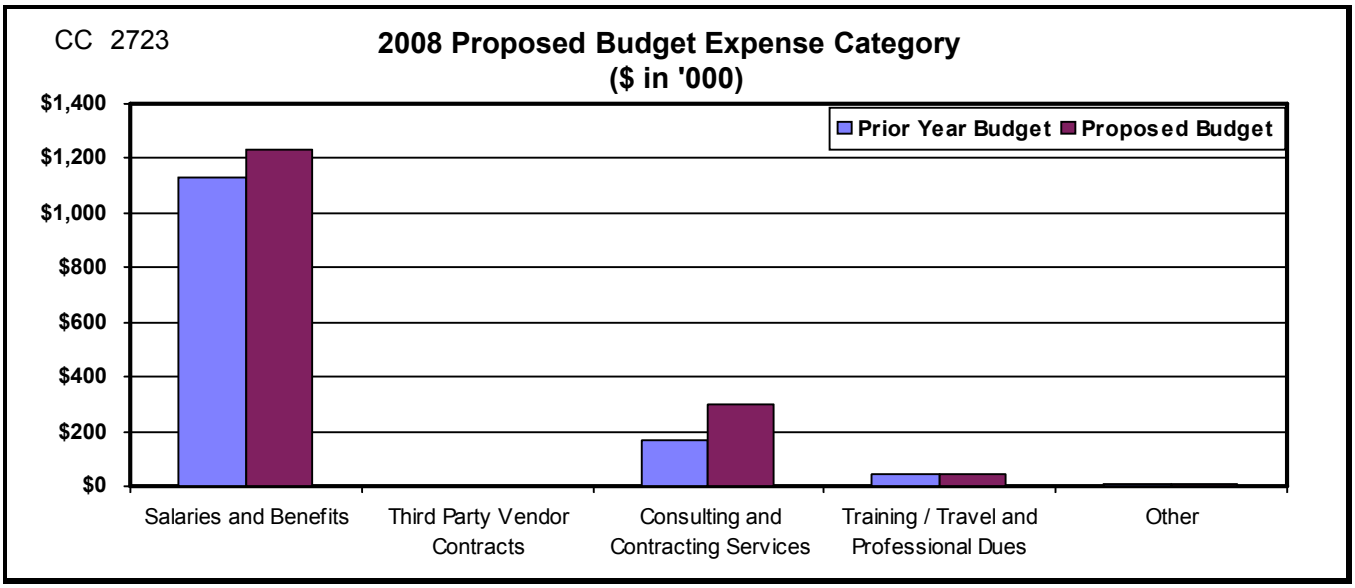
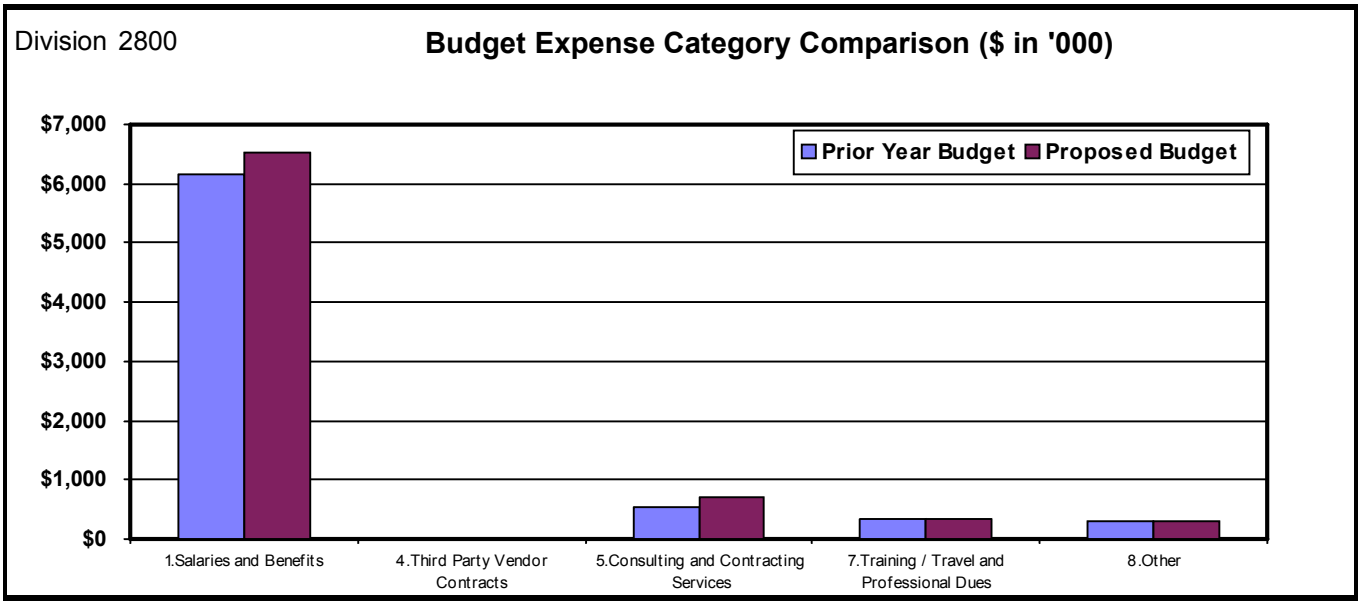

2008 Proposed Budget Expense Category
($ in '000)
$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
Prior Year Budget
Proposed Budget
Salaries and Benefits
Third Party Vendor Contracts
Consulting and Contracting Services
Training / Travel and Professional Dues
Other

Overview Chart 2800 VP of External Affairs



Discussion of Proposed Budget

The 2008 proposed budget of $7.85 million compares with the 2007 budget of $7.33 million, which is an increase of $0.52 million or 7%, allowing for salary/merit increases, and increased contractor costs to respond to the increase in client inquiries at the transition to MRTU. Staffing remains unchanged at 38.5 in both years. The proposed budget provides funding for the work documented in the subsidiary cost center descriptions.

Divisional Budget Overview

2800 VP of External Affairs

Division Description

This cost center is the roll-up for the following subsidiary work groups:

2811 VP of External Affairs-General
2820 Communications & Public Relations
    2821 Communications & Public Relations-General
    2822 Information Products & Services
2831 State/Federal Affairs
2841 Customer Services and Industry Affairs

Our 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.

Division Workload and Initiatives

The significant 2008 initiatives supporting the 2007-2011 Strategic Plan are listed below. The division's workload in 2008 is being impacted by:
1. Significant ramp-up in activities supporting the state environmental and demand response initiatives
2. Implementation of MRTU, impacting client inquiries and client training, and the addition of the MRTU BPM Change Management initiative, and work to support new functionality and access through the customer portal.

The initiatives supporting the Strategic Plan include:

Facilitate Integration of State Renewable Resource, Environmental, and Demand Response Priorities
---
2007–2011 Reliable Integration of Renewable Resources
2007–2011 Alignment of Environmental Initiatives and Reliable Operations
2007–2011 Align ISO and State demand response programs and products

Successful Implementation of ISO Priorities

2007–2008 Support MRTU Implementation
2007–2008 Support New Market Design Priorities and Transmission Initiatives

Improve Customer Service

2007–2011 Improve Information Access
2007–2011 Improve Customer Response
2007–2011 Deliver a Comprehensive Stakeholder Training Curriculum

Establish Proactive Service Delivery Model

2007–2008 Improve Issue Resolution Time
2008–2009 Systematic Reduction of Customer Issues

Improve Regional Collaboration

2007–2011 Regional Outreach
2007–2008 Process Improvement
2007–2008 New Stakeholder Forum

Support ISO Academy and Contribute to Curriculum Development

2007–2008 Curriculum Development
2007–2011 Participate in ISO Academy Courses

Staffing

Group		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2811	VP of External Affairs-General	1.5	1.5	0	0	1.5
2820	Communications & Public Relations	8	8	0	0	8
2831	State/Federal Affairs	6	6	0	0	6
2841	Customer Services and Industry Affairs	23	23	0	0	23
	Total	38.5	38.5	0	0	38.5

Operations and Maintenance Budget

2008 Base Budget	$7,679,184
2008 Management Recommended Incremental / Decremental Programs	$168,781
Total Proposed 2008 Budget	$7,847,965
2007 Budget	$7,326,774

2811 VP of External Affairs-General

Departmental Description

This department contains funding for the VP of External Affairs and its associated costs. The VP of External Affairs-General, through subordinate Directors, sets policy for, plans, directs, and coordinates the activities of the Customer Services and Industry Affairs, Communications and Public Relations, and State and Federal Affairs Units.

Department Workload and Initiatives

The purpose of this division for 2008 is to focus on external entities, relationships, and building client base. These responsibilities include stakeholder process management, client relationships and account management, client training, state and federal regulatory relations, communications, internal and external web design and content management.

Major initiatives for 2008 are listed in the 2800 Cost center and include several initiatives supporting the 5 year strategic plan, increasing responsibilities at the state level (relating to environmental/demand response initiatives), and support for MRTU implementaiton, including management of client inquiries and training on the new market design.

This cost center includes funding for Divisional merit increases for 2007, and a vacancy factor of 2% of budgeted staff costs for 2007 to reflect potential savings from less than full position occupancy in 2007.

Discussion of Proposed Budget

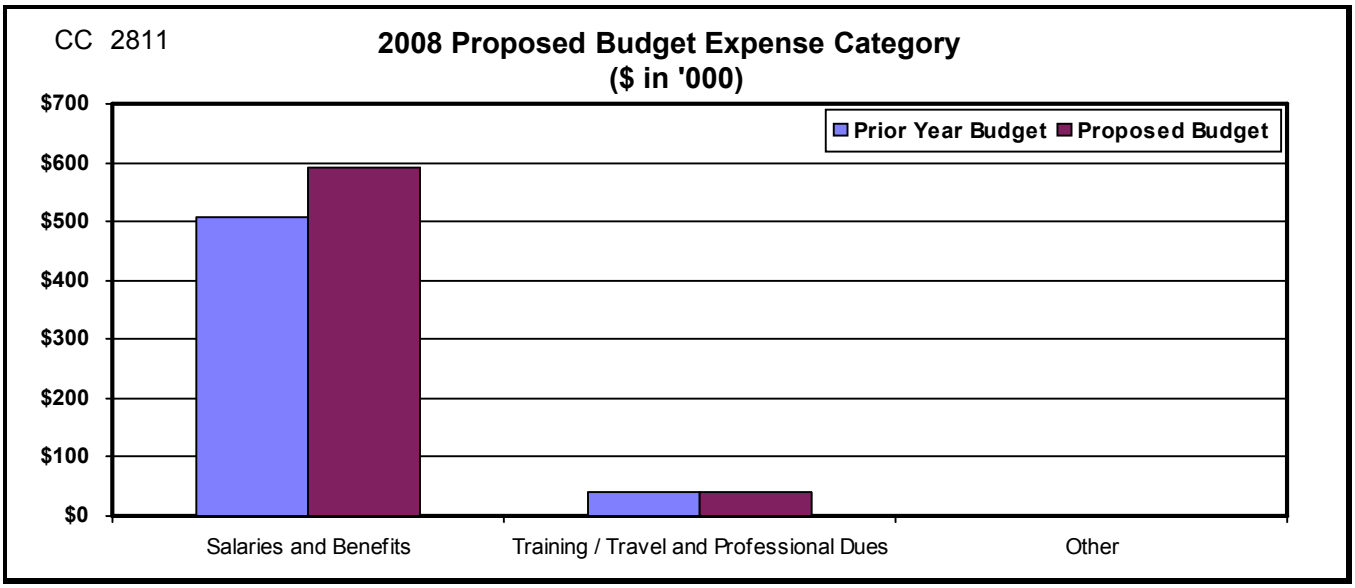
The 2008 proposed budget of $0.63 million compares with the 2007 budget of $0.55 million, which is an increase of $0.09 million or 16%.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	1.5	1.5	0	0	1.5

Operations and Maintenance Budget

2008 Base Budget	$632,518
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$632,518
2007 Budget	$547,452



2831 State/Federal Affairs

Departmental Description

The State and Federal Affairs department is responsible for overseeing any federal or state legislative and any regulatory matters that could impact the ISO. This department builds and maintains relationships with state legislators, Congress, federal and state administrations, and regulatory entities such as the California Public Utility Commission, California Energy Commission, California Air Resources Board, California Environmental Protection Agency, and Federal Regulatory Energy Commission and educates them about ISO operations and activities, as well as performs outreach to the California business community. This department also maintains outreach programs with local governments and agencies, community groups, and regional organizations to educate them about the ISO and to enhance reliability.

Department Workload and Initiatives

The State and Federal Affairs department is responsible for promoting and hosting the employee outreach program "Power Your Mind". This program involves promotion of guest speakers to educate the ISO employees. Our federal office will be hosting, in conjunction with other RTO's/ISO's, briefings for regulators and elected officials. The 2008 budget reflects funds necessary to be a part of such briefings.

Consistent with the ISO Business Plan and External Affairs Divisional Objectives, the External Affairs Division has two consulting contracts for the purpose of monitoring regulatory activities that could potentially impact the ISO taking place at the State and Federal levels. Consultants will provide regular reports, analyses and recommendations, and perform other duties as appropriate. Finally, professional self development goals require budget for associated training / seminar fees.

Discussion of Proposed Budget

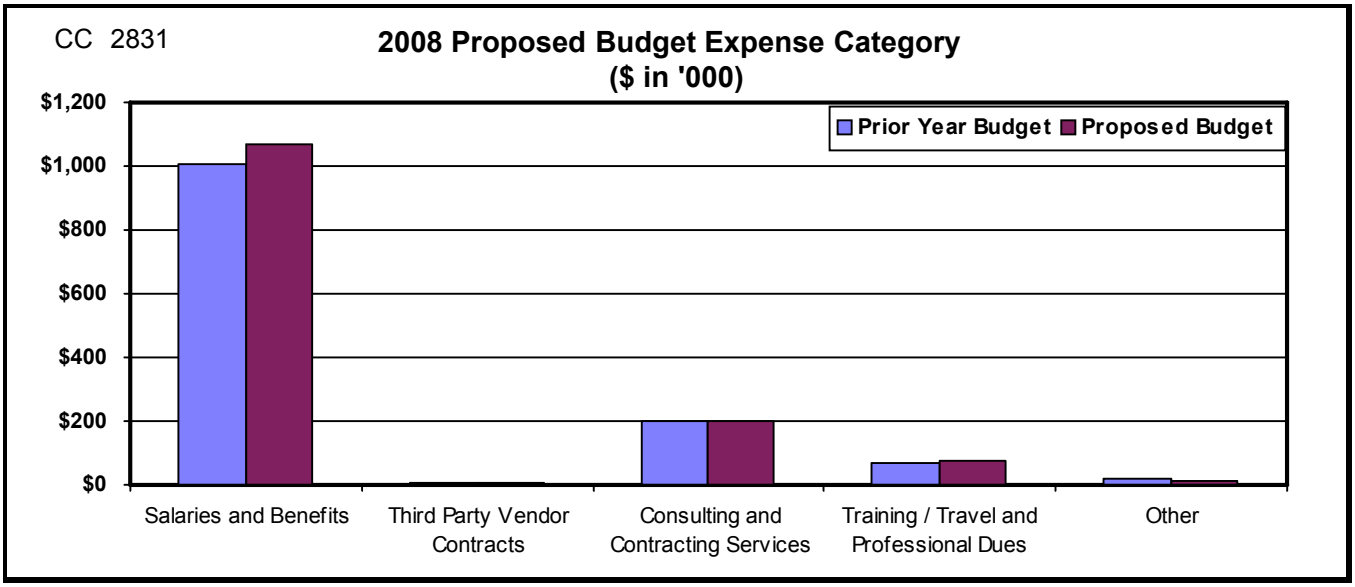
The 2008 proposed budget of $1.36 million compares with the 2007 budget of $1.3 million, which is an increase of $0.06 million or 4%, due to the 2007/2008 salary cost adjustment.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	6	6	0	0	6

Operations and Maintenance Budget

2008 Base Budget	$1,358,513
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,358,513
2007 Budget	$1,301,254



2841 Customer Services and Industry Affairs

Departmental Description

The Customer Services and Industry Affairs department is the primary business interface between the ISO and its clients and stakeholders. Key responsibilities include:
-- Manage day-to-day client business transactions;
-- Resolve policy, operational, market, settlements, and tariff issues for clients and stakeholders;
-- Develop relationships with clients and stakeholders;
-- Coordinate the ISO's involvement in external groups and forums;
-- Serve as a principal communications conduit between the ISO and market participants;
-- Manage the quality and consistency of ISO stakeholder programs;
-- Administer ISO business requirements for entities seeking to participate in ISO markets;
-- Manage comprehensive client training programs and certify market participants; and
-- Administer periodic client surveys and any subsequent action plans.

Department Workload and Initiatives

A key focus for Customer Services and Industry Affairs is providing consistent, high quality programs that add value for clients and stakeholders. Our approach to client care consists of (1) responsive transactional service; (2) senior-level relationship management; and (3) client policy issues management. We are also coordinating the ISO's participation and messaging in external forums and are implementing new approaches to the stakeholder process to optimize client and stakeholder satisfaction. The department will also serve in the role of primary client training facilitator, offering a new portfolio of client training programs for the upcoming year.

The workload increases in 2008 due to management of the new MRTU BPM Change Management Process and increased client inquiries and training associated with the new market design.

Discussion of Proposed Budget

The 2008 proposed budget of $3.98 million compares with the 2007 budget of $3.71 million, which is an increase of $0.27 million or 7%, due to 2007/2008 salary cost adjustment, increasing in consulting / temporary contract staff of $144K. The additional contracting costs are for the anticipated significant increase in client inquiries related to the transition to MRTU.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	23	23	0	0	23

Operations and Maintenance Budget

2008 Base Budget	$3,836,235
2008 Management Recommended Incremental / Decremental Programs	$143,781
Total Proposed 2008 Budget	$3,980,016
2007 Budget	$3,705,713

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 10	Client Inquiry Increase due to MRTU Implementation	Management Recommended	$143,781	
		Total	$143,781	

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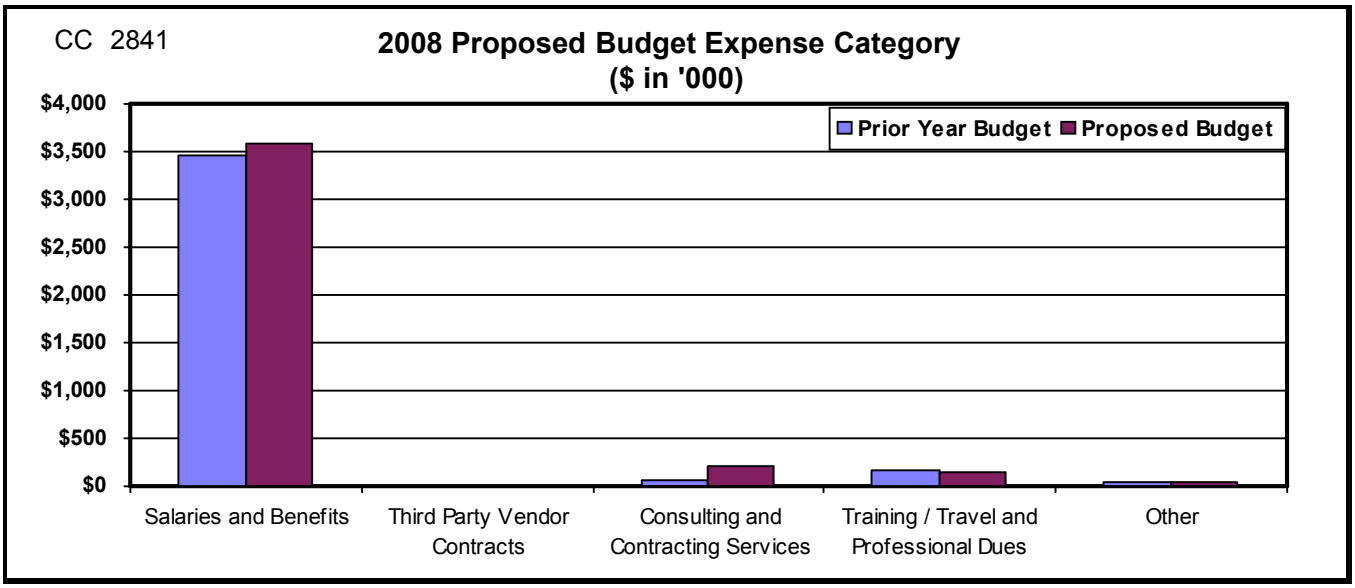

2008 Proposed Budget Expense Category
($ in '000)
$4,000
$3,500
$3,000
$2,500
$2,000
$1,500
$1,000
$500
$0
Prior Year Budget
Proposed Budget
Salaries and Benefits
Third Party Vendor Contracts
Consulting and Contracting Services
Training / Travel and Professional Dues
Other

2820 Communications & Public Relations

Group Description

This cost center is the roll-up for the following work groups:

2821 Communications & Public Relations-General
2822 Information Products & Services

Group Workload and Initiatives

The workload of the Communications & Public Relations Department is anticipated to increase in 2008 due to implementation of MRTU and the 10 Year Anniversary of the ISO as well as enhancing communications relating to the ISO's new role in fostering renewable power and demand response. We will continue to play an integral part in keeping employees informed and inspired as the company moves toward becoming one of the top grid operators in the nation. To maintain the current level of positive press relations, the department will need to continue to dedicate a large percentage of its workload to meeting the needs of reporters, while bolstering employee morale via the internal communication tools, including a new Intranet website.

Communications & Public Relations continues to see its Information Products & Services unit develop and advance as MRTU forces the re-architecting of the Internet site. Additionally, the unit will seek ways to use technology to enhance ISO products and services to internal and external audiences. A stakeholder process will be initiated to identify and collaborate on new products and services, including new ideas for improving the new Customer Portal. IP&S work also includes daily website content management, its annual cleanup, and market notice processing.

Discussion of Proposed Budget

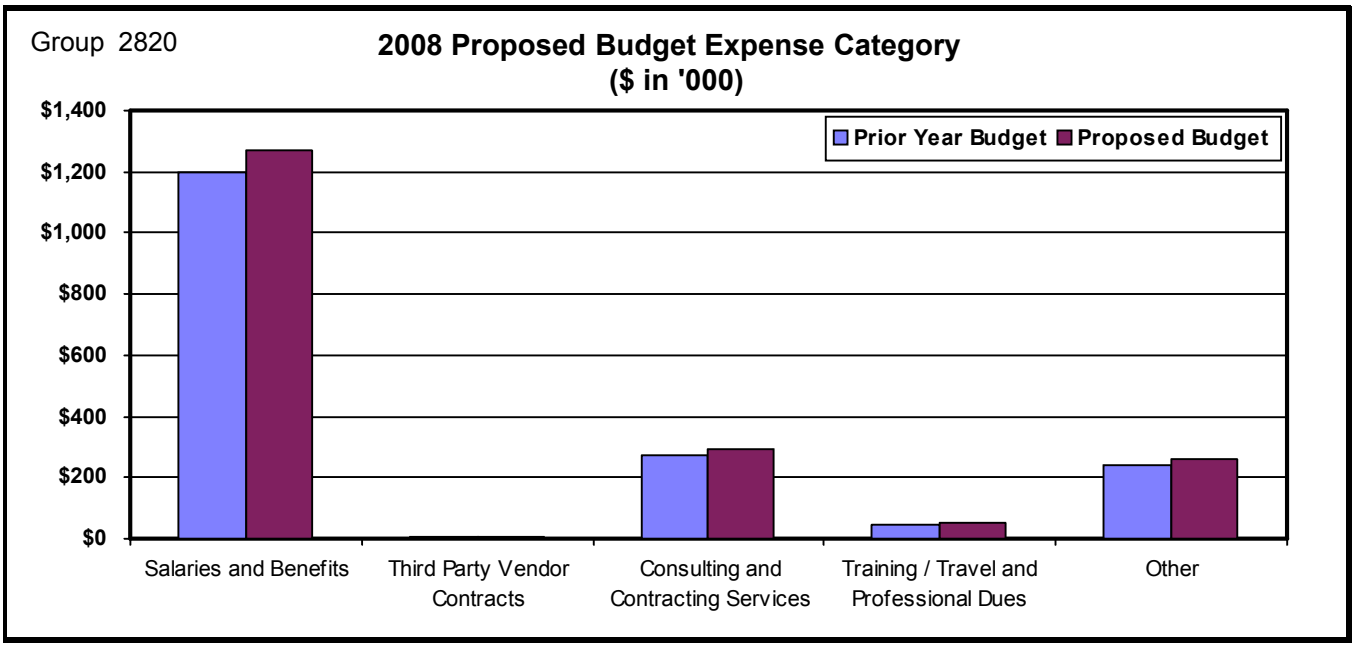
The 2008 proposed budget of $1.88 million compares with the 2007 budget of $1.77 million, which is an increase of $0.1 million or 6%. Staffing remains unchanged at 8 in both years.

Staffing

		2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
2821	Communications & Public Relations-General	3	4	0	0	4
2822	Information Products & Services	5	4	0	0	4
	Total	8	8	0	0	8

Operations and Maintenance Budget

2008 Base Budget	$1,851,918
2008 Management Recommended Incremental / Decremental Programs	$25,000
Total Proposed 2008 Budget	$1,876,918
2007 Budget	$1,772,355



2821 Communications & Public Relations-General

Departmental Description

The Communications & Public Relations Department is responsible for the Corporate Communications functions of the ISO, including internal and external communications and media relations. Some of the responsibilities of the department include:
- Serving as public information coordinators during all electrical emergencies by holding news conferences and conducting print, radio and TV news interviews, all of which play an important role in maintaining grid reliability by promoting conservation.
- Placing positive articles and stories in print and broadcast media.
- Developing and distributing news releases, advisories and media kits, and serving as media spokespersons for the ISO.
- Employee communications.
- Creating MRTU educational materials for internal and external dissemination.
- Managing Intranet website.
- Planning and executing corporate special events.
- Developing and publishing the Corporate Annual Report.
- Maintaining ISO Speakers Bureau/Speech Bank and all tours/visits to the ISO.
- Reviewing and analyzing expenditures, operations, and workflow of the unit to maximize operational efficiency of the organization.
- Coordinating development of business plans, processes, and procedures to manage internal and external communications.

Department Workload and Initiatives

Major initiatives driving 2008 workload in the Communications & Public Relations Department include the launch of MRTU and the 10 Year Anniversary of the corporation. New information campaigns focusing on the ISO's role in fostering renewable power and demand response will also accelerate in 2008. Additionally, Communications and Public Relations will be unveiling a new Intranet site that will serve as a high-tech information hub for employees, helping them maintain productivity as well as assist them with work/life balance. Communications and Public Relations will strengthen its partnership with Flex Your Power as summer 2008 approaches, with conservation efforts especially important should winter prove to be low in precipitation.

Discussion of Proposed Budget

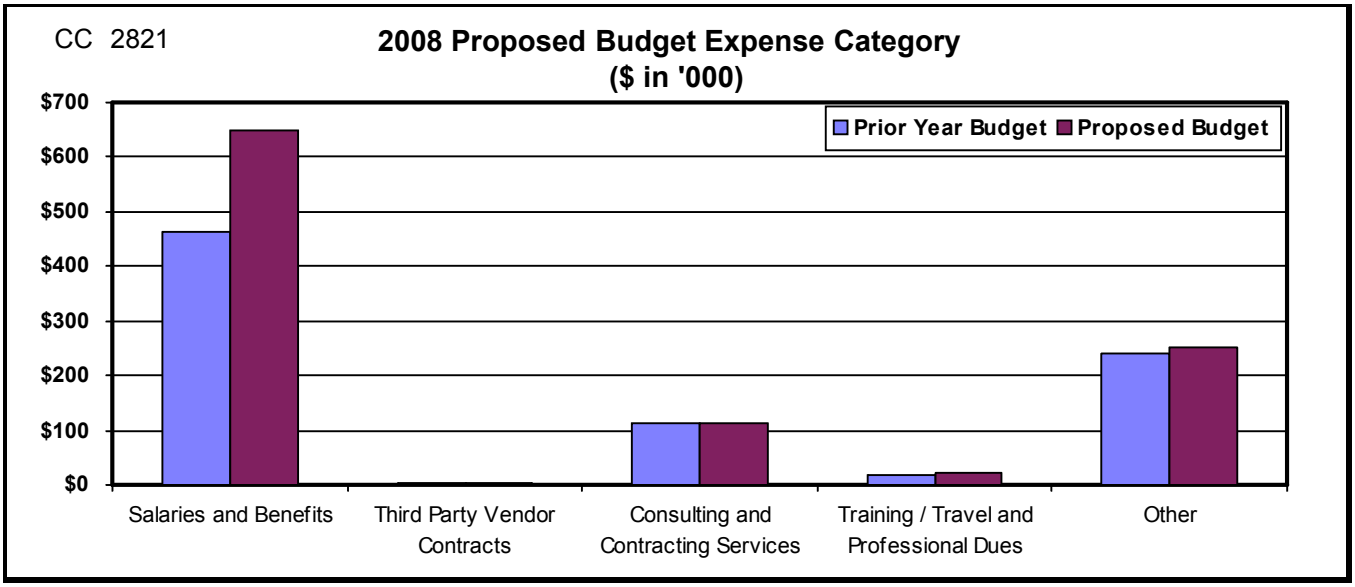
The 2008 proposed budget of $1.04 million compares with the 2007 budget of $0.84 million, which is an increase of $0.2 million or 24%. Staffing increases by one due to a transfer from the cc2821 (Information Products).

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	3	4	0	0	4

Operations and Maintenance Budget

2008 Base Budget	$1,040,078
2008 Management Recommended Incremental / Decremental Programs	$0
Total Proposed 2008 Budget	$1,040,078
2007 Budget	$839,247



2822 Information Products & Services

Departmental Description

The Information Products and Services unit is responsible for managing routine electronic communications with the external public and developing new information products and services that add value to customer and stakeholder businesses. The IP&S unit manages the corporate website and develops the design and engineering of the site. The unit also edits and distributes Market Notices (ISO communication to clients) and monitors web blogs and chat rooms for news relating to the ISO.

Department Workload and Initiatives

The Information Products and Services unit institutes processes and standards around much of the ISO's communications and information delivery to external stakeholders. The foundation for the new IP&S unit has been

established and the team is now looking to implement new technology to support and enforce these processes and standards.

In 2008, the unit will be using new infrastructure for market notice creation and distribution, as well as implementing new software for website content management. The focus in 2008 will be on seeking ways to use technology to enhance our products and services to internal and external audiences.

In addition to the daily workload of website content management, Market Notice processing, and Customer Portal management, in 2008 we are planning to: 1) Migrate MRTU project documentation to the daily operations areas on the website, 2) Conduct the annual website content clean up, working with business owners of caiso.com content to review and clean up outdated content, 3) Revisit and potentially revamp website design and content organization, 4) Implement enhancements to the customer portal to add features and functionality, including access to additional application "portlets" and customization and personalization options, 5) Conduct annual Information Products and Services project, including stakeholder interviews/requirements gathering and project planning (with internal business units) and plan management.

Discussion of Proposed Budget

The 2008 proposed budget of $0.84 million compares with the 2007 budget of $0.93 million, which is a decrease of $0.1 million or 10%. Staffing decreased from 2007 by one due to a transfer to cc2821 (Communications & Public Relations - General). This reduction was offset by the 2007/2008 salary cost adjustment. A request for additional funding for an FTE to handle the additional on-going maintenance obligations assumed due to Corporate Initiative "Provide customer portal to access Market Information and Issue Resolution Data" was reduced from $132,300 representing an FTE to $25,000 of contract costs after initial budget review meeting.

Staffing

	2007 Budget	2008 Base Budget	2008 Incremental	2008 Decremental	Total 2008 Mgmt Recommended Budget
Total	5	4	0	0	4

Operations and Maintenance Budget

2008 Base Budget	$811,840
2008 Management Recommended Incremental / Decremental Programs	$25,000
Total Proposed 2008 Budget	$836,840
2007 Budget	$933,108

Incremental Program Listing

	Program Name	Disposition	Amount	# Employees
Incremental - 1	Customer Portal	Management Recommended	$25,000	
		Total	$25,000	

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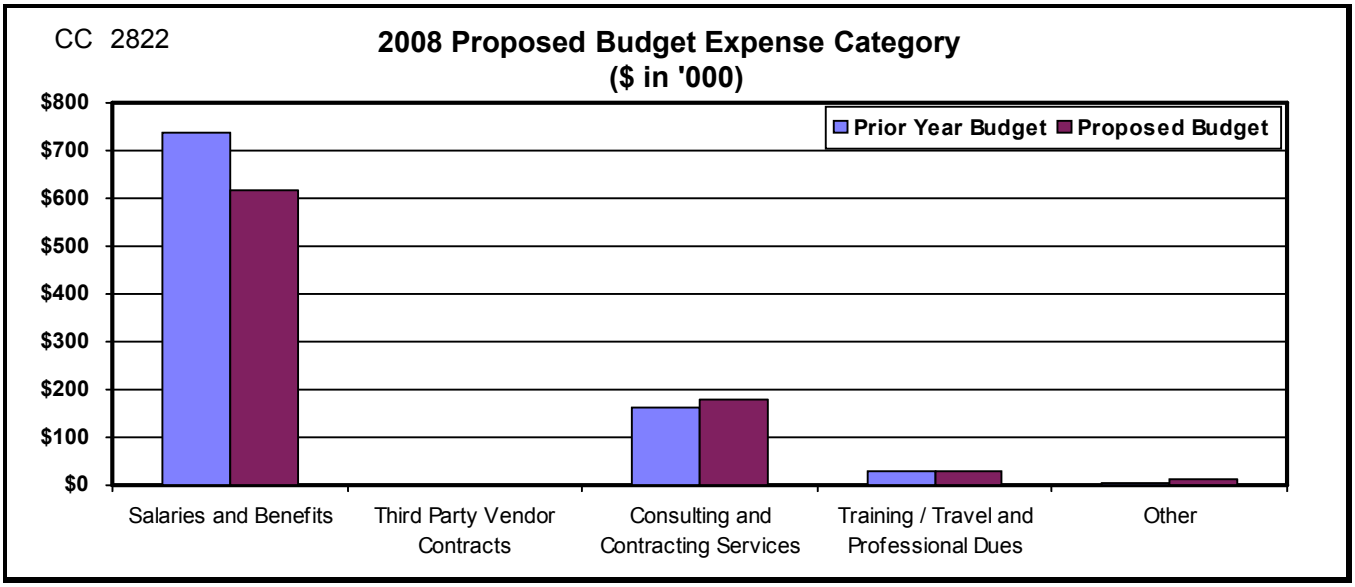

2008 Proposed Budget Expense Category
($ in '000)
$800
$700
$600
$500
$400
$300
$200
$100
$0
Prior Year Budget
Proposed Budget
Salaries and Benefits
Third Party Vendor Contracts
Consulting and Contracting Services
Training / Travel and Professional Dues
Other

VIII. DEBT SERVICE

Debt service budgeted for inclusion in the 2008 Revenue Requirement includes:

- Principal and interest on CAISO's currently outstanding Series 2000 bonds (original issuance amount $293 million, with $45.3 million outstanding as of April 2007). These bonds will be fully retired by April 2009. See the debt service schedule on the following page. Interest rates have been revised from the September 2006 budget posting reflecting lower interest costs seen as the year 2006 progressed.

- Principal and interest on CAISO's 2004 bonds. These bonds were issued in December 2004 to provide partial funding for CAISO's 2004-2006 capital projects. As of February 2008, $75.1 million of the original issue of $124.1 million will be outstanding. These bonds will be retired in early 2010. See the debt service schedule on the following page.

- Principal and interest on CAISO's 2007 bonds. These bonds were issued in April 2007 to provide funding to complete MRTU ($50 million) and other capital expenditures ($2 million). See the debt service schedule on the following page. The bonds have a face value of $60 million, and will be fully amortized in 2013.

The 2008 Revenue Requirement excludes debt service related to a planned 2008 bond issuance. This bond issuance will provide $60-80 million in funding for market design enhancements and other capital expenditures. CAISO will prepare a detailed financing plan in early to mid 2008, to be followed by a Section 204 application for authorization of the bond issuance with FERC. The ultimate size of the bond offering will be based on an assessment of Market Design Enhancement spending needs that will be determined in the near future. CAISO has excluded from the 2008 Revenue Requirement any interest carrying cost for the 2008 bonds. CAISO will pay 2008 interest costs from bond proceeds and/or earnings from the undrawn project fund proceeds. At this time, CAISO anticipates executing the bond offering in the mid-second quarter 2008, with an overall interest rate of approximately 4.5%, and a term of 5-6 years for the bonds. The bonds would be structured to facilitate a flat to declining GMC for 2009 forward.

2008 Debt Service Detail

Period		Principal Outstanding Series 2000A	Series 2000B	Series 2000C	Total 2000	Principal Outstanding Series 2004A	Series 2004B	Total 2004	Principal Outstanding Series 2007A	Series 2007B	Total 2007
2008	1	$16,800,000	$10,100,000	$ 18,400,000	$ 45,300,000	$ 57,200,000	$ 27,200,000	$84,400,000	$ 30,000,000	$ 30,000,000	$60,000,000
	2	16,800,000	10,100,000	18,400,000	45,300,000	50,900,000	24,200,000	75,100,000	$ 30,000,000	$ 30,000,000	60,000,000
	3	16,800,000	10,100,000	18,400,000	45,300,000	50,900,000	24,200,000	75,100,000	$ 30,000,000	$ 30,000,000	60,000,000
	4	-	-	3,900,000	3,900,000	50,900,000	24,200,000	75,100,000	$ 30,000,000	$ 30,000,000	60,000,000
	5	-	-	3,900,000	3,900,000	50,900,000	24,200,000	75,100,000	$ 30,000,000	$ 30,000,000	60,000,000
	6	-	-	3,900,000	3,900,000	50,900,000	24,200,000	75,100,000	$ 30,000,000	$ 30,000,000	60,000,000
	7	-	-	3,900,000	3,900,000	50,900,000	24,200,000	75,100,000	$ 30,000,000	$ 30,000,000	60,000,000
	8	-	-	3,900,000	3,900,000	50,900,000	24,200,000	75,100,000	$ 30,000,000	$ 30,000,000	60,000,000
	9	-	-	3,900,000	3,900,000	50,900,000	24,200,000	75,100,000	$ 30,000,000	$ 30,000,000	60,000,000
	10	-	-	3,900,000	3,900,000	50,900,000	24,200,000	75,100,000	$ 30,000,000	$ 30,000,000	60,000,000
	11	-	-	3,900,000	3,900,000	50,900,000	24,200,000	75,100,000	$ 30,000,000	$ 30,000,000	60,000,000
	12	-	-	3,900,000	3,900,000	50,900,000	24,200,000	75,100,000	$ 30,000,000	$ 30,000,000	60,000,000

		Principal Reserve Payments Series 2000A	Series 2000B	Series 2000C	Total 2000 Principal	Principal Reserve Payments Series 2004A	Series 2004B	Total 2004 Principal	Principal Reserve Payments Series 2007A	Series 2007B	Total 2007 Principal
2008	1	$ 1,400,000	$ 841,667	$ 1,208,333	$ 3,450,000	$ 1,633,333	$ 775,000	$ 2,408,333	$ -	$ -	$ -
	2	1,400,000	841,667	1,208,333	3,450,000	1,633,333	775,000	2,408,333	$ -	$ -	-
	3	1,400,000	841,667	1,208,333	3,450,000	1,633,333	775,000	2,408,333	$ -	$ -	-
	4	-	-	325,000	325,000	1,633,333	775,000	2,408,333	$ -	$ -	-
	5	-	-	325,000	325,000	1,633,333	775,000	2,408,333	$ -	$ -	-
	6	-	-	325,000	325,000	1,633,333	775,000	2,408,333	$ -	$ -	-
	7	-	-	325,000	325,000	1,633,333	775,000	2,408,333	$ -	$ -	-
	8	-	-	325,000	325,000	1,633,333	775,000	2,408,333	$ -	$ -	-
	9	-	-	325,000	325,000	1,633,333	775,000	2,408,333	$ -	$ -	-
	10	-	-	325,000	325,000	1,633,333	775,000	2,408,333	$ -	$ -	-
	11	-	-	325,000	325,000	1,633,333	775,000	2,408,333	$ -	$ -	-
	12	-	-	325,000	325,000	1,633,333	775,000	2,408,333	$ -	$ -	-
		4,200,000	2,525,000	6,550,000	13,275,000	19,600,000	9,300,000	28,900,000	-	-	-

		Interest Series 2000A	Series 2000B	Series 2000C	Total 2000 Interest	Interest Series 2004A	Series 2004B	Total 2004 Interest	Interest Series 2007A	Series 2007B	Total 2007 Interest
2008	1	$ 67,200	$ 40,400	$ 59,800	$ 167,400	$ 162,334	$ 77,194	$ 239,527	$ 93,295	$ 93,295	$ 186,590
	2	67,200	40,400	59,800	167,400	144,454	68,680	213,134	$ 93,295	$ 93,295	186,590
	3	67,200	40,400	59,800	167,400	144,454	68,680	213,134	$ 93,295	$ 93,295	186,590
	4	-	-	12,675	12,675	144,454	68,680	213,134	$ 93,295	$ 93,295	186,590
	5	-	-	12,675	12,675	144,454	68,680	213,134	$ 93,295	$ 93,295	186,590
	6	-	-	12,675	12,675	144,454	68,680	213,134	$ 93,295	$ 93,295	186,590
	7	-	-	12,675	12,675	144,454	68,680	213,134	$ 93,295	$ 93,295	186,590
	8	-	-	12,675	12,675	144,454	68,680	213,134	$ 93,295	$ 93,295	186,590
	9	-	-	12,675	12,675	144,454	68,680	213,134	$ 93,295	$ 93,295	186,590
	10	-	-	12,675	12,675	144,454	68,680	213,134	$ 93,295	$ 93,295	186,590
	11	-	-	12,675	12,675	144,454	68,680	213,134	$ 93,295	$ 93,295	186,590
	12	-	-	12,675	12,675	144,454	68,680	213,134	$ 93,295	$ 93,295	186,590
		201,600	121,200	293,475	616,275	1,751,330	832,669	2,583,999	1,119,540	1,119,540	2,239,080

Interest Rates:2007 Calcu	**Series 2000AB**	**Series 2000C**	**Comments**	**Series 2004A**	**Series 2004B**	**Comments**	**Series 2007A**	**Series 2007B**	**Comments**
Status:	Hedged	Unhedged		Hedged 60%	Hedged 60%		Hedged 100%	Hedged 100%	
Unhedged Rate:	4.38%	3.50%	Forecast of rates for 2007	3.56%	3.56%	Rate on 40% of bonds			
Swap Rate:				2.60%	2.60%	Rate on 60% of bonds	3.47%	3.47%	
Negative Carry with new sw	0.02%	0.00%		N/A	N/A		N/A	N/A	
Insurance Premium	0.05%	0.05%		N/A	N/A		0.02%	0.02%	Payable until CAISO ratings from S&P/Moodys >BBB+
Remarketing Fee	0.07%	0.07%		0.07%	0.07%		0.06%	0.06%	
Liquidity Facility Commitme	0.28%	0.28%		0.35%	0.35%		0.18%	0.18%	
Effective Interest Rate	4.80%	3.90%		3.41%	3.41%		3.73%	3.73%	
Average Interest on Bond		4.32%			3.41%			3.73%	

IX. Overall Revenue Requirement and Unbundled Grid Management Charge ("GMC") Calculation

CAISO costs are recovered through separate GMC charges to the users of the services provided by CAISO. CAISO expects that the rate structure that will be in effect for 2008 until MRTU implementation will be an extension of the 2004-2007 GMC Settlement Agreement[6]. Thereafter, new rates consistent with the MRTU market structure will be in effect. Service categories and billing determinants for the pre-and post MRTU portions of 2008 are listed on the following page.

Rate Calculation

The rate for each service category is calculated as follows:

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

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 (for 2000, 2004 and 2007 bonds)
- Cash funded capital / project expenditures
- Miscellaneous Revenues and Expense Recoveries
- Operating & Capital Reserves Account Credit

Cost allocation support will be posted to the CAISO website later this fall.

[6] An MRTU compliant rate structure is currently under development through a stakeholder process that commenced in the fall of 2006.

Service Categories and Related Billing Determinants-2008 Pre MRTU

The service categories and billing determinants for the pre-MRTU 2008 GMC service categories are largely unchanged from 2007 as a result of the extension of the GMC settlement until the start of MRTU in 2008, and are as follows:

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-2008 Post MRTU

The billing determinants for the MRTU compliant rate structure will be approved by the Board of Governors on December 13, and are as follows:

Table 2
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	450x
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.

Revenue Requirement					
Core Operating & Maintenance Budget		$143,055	$151,954	$ 8,899	6.6%
Add: LGIP Program		$750	$701		
Total Gross O&M		$143,805	$152,655	$ 8,850	6.6%
Financing Budget:					
Principal-2000 Debt		$40,975	$13,275		
Interest-2000 Debt		2,454	618		
Principal-2004 Debt		9,300	28,900		
Interest-2004 Debt		2,908	2,584		
Principal-2007 Debt		-	-		
Interest-2007 Debt		1,551	2,239		
Principal-2008 Debt			-		
Interest-2008 Debt			-		
Operating Reserve (25% of Principal & Interest)		14,297	11,904		
Subtotal, Financing Collection		71,485	59,520	$ (11,965)	-14.6%
Capital / Project Funding		7,500	8,500		
Subtotal, Revenue Requirement Prior to Credits		222,791	220,675	$ (2,115)	-1.0%
Less: Expense Recovery Budget:					
Interest Earnings		($2,205)	(2,205)		
Misc. Revenues		(345)	(345)		
Cost Recovery: LGIP Program		(1,032)	(968)		
COI Path Operator Fee		(2,000)	(2,000)		
WECC Reimbursement/NERC Reimbursement		(2,071)	(2,297)		
Subtotal, Expense Recovery Budget		(7,653)	(7,814)	$ (162)	3.1%
Subtotal, Revenue Requirement before Revenue Credit		$215,138	$212,861	$ (2,277)	-1.1%
Revenue Credit From Operating & Capital Reserve	Note 1	(25,248)	(21,226)	$ 4,022	-13.3%
Total Revenue Requirement		$189,890	$191,635	$ 1,745	1.0%

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.

FY2008 Revenue Requirement and Rates Detail **PRE-MRTU**
$ in 000's

	FY2007 Budget	FY2008 Budget	Change	% Change
Net Revenue Requirements by Service ($ in '000)				
Core Reliability Services - Demand (peak)	$ 40,208	$ 32,245	$ (7,962)	-20%
Core Reliability Services - Demand (off-peak)	$ 1,439	$ 1,075	$ (364)	-25%
Core Reliability Services - Energy Export	$ 6,270	$ 7,425	$ 1,156	18%
Energy Transmission Services- Net Energy	$ 71,682	$ 70,558	$ (1,124)	-2%
Energy Transmission Services- Deviations	$ 11,461	$ 12,154	$ 693	6%
Other 2004 GMC Settlement Related Collections	$ 1,577	$ -	$ (1,577)	-100%
Forward Scheduling	$ 8,822	$ 8,952	$ 131	1%
Congestion Management	$ 13,416	$ 16,300	$ 2,884	21%
Market Usage	$ 34,265	$ 42,010	$ 7,745	23%
Settlements, Metering, Client Relations	$ 750	915	165	22%
	$ 189,890	$ 191,635	$ 1,745	1%
Billing Determinant Volume Forecast				
Core Reliability Services - Demand (peak): NCP - MW-months	446,608	445,518	(1,090)	0%
Core Reliability Services - Demand (off-peak): NCP - MW-months	24,225	22,512	(1,713)	-7%
Core Reliability Services - Energy Export: MWh of exports	12,513,357	14,202,455	1,689,098	13%
Energy Transmission Services- Net Energy: MWh of Load	250,030,240	253,658,530	3,628,290	1%
Energy Transmission Services- Deviations: MWh of net uninstructed deviations	12,269,813	12,300,654	30,841	0%
Forward Scheduling: number of hourly schedules and Awarded AS bids	10,490,835	11,057,905	567,069	5%
Congestion Management: MWh of net HA scheduled interzonal flows	127,813,673	142,807,959	14,994,286	12%
Market Usage: MWh of awarded AS, IE and net Uninstructed Deviations	55,473,658	46,807,756	(8,665,902)	-16%
Settlements, Metering, Client Relations: customer months	1,500	1,829	329	22%
Grid Management Charges				
Core Reliability Services				
Core Reliability Services - Demand (peak) [$/MW-month]	$ 90.029	$ 72.3774	$ (17.65)	-20%
Core Reliability Services - Demand (off-peak) [$/MW-month]	$ 59.421	$ 47.7708	$ (11.65)	-20%
Core Reliability Services - Energy Export [$/MWh]	$ 0.501	$ 0.5228	$ 0.02	4%
Energy Transmission Services- Net Energy [$/MWh]	$ 0.287	$ 0.2782	$ (0.01)	-3%
Energy Transmission Services- Deviations [$/MWh]	$ 0.934	$ 0.9881	$ 0.05	6%
Forward Scheduling [$/schedule]	$ 0.841	$ 0.8096	$ (0.03)	-4%
Congestion Management [$/MWh]	$ 0.105	$ 0.1141	$ 0.01	9%
Market Usage [$/MWh]	$ 0.618	$ 0.8975	$ 0.28	45%
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. Costs are after apportionment of Financial & Capital Operating Reserve Credit and Other Expense Recovery budget and functional association of Settlements, Metering & Client Relations costs. The revenue requirements shown include reassignments as noted in the Partial Offer of Settlement.
* For 2007, volumes are as budgeted. Volumes for 2008 are budgeted using data through September 2007. 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. Volumes exclude COTP-related SCIDs. Forecasted billing determinants in 2008 include SWPL related volumes. Therefore, 2007 and 2008 volumes are not directly comparable.
* Discounted rates applicable to exports from the Mohave Power Plant are 35% of the Core Reliability Services - Energy Export and Energy Transmission Services - Net Energy rates. 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 35% of the discounted rate for Inter SC trades (17.5% of the rate for non-inter SC trades).
* Rates were adjusted in Q3 2007 to reflect changes in forecast billing determinant volumes for certain rate categories. The 2007 shown are as initially budgeted, and do not reflect the Q3 2007 rate change.

FY2008 Revenue Requirement and Rates Detail **EFFECTIVE WITH MRTU**
$ in 000's

	FY2007 Budget	FY2008 Budget	Change	% Change
Net Revenue Requirements by Service ($ in '000)				
Core Reliability Services - Demand (peak)	$ 40,208	$ 30,158	$ (10,050)	-25%
Core Reliability Services - Demand (off-peak)	$ 1,439	$ 1,006	$ (434)	-30%
Core Reliability Services - Energy Export	$ 6,270	$ 6,945	$ 675	11%
Energy Transmission Services- Net Energy	$ 71,682	$ 67,369	$ (4,313)	-6%
Energy Transmission Services- Deviations	$ 11,461	$ 11,924	$ 463	4%
Core Reliability Services/ Energy Transmission Services - TOR		$ 847	$ 847	N/A
Other 2004 GMC Settlement Related Collections	$ 1,577	$ -	$ (1,577)	-100%
Forward Scheduling	$ 8,822	$ 13,566	$ 4,744	54%
Market Usage - Ancillary Services and Real Time Energy	$ 34,265	$ 41,235	$ 6,970	20%
Market Usage - Forward Energy		$ 16,757	$ 16,757	N/A
Settlements, Metering, Client Relations	$ 750	$ 1,829	1,079	144%
	$ 189,890	$ 191,635	$ 1,745	1%
Billing Determinant Volume Forecast				
Core Reliability Services - Demand (peak): NCP - MW-months	446,608	445,518	(1,090)	0%
Core Reliability Services - Demand (off-peak): NCP - MW-months	24,225	22,512	(1,713)	-7%
Core Reliability Services - Energy Export: MWh of exports	12,513,357	10,304,044	(2,209,312)	-18%
Energy Transmission Services- Net Energy: MWh of Load	250,030,240	249,760,120	(270,120)	0%
Energy Transmission Services- Deviations: MWh of net uninstructed deviations	12,269,813	12,300,654	30,841	0%
Core Reliability Services/ Energy Transmission Services - TOR: MWh of exports		3,898,411	3,898,411	NA
Forward Scheduling: number of hourly schedules and Awarded AS bids	10,490,835	16,208,327	5,717,492	54%
Market Usage: MWh of awarded AS, IE and net Uninstructed Deviations	55,473,658	47,801,844	(7,671,814)	-14%
Market Usage: MWh of net purchases and sales in Day-Ahead Market		38,087,802	38,087,802	NA
Settlements, Metering, Client Relations: customer months	1,500	1,829	329	22%
Grid Management Charges				
Core Reliability Services				
Core Reliability Services - Demand (peak) [$/MW-month]	$ 90.029	$ 67.6915	$ (22.34)	-25%
Core Reliability Services - Demand (off-peak) [$/MW-month]	$ 59.421	$ 44.6780	$ (14.74)	-25%
Core Reliability Services - Energy Export [$/MWh]	$ 0.501	$ 0.6740	$ 0.17	35%
Energy Transmission Services- Net Energy [$/MWh]	$ 0.287	$ 0.2697	$ (0.02)	-6%
Energy Transmission Services- Deviations [$/MWh]	$ 0.934	$ 0.9694	$ 0.04	4%
Core Reliability Services/ Energy Transmission Services - TOR [$/MWh]		$ 0.2173		NA
Forward Scheduling [$/schedule]	$ 0.841	$ 0.8370	$ (0.00)	0%
Market Usage - Ancillary Services and Real Time Energy [$/MWh]	$ 0.618	$ 0.8626	$ 0.24	40%
Market Usage - Forward Energy [$/MWh]		$ 0.4400		NA
Settlements, Metering, Client Relations [$/month]	$ 500	$ 1,000	$ 500.00	100%

Notes:

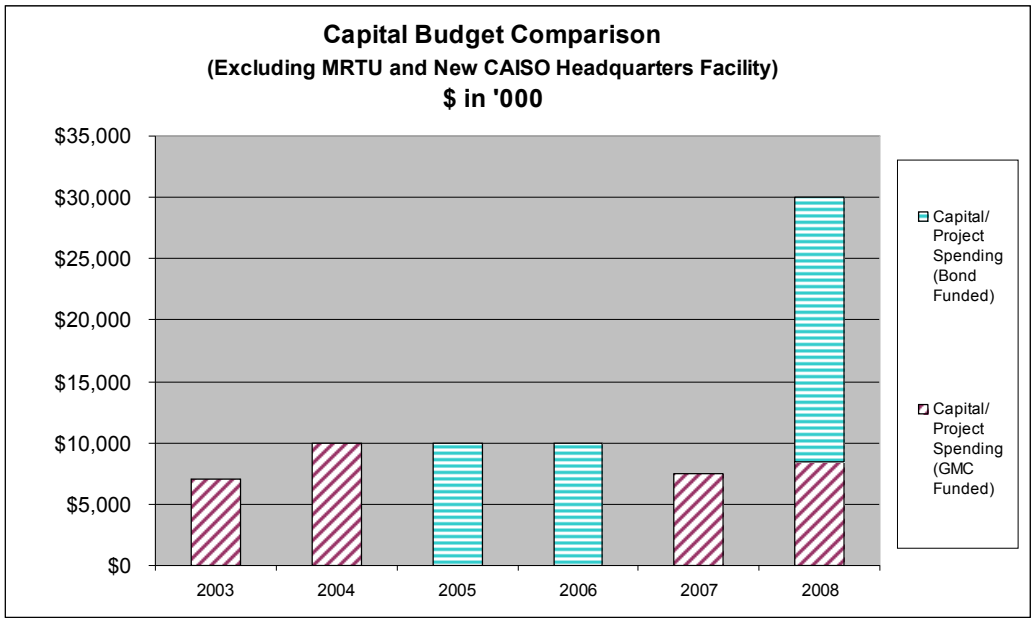
* GMC Service Categories are as described in CAISO revised GMC proposal, without the discount on Path 15 Facilitator Trades. Costs are after apportionment of Financial & Capital Operating Reserve Credit and Other Expense Recovery budget and functional association of Settlements, Metering & Client Relations costs. The revenue requirements shown include reassignments consistent with CAISO revised GMC proposal.
* For 2007, volumes are as budgeted. Volumes for 2008 are budgeted using data through September 2007. There are changes in definitions of Instructed Energy and Uninstructed Imbalance Energy for 2008. Forecasted billing determinants in 2008 include SWPL related volumes. Therefore, 2007 and 2008 volumes are not directly comparable.
* The Path 15 Facilitator Trade discount was removed per PG&E's advice that the rate was no longer needed.
* Rates were adjusted in Q3 2007 to reflect changes in forecast billing determinant volumes for certain rate categories. The 2007 shown are as initially budgeted, and do not reflect the Q3 2007 rate change.

X. 2008 CAPITAL / PROJECT BUDGET

Summary

The 2008 Revenue Requirement provides for GMC funding of $ 8.5 million will provide for the initial funding for the proposed 2008 Capital and Project Budget of $30 million. The current plan to provide for the additional funding will be a bond issue that will fund both 2008-2009 capital projects. After the completion of the 2008-2012 Strategic Plan update expected early 1st quarter, the current project listing will be validated and will again be presented to the Board of Governors with the request to authorize a bond issuance.

The current project list and budget does not include any 2008 funding for the proposed CAISO headquarters facility (which will be addressed separately early in 2008), or the funding related to the completion of the MRTU project (separately budgeted and funded at $189.2 million).



Capital / Project Budget Development Process

CAISO departments were requested to submit potential capital projects for consideration during June 2007. These projects were initially classified as priority 1-Essential, 2-Important and 3 – Not Critical, assessed against a list of corporate key initiatives from the 2007-2011 Business Plan (listed on the following page), and cross-referenced to the Enterprise Risk Inventory. The initial list of potential projects resulting from this review was published in the draft budget proposal released for stakeholder review in September 2007.

Additional reviews were then conducted subsequently to further refine the project list using the following criteria:

Categories	The project…
Corporate Objective	Is within the scope of a Key Initiative (KI) in the Five-Year Business Plan
Compliance/Regulatory	Is mandated by some regulatory body
IT Infrastructure	Is critical to the availability and reliability of our grid, market and corporate systems
Enterprise Risk Inventory Top 15 Risk Mitigation	Contributes to the mitigation of a Top 15 Risk in the Enterprise Risk Inventory as presented to the Board of Governors in 3Q 2007
Existing Project	Continuation of 2007 project , impacts if not completed
Safety/ Security/ Employer of Choice	Contributes to the safety and security of CAISO people and facilities and/or contributes to employee satisfaction
Constraints	Uses a constrained IT Resource
Resource Availability	Recognition of impact MRTU implementation schedule on CAISO resources and contractors
Market Initiative Roadmap	Are projects with the scope of this stakeholder process
Nature of Project or Previous Ranking	Placeholder projects (need not certain) Previously identified as Priority 2

CAISO Key Initiatives

KI.01 - National Reliability Standards
KI.02 - Reduce Settlement timeframe
KI.03 - Design and Build new control room
KI.04 - Implement advanced tools to support operations
KI.05 - Expand Operator Training on new advanced tools
KI.07 - Implement Long Term Transmission Rights
KI.08 - Implement Value-added market enhancements
KI.09 - Assess Capacity pricing mechanisms
KI.10 - Increase demand participation in ISO Markets
KI.11 -Increase regional outreach & coordination
KI.12 - Market Simplifications
KI.13 - Establish “third-category” of transmission
KI.14 - Integration of Renewable Resources
KI.20 - Design & Build new campus
KI.22 - Create & implement career management program
KI.24 - Develop & launch talent management program
KI.28 - Enterprise-wide issue tracking
KI.29 - Provide customer portal to Access Market information & Issue Data
KI.32 - Integrate state demand response program into Grid Ops. Build new products
CM.12 – Establish GMC consistent with Corporate Goals
CM.13 –Control of Actual Expense to Compare to Budget

The final list, that follows, includes projects identified as "Top Priorities-1" and "High Priorities -1.1". The expectation is that projects identified as "High Priorities" would be initiated in 2008 if a "Top Priority" project is dropped or deferred. The "High Priority" projects would likely be considered for the 2009 Capital budget.

This list of projects put forward is consistent with the proposed funding level, and provides an indication of the projects to be initiated during 2008. However, projects will be subject to additional review before funding, including further consideration of project need, a cost-benefit analysis, and completion of a project plan. Further, priorities may change during 2008 as a result of the completion of the 2008-2012 strategic plan update, and as a result of other developments during 2008. The Corporate Management Committee[7] will review and approve projects to be funded in 2008.

Results

The following pages contain additional detail on anticipated 2008-2009 capital and project expenditures:

[7] The Corporate Management Committee consists of the CEO, CFO, General Counsel and the Director of Strategic Planning and Executive Operations.

Exhibit: 2008-2009 Capital/Project Budget – Project Listing

Page Number	Project ID	2008-2009 Proposed Capital Projects	Comment	Priority	Cost Estimate Range
Small $0 to $500K; Medium $501K to $ 1M; Large >$1M					
		TOP PRIORITY PROJECTS			
COMPLIANCE/REGULATORY PROJECTS					
194	179	Information Security Compliance and Policy Management	Compliance/Regulatory/ Key Initiative KI.01	1	Small
196	364/400/401	Year 1 market design enhancements (Release 1A,including CB and SP)	Compliance/Regulatory/ Key Initiative KI.08	1	Large
202	395	Implement CRR market, release 2	Compliance/Regulatory/ Key Initiative KI.08	1	Large
203	399	WECC/NERC Reliability Charge Settlements - SaMC System	Compliance/Regulatory/ Key Initiative KI.01	1	Small
204	406	Enhancement of Planning and Engineering Software System	Compliance/Regulatory/ Key Initiative - KI.17	1	Medium
SUBTOTAL - COMPLIANCE/REGULATORY					**$ 10,500,000**
ESSENTIAL PROJECTS/CORPORATE INFRASTRUCTURE					
206	173/190	2008 - Computer Hardware and Software & Office Equipment Purchases	IT Infrastructure	1	Large
209	191	Field Data Acquisition Replacement Vehicle	Safety/ Cost Savings	1	Small
210	215/316	2008 Facilities Leasehold Improvements/Furniture Purchase/Access Control/Security Equipment	Safety - Employer of Choice	1	Medium
213	383	Upgrade EMS Hardware from True 64 to HP UX - & GOTS	IT Infrastructure	1	Large
N/A	N/A	Enterprise Data Repository 2007 Project Completion	2007 Project Completion	1	Small
214	429	Program Office Staff	Project Management	1	Large
SUBTOTAL - ESSENTIAL PROJECTS					**$ 7,900,000**
STRATEGIC INITIATIVES					
216	248	Modification of settlements in support of payment acceleration	Key Initiative - KI.02	1	Large
217	297	Oracle Application/Enhancements (HR/Corporate Financials)	Financial Management	1	Large
219	311	Control Room Work Environment Upgrade	Key Initiative - KI.03	1	Medium
220	354	Implement single outage Management Application -	Key Initiative - KI.04 - & ERI Top 15	1	Large
221	360	Interim Capacity Procurement Mechanism	Key Initiatives - KI.09 & ERI Top 15	1	Small
223	361	Demand Response System Integration	Key Initiatives - KI.10 & KI.32 & ERI top 15	1	Medium
225	370	Implement network application tools - dynamic stability	Key Initiative - KI.04	1	Large
226	371	Renewable Day Ahead Forecasting Tool	Key Initiative - KI.04 & ERI Top 15	1	Small
228	373	Ramp Forecasting Tool for Renewable	Key Initiatives- KI.04 & ERI Top 15	1	Small
229	388	Development of Simulation Tool for LMP Analysis	Key Initiative - KI.08 & ERI Top 15	1	Small
232	391	Development of Market Monitoring Framework within SAS EBI	Key Initiative - KI.08 & ERI Top 15	1	Medium
SUBTOTAL - STRATEGIC INITIATIVES					**$ 10,100,000**

Page Number	Project ID	2008-2009 Proposed Capital Projects	Comment	Priority	Cost Estimate Range
		TOP PRIORITY PROJECTS (cont.)			
BUDGET FOR IDENTIFIED FUTURE MARKET SYSTEM ENHANCEMENTS					
234	377	Tools to Support Market Systems and Processes	System Enhancements	1	Medium
235	393/ 394	Operational and Stakeholder MarketSystems Enhancements	System Enhancements	1	Large
239	422	Applicationenhancement for automation of manual workarounds	System Enhancements	1	Small
240	427	MQS Enhancements to Automate Manual Workarounds	System Enhancements	1	Medium
SUBTOTAL FUTURE SYSTEM ENHANCEMENTS					**$ 1,500,000**
TOTAL TOP PRIORITY (PROPOSED PROJECTS FOR 2008)					**$ 30,000,000**
HIGH PRIORITY ITEM (SUBJECT TO FUTURE CONSIDERATION)					
241	141	EMS System Enhancements	Application Placeholder	1.1	Small
242	333	Portal Enhancements	Software Applications	1.1	Medium
244	358	Enterprise Local Area Network Infrastructure Upgrade	IT Infrastructure	1.1	Large
245	374	Increase the detail of Network Model and add SCADA to Neighboring Control Areas	Software Applications	1.1	Small
246	389	Network Access Control	IT Infrastructure	1.1	Small
247	390	Wide Area Network Acceleration and Optimization	IT Infrastructure	1.1	Small
249	398	Market Clearing & Credit system enhancements	Application Placeholder	1.1	Medium
251	402	Greenhouse Gas tracking (initial specifications)	Application Placeholder	1.1	Small
252	404	Year 2 market design enhancements (Release 2) Full estimate $ 23M 5% 2008	Application Placeholder	1.1	Large
254	416	Server Monitoring Enhancement for ETE, Test, Development Server Environments	IT Infrastructure	1.1	Small
255	417	Automation of new Resource Adequacy Requirements	Software Applications	1.1	Medium
257	418	Resource Interconnection Management System (RIMS) Application - Release 2	Application Placeholder	1.1	Small
258	419	master File Application Enhancement	Software Applications	1.1	Medium
259	420	Market Operations Training Simulator (MOTS)	Software Applications	1.1	Medium
260	430	LMP Validation Software Tool for Market Validation Group - AGI	Market Enhancement	1.1	Medium
262	432	LMP Contour Graphics	Software Applications	1.1	Small
263	435	Test Infrastructure Project	IT Infrastructure	1.1	Small
TOTAL HIGH PRIORITY PROJECTS					**$ 36,000,000**

Page Number	Project ID	2008-2009 Proposed Capital Projects	Comment	Priority	Cost Estimate Range
ADDITIONAL CAPITAL PROJECTS FOR FUTURE CONSIDERATON					
N/A	134	Implement Corporate Library	Software Applications	2	Medium
N/A	216	Security Patrol Vehicle Replacement	Vehicles	2	Small
N/A	270	MSS Modifications	Application Placeholder	2	Small
N/A	274	Control Room Alarm System	IT Infrastructure	2	Small
N/A	326	Replacement O&M Budget Tool	Software Applications	2	Small
N/A	362	Development and implementation of CAISO-operated capacity market or other procurement mechanism to support long-term reliability requirements	Market Enhancement	2	Medium
N/A	363	Coordinated Day Ahead Scheduling and Congestion Management with Other Western Control Areas	Market Enhancement/ Requirements	2	Small
N/A	392	Furniture for Department Realignment post MRTU	Facilities	2	Small
N/A	408	Oracle Identity Management enhancements	Software Applications	2	Small
N/A	411	Vulnerability Assessment Toolkit Improvement	Software Applications	2	Small
N/A	412	Document Storage Repository Modernization	IT Infrastructure	2	Medium
N/A	413	Enhance/Centralized Security logging/monitoring	Software Applications	2	Small
N/A	414	Virtualized Server Capacity Expansion	IT Infrastructure	2	Medium
N/A	415	Multi-Function Device (printer/fax/copier) Project	Infrastructure	2	Small
N/A	433	EMC Hardware Refresh / Replacement (Storage)	IT Infrastructure	2	Large
TOTAL PRIORITY 2 FUTURE PROJECTS					**$20,000,000**

2008-2009 Capital and Project Budget

Project ID Project Name

179 Information Security Compliance and Policy Management

Priority	*Project Size*
1 Top Priority	Small

Impacted Systems

Security Systems

Key Initiatives

KI.01 - National Reliability Standards

Overview/Summary of Project

Information security risk is a required component in the calculation of fiscal health, safety and soundness, and related business properties. The project provides the organization a way to track, manage and demonstrate initial and ongoing compliance with regulations and standards including Sarbanes-Oxley, HIPAA, SB 1386, NERC 1200 Cyber Security Standard, SAS 70, and ISO 17799.

To conduct automated information systems risk analysis and compliance management that combines knowledge of regulatory and standards compliance with automation, the CAISO will implement a software-based solution, the advantages of which include:
- Direct and track progress towards achieving compliance with applicable standards, regulations, and policies;
- Manage the organization's complete compliance program accurately and consistently;
- Identify risk and security issues sooner;
- Increase the efficiency of security personnel;
- Demonstrate compliance effectiveness;
- Deliver comprehensive, timely and quantitative results;
- Establish consistent collection, analysis and reporting processes across the organization; and
- Demonstrate risk reduction and the value that information security delivers.

Problem Statement

With the mandatory Information Security requirements from FERC we need an automated toolset that will allow us to track and manage our compliance. Currently we don't do this at all as the manual process is to labor intensive.

Solution/Alternatives Considered

Hire more people

Business Impact

None compliance carries heavy fines.

Business Benefit

Today's business challenge is determining internally whether existing security control structures really do perform their intended functions including compliance and then proving it to a variety of regulators, business partners and other stakeholders. While financial, physical, personnel, continuity and other traditional security control structures are well-understood and tightly integrated with day-to-day operations, information security control structures for networks and systems typically are not. This lack of integration has forced the organization into several expensive and time-consuming exercises including, for example, increasingly complex standards-mapping exercises to make it easy for external reviewers to "follow the logic" of a given local implementation back to external requirements, a difficult exercise that is automated with this project.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Non-compliance with Federal regulations

Other Issues

Additional O&M impact could be approximately $40K for purchasing maintenance and support for purchased equipment if needed.

Resource Requirements from Other Departments

IT resources for installation;
All Business Units for input and setup of tool.

2008-2009 Capital and Project Budget

Project ID Project Name

364 Year 1 Market Design Enhancements (Release 1A Market Design Enhancements EXCLUDING Convergence Bidding and Scarcity Pricing)

Priority	*Project Size*
1 Top Priority	Large

Key Initiatives

KI.08 - Implement Value-added market enhanceme

Overview/Summary of Project

Several features and functions were 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. These market design enhancements are described in the frequently updated Market Initiatives Roadmap. A stakeholder scoping process is underway to rank these features and functions during the third Quarter of 2007. The items identified for implementation in the first package of enhancements will require capital budget in 2008 to begin the software design for implementation in early 2009. Potential features that are including in this Year 1 release that are in addition to Convergence Bidding and Scarcity Pricing is: 1) Re-bid Activity Rules (DEC bid rule), 2) Hourly designation of A/S instead of Daily, 3) Ramping limits of real-time pricing run of COG, 3) Aggregation of pumps and other demand (Note this item is separate from eh Demand Response Objective).

Problem Statement

The current list of potential Year 1 market design enhancements include: revised DEC Bidding activity rules, day ahead market power and unit commitment issues, and ramping limits for the real-time pricing run with constrained output generation.

Solution/Alternatives Considered

The above plan is based on the assumption that the items stated above are indeed identified as high priority items in the post MRTU Release 1 scoping process and that their target implementation date is 12 months after MRTU Release 1. If either of those assumptions prove not to be correct the above budget would have to be revised accordingly.

Business Impact

The items identified above will have significant impact on improving the reliability and market efficiency as well as customer satisfaction. ISO commitment to implementation of market design enhancements in line with prior commitments in Feb 9, 2006 MRTU filing and subsequent discussions with the stakeholders will augment CAISO's reputation and credibility.

Business Benefit

The items identified above will have significant impact on improving the reliability and market efficiency as well as customer satisfaction.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

Captured in the miscellaneous provision above.

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Other business units primarily contributing to this effort are PMO, operations, settlements, legal, and external affairs.

1. Project Manager - 1 FTE for 12 months
2. MRTU Team - 2 FTEs for 8 months
3. Market Systems (Market Operations and Settlement) 2 FTEs for 2 months
4. MPD 2 FTEs for 12 months
5. Settlements - 3 FTEs for 6 months
6. External Affairs - 3 FTEs for 2 months

Contractors:

2008-2009 Capital and Project Budget

Project ID Project Name

400 Year 1 Market Design Enhancement: Scarcity Pricing

Priority	*Project Size*
1 Top Priority	Large

Key Initiatives

KI.08 - Implement Value-added market enhanceme

Overview/Summary of Project

The current MRTU design provides for scarcity pricing for energy; however, no explicit measures are included for scarcity pricing of Reserves. In the MRTU Release, reserve prices may exceed the bid cap to the extent of the opportunity cost of energy. In other words, reserve prices will generally be limited to the sum of the prevailing bid cap for Reserves plus the prevailing bid cap for energy. The question that has faced the CAISO is whether (a) this implicit scarcity pricing (double cap) is adequate for scarcity pricing of reserves, or (b) explicit scarcity pricing for Reserves should be provided.
FERC's 9/21/06 MRTU Order (Paragraphs 1077 to 1079) found that the CAISO's proposal is too narrowly tailored, and that prices should rise to reflect the increased need for reserves and energy, whether or not the shortage arises in conjunction with a generation or transmission outage, in both the day-ahead and real-time markets. While FERC concluded that the CAISO's limited scarcity pricing proposal is a reasonable start for implementation of MRTU, the CAISO should further refine its proposal to include a more broadly-triggered reserve shortage scarcity pricing, and on a more accelerated basis, to ensure that prices are not inappropriately suppressed during periods of genuine scarcity. The Order directs the CAISO to file tariff language for the implementation of an expanded scarcity pricing methodology within 12 months of the effective date of MRTU Release 1. Furthermore, the Order directs the CAISO to develop a reserve shortage scarcity pricing mechanism that applies administratively-determined graduated prices to various levels of reserve shortage, to be implemented within 12 months after Release 1.
Scarcity Pricing would be one of the major market enhancements after MRTU startup. Following a thorough stakeholder process to finalize the conceptual policy for Scarcity Pricing, the CAISO staff will seek approval from the Board of Governors on October 17-18 to file tariff language with FERC and proceed to plan and implement the software changes for implementation. With almost all human resources currently focused on MRTU Release 1, additional resources (primarily funding for deployment of consultants) is needed to ensure that implementation of Scarcity Pricing remains on track as ordered by FERC.

Problem Statement

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Solution/Alternatives Considered

The current MRTU Release 1 has some kind of Scarcity Pricing mechanism for energy. It is narrowly tailored and does not reflect the shortage in reserve, as FERC directed. Other ISOs all have a Scarcity Pricing mechanism implemented, though in different ways.
The current RA program and the capacity pricing mechanism currently under discussion is considered as an option to Scarcity Pricing. It may provide the "missing money" to attract investments on new supply, which is what Scarcity Pricing intended to do. However, the RA and capacity pricing mechanism are long-term focused. They cannot correctly reflect the supply-demand imbalance in real-time. Scarcity Pricing can provide prices to indicate the shortage in reserve, to improve price response from Demand Response Resources (DRR), to encourage market participants to contract for long-term, and to encourage generators to increase resource availability during peak load periods by scheduling maintenance and provide emergency generation capacity according to the price signals.

Business Impact

Scarcity Pricing defines a new pricing mechanism in both Day-Ahead and Real-Time markets in case of reserve shortage. The prices of both energy and reserves will rise to reflect the level of shortage in reserve. The scarcity prices are pre-determined, but may be significantly higher than the prices allowed under MRTU Release 1. Scarcity Pricing, together with proposed Resource Adequacy (RA) resources Day-Ahead (DA) Ancillary Service (A/S) must-offer, is expected to involve changes to business rules and processes within all MRTU systems, especially IFM and SaMC. A thorough assessment of the impacted systems and processes is part of this initiative to ensure smooth implementation of Scarcity Pricing within the mandated deadline.

Business Benefit

The overall impact of this initiative would be to prepare the ISO's resources and systems for the implementation of this important market enhancement, and to demonstrate to FERC and other stakeholder's clear progress toward implementing Scarcity Pricing in the mandated timeframe.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Project ID Project Name

401 Convergence Bidding

Priority

1 Top Priority

Project Size

Large

Key Initiatives

KI.08 - Implement Value-added market enhanceme

Overview/Summary of Project

One of the first and highly demanded features that many Stakeholders and FERC have requested be implemented within 1 year of putting MRTU into production is Convergence Bidding.

451. Convergence bidding has proven to be a valuable market design feature in other LMP-based electricity markets. If included in the CAISO's market, convergence bidding could provide such benefits as improving day-ahead and real-time price convergence, as well as reducing the exercise of market power. However, while we are concerned about the lack of convergence bidding in Release 1, we also are concerned that requiring the implementation of convergence bidding with Release 1 could further delay the implementation of MRTU and its associated benefits. Clearly we agree with comments regarding the considerable benefits of convergence bidding, but we must also weigh these benefits against the importance of MRTU itself. We find that the harm of further delaying the substantial benefits of MRTU outweigh the potential benefits that are to be gained by implementing convergence bidding in Release 1.

As a result of the lack of Convergence Bidding FERC has ordered the CAISO to implement onerous less desirable features to curb under scheduling until convergence bidding is implemented.

Although some requirements will be documented in 2007 the balance of the effort will be in 2008.

Problem Statement

FERC's 9/21/2006 MRTU order requires implementation of Convergence Bidding within 12 months after MRTU startup. In order to build the ISO's capabilities to accommodate virtual bidding by this mandated deadline, an assessment of feasibility and the identification and development of software requirements for integration within the MRTU systems must be initiated even in the midst of intensive MRTU startup activities.
This "requirements phase" will encompass a functional review of Convergence Bidding's impact upon MRTU systems and processes, as well as a detailed write-up of the software requirements that can be used by vendors to implement this mandated enhancement to the MRTU markets. The focus is on thorough planning for the detailed design specifications leading to the development of software and process changes.
Convergence Bidding would be the first major market enhancement after MRTU startup, and the major component of "Release 1A." The ISO has consistently argued to FERC that Convergence Bidding cannot be implemented concurrently with MRTU Release 1 without significant delay because of the complexity and potential strain on resources. FERC has accommodated this argument by permitting staged implementation of this market feature (which is a beneficial component of current market operations at MISO, PJM, NYISO and ISO-NE); however, a significant number of market participants (chiefly generators) badly want features that permit virtual bidding as soon as possible. Thus, FERC approval for further delay of convergence bidding beyond one year after MRTU startup is highly unlikely.
Following a thorough stakeholder process to finalize the conceptual policy for convergence bidding, ISO staff will seek approval from the Board of Governors on September 6-7 to file tariff language with FERC and proceed to plan and implement the software changes for implementation. With almost all human resources currently focused on MRTU Release 1, additional resources (primarily funding for deployment of consultants) is needed to ensure that implementation of Convergence Bidding remains on track as ordered by FERC.

2008-2009 Capital and Project Budget

This project is to cover requirements development in 2008 and implementation of convergence bidding software and business processes.

Solution/Alternatives Considered

Until Convergence Bidding is in place, FERC also requires "interim measures" to address the potential for LSEs to under schedule in the Day Ahead market. Such administrative measures are sub-optimal because they impose unpopular restrictions on bidding and require extra monitoring features by the ISO and fail to take full advantage of potentially beneficial market incentives in the bidding process. As explained above, continued reliance on such "interim measures" beyond the FERC deadline for implementation of convergence bidding would be highly unpopular and controversial among most LSEs, in addition to being out of compliance with a FERC order.
The option to delay (until after MRTU startup) the deployment of new resources toward this "Release 1A" feature is not practical to meet FERC's requirement to implement Convergence Bidding no later than 12 months after MRTU startup.
The option to shift resources which are currently focused on MRTU startup to this Release 1A feature is not practical to complete all phases of MRTU implementation in the detailed timeline that has been made public, especially with significant resources of market participants dependent upon timely completion of the final phases of MRTU startup.

Business Impact

Business Benefit

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Project ID Project Name

395 Implement CRR market, release 2

Priority	*Project Size*
1 Top Priority	Large

Key Initiatives

KI.07 - Implement Long Term Transmission Rights

Overview/Summary of Project

This project will implement release 2 of the Congestion Revenue Rights auction software. The major deliverable is to implement the year 2 (and beyond) functionality for Long-Term CRR's.

Problem Statement

The CAISO has committed to market participants and FERC to implement Long-Term CRR's. This project completes the CRR functionality by implementing the functionality to provide for LT-CRR's in year 2 of the allocation/auction and beyond.

Solution/Alternatives Considered

The solution identified is the result of negotiations with Market Participants and resulting negotiations with the software vendor. There are no other viable alternatives.

Business Impact

Low.

Business Benefit

Implementation will meet the need to provide a complete LT-CRR package for the market.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

L

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Significant legal risks may exist. This functionality was explicitly ordered by FERC.

Other Issues

Little to no increase in vendor maintenance contracts expected.

Resource Requirements from Other Departments

Minor resource requirements expected.

2008-2009 Capital and Project Budget

Project ID Project Name

399 WECC/NERC Reliability Charge Settlements - SaMC System

Priority	*Project Size*
1 Top Priority	Small

Impacted Systems

SaMC - Settlements

Key Initiatives

KI.01 - National Reliability Standards

Overview/Summary of Project

Deliver the WECC/NERC mandated charge and payment collections. These charges are being implemented in the legacy system during the last half of 07, and must carry into the new system. This was unplanned and unbudgeted work.

Problem Statement

WECC/NERC fee Settlement has been assigned to CISO as a business function. (Mike E. has additional details)

Solution/Alternatives Considered

Charge, collect and disburse the fees through the SaMC system.

No other viable alternative exists.

Business Impact

Non-compliance should the project not be implemented.

Business Benefit

Credibility with WECC/NERC. This project meets market participants expectations.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

WECC/NERC penalties. Possible sanctions to the ISO.

Other Issues

Business process may involve other departments.

Resource Requirements from Other Departments

Accounting and Finance. Possible communications issues from External Affairs.

2008-2009 Capital and Project Budget

Project ID Project Name

406 Enhancement of Planning and Engineering Software System

Priority	*Project Size*
1 Top Priority	Medium

Impacted Systems

N/A

Key Initiatives

KI.17 - High Priority Transmission Projects

Overview/Summary of Project

As part of Strategic Objective 3, PAID will provide the technical analysis necessary to fully understand the ramifications on system operations associated with various policy choices such as those related to the development of renewable resources and increased demand response programs and participation in the ISO markets. PAID must also address more fundamental needs for information by developing a comprehensive transmission plan that identifies transmission bottlenecks, where to interconnect new resources, long term transmission rights, and transmission congestion through a robust, transparent transmission planning process. PAID's computer modeling and analysis tools are the foundation upon which this work is done. As the technical analysis demands increase, newer and better modeling software is needed to facilitate the results driven efficiency of all Regional Transmission engineers. Further, with the continued implementation of the CPUC's RA program and the ISO's effort in Accessing Capacity Pricing Mechanisms, new computer tools and models will be required for PAID to support these strategic efforts.

Problem Statement

There are two key components of this project. The first is to transition from existing GE power flow/stability power system simulation software to the Siemens' PSS/E power flow/stability power system simulation software and to transition from the ABB GridView production cost software to PLEXOS. For Siemens' PSS/E, the modeling and mapping capabilities are better; PAID already uses Siemens MUST for generator deliverability analysis which required PSS/E; provides for the use of a common database to be used across all Siemens software products. For the transition from GridView to PLEXOS; the Department Market Monitoring and the Market & Product Development Department use PLEXOS for their analysis; as such, they do not support any work produced from other production cost simulation software. PAID uses this production cost simulation to perform economic analysis on transmission alternatives. PAID needs to transition to PLEXOS so that a common simulation model and database are utilized company wide.

Second, the CPUC RA and the ISO's effort to consider development of a Capacity Market will require that PAID acquire and learn how to use a probabilistic reliability assessment software package to conduct loss of load probability analysis. PAID's program of choice is the GE MARS program. The software will be leased and a database will be purchased.

Solution/Alternatives Considered

Transition to PSS/E: other programs are Power World and V&R. Power World does not have a stability program which is crucial to PAID's work. V&R, while used by some WECC members, is not a widely used program within the Western Interconnection, especially California. PSS/E is more widely used within WECC and has a much wider support base among the PTOs.

Transition to PLEXOS: transition to a common production cost simulation software within the ISO will reduce licensing costs, bring parity to economic evaluation across the corporation, allow PAID to work with M&PD who only utilizes and trusts PLEXOS, creates the opportunity to create a common simulation database within the ISO. Other simulation software options exist, but M&PD will only use and rely on PLEXOS results.

2008-2009 Capital and Project Budget

Acquire Reliability Software: In order for PAID to move forward in supporting M&PD in the Capacity Market analysis, PADI must procure probabilistic software and databases. PAID does not currently have this software capability in-house. While GE MARS is preferred because it is widely utilized by the eastern ISOs, several alternatives exist. Further analysis is required to fully evaluate the correct software for the ISO.

Business Impact

Business Benefit

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

Resource Requirements from Other Departments

IT for software and database installation

2008-2009 Capital and Project Budget

Project ID Project Name

173 Computer Direct Purchases - Hardware and Software & Office Equipment - Annual Request 2008-2009

Priority	*Project Size*
1 Top Priority	Large

Impacted Systems

Computer Equipment

Overview/Summary of Project

This proposed program for FY2008 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 FY2008
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, and HPOV.

Problem Statement

This is the funding mechanism to allow IT to maintain desktop (towers, laptop and monitor) refreshes for old equipment. This program supports the five year plan for maintaining a robust computing environment through system refreshes. The planned refreshes follow industry best practices of replacing equipment older than 3 years. This is also the funding mechanism to replace raised floor server technology that is not being upgraded by other projects such as MRTU or those identified in this budget cycle.

Solution/Alternatives Considered

IT has worked with SAIC on user profiles and an equipment refresh timeline that identifies groups for desktop equipment refresh on a quarterly basis each year. The equipment refresh plan is based on best practices of three years. In other words, replacing equipment every three years for the sake of reliability and system compatibility. Additionally, IT has an ongoing server refresh program to identify systems that are beyond three years of life, in order to consolidate and upgrade equipment that will not be changed out with MRTU or other identified projects.

Business Impact

This program impacts the efficiency of all IT groups and their ability to deliver service to business groups and individual users.

This funding is used for hardware and software procurements as outlined above, providing new, replacement, or

modifications to existing IT platforms that support the personnel, and ultimately the applications for the Electricity Grid and Market.

This program provides an efficient, proven way for the ISO to control, report and approve miscellaneous, non-project IT requests. As managed by Asset Management for the past five years, this program is diligently tracked and provides detail when necessary, in support of additional projects.

Business Benefit

This program provides funding for hardware and software in support of organization according to these parameters:
- Useful life of item exceeds 1 year
- Unit is a traceable asset (desktop, laptop, monitor, printer, server, or software license)

Items that are expensed to O&M, rather than Capital, would include:
- Useful life of item is less than a year
- OR, item is a component or bulk item and is not tracked (hard drives, memory upgrades, removable media)
- Item supports existing functionality, or system

This funding, in addition to giving the ISO a mechanism to remain compliant in all areas of software licensing, also supports asset tracking through capital accounting and depreciated according to Finance requirements, and consolidates the expenses.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

C

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

If this funding is not approved, the IT division, and all other divisions, have no other budget to buy new desktop equipment to replace old equipment, fund net new desktop equipment to the environment, replace aging server infrastructure that is not part of another project.

Other Issues

O&M funds have been budgeted in the Asset Management budget to accommodate the maintenance related to purchase of Capital hardware and software. This funding is based on a formula of approximately 25% of the software license cost for software maintenance, approximately 20% of the hardware cost for annual hardware maintenance. The final O&M budget amount is dependant on the total approved capital budget.

Resource Requirements from Other Departments

This project request is for funding for IT hardware and software for all ISO systems that are subject to new purchase or replacement in 2008. It is unknown at this time how many "sub projects" this funding will support, and how those projects will be defined.
For example, a sub project funded by this request could be to replace servers for a miscellaneous system for which a mini project plan would need to be developed to include the transition of the old servers to the new servers, and the disposition of the new servers.
Another example, would be the purchase of new software licensing for expanded use or true up purposes such as Oracle or Actuate. In this case a deployment plan would need to be created.
In either case, it is unknown in June 2007 what the resources needs or constraints are for this funding.

2008-2009 Capital and Project Budget

Project ID Project Name

190 PI Server / storage upgrades

Priority	*Project Size*
1 Top Priority	Small

Impacted Systems

EMS

Key Initiatives

KI.01 - National Reliability Standards

Overview/Summary of Project

PI is a mission critical historical archiving tool that the CAISO has developed to add extreme value to our organization. We are at the limit of our licensed point count and the expanded State Estimator alone will require thousands of additional points. The point count addition will allow CALISO to maintain full access to all of the archived data. The point count needs to be 250000 in all PI environments. The corresponding storage expansion will make the development system like the production configuration so the testing and development better surfaces problems during production implementation of any changes. The production PI storage needs to be expanded by 500MB for all PI servers to accommodate the expanding archive for the next 18 months.

Problem Statement

PI is a mission critical historical archiving tool that the CAISO has developed to add extreme value to our organization. This work is needed so the performance and system capability does not deteriorate at the point count and archive depth naturally expand.

Solution/Alternatives Considered

Business Impact

There are two components to this project the point count addition and the storage expansion. If these are not completed CALISO will have to reduce the data that is currently archived and the length the it is stored. Both aspects of the work can be done in a staged manner that will not impact production PI availability.

Business Benefit

PI is one of the most intensely used systems at CALISO. The proposed additions will allow CALISO to continue to use the archived EMS data for control and market functions.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

M

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

If other projects (Phasor Data, Sub-second Frequency, State Estimation, Visualization, Etc.) require a significant number of additional PI tags then it might become necessary to further expand our licensed point count.

Resource Requirements from Other Departments

Pi system availability and performance is relied on by almost all departments at CALISO.

2008-2009 Capital and Project Budget

Project ID Project Name

191 Field Data Acquisition Replacement Vehicle

Priority	*Project Size*
1 Top Priority	Small

Key Initiatives

CM.13 - Impacts to actual O&M Expenses

Overview/Summary of Project

Replacement of three CA-ISO vehicles with newer models. The current, high-mileage vehicles are at risk of maintenance failures while our field engineering staff are at remote locations. Vital monitoring of generation metering and telemetry through Remote Intelligent Gateways (RIGs), Data Processing Gateways (DPGs) and Revenue Meters helps the ISO to meet its obligation of reliably operating the ISO Control Area. The Field Data Acquisition Services department engineers provide critical audit functions for these components.

Problem Statement

Solution/Alternatives Considered

Business Impact

Field audits are required to be completed in a timely manner per our tariff . They ensure that the meter data later used for Settlements and operational purposes are accurate and complete. The vehicles used by the engineers ensure they are able to reach their sites in a safe manner to perform SAS-70 required business control audits.

Business Benefit

Vehicle replacement will ensure the ability of the Field Data Acquisition group to perform Metering field audits and provide assistance to RIG and DPG real-time ISO generation SCADA device project and maintenance personnel. RIG and DPG site project meetings are required during the installation and commissioning of the RIG and DPG devices, requiring travel to and from the customers' facility.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

Many sites are located in remote locations, which require a 4 wheel drive vehicle due to the rough terrain and adverse weather conditions. Many site owners will only permit 4 wheel drive vehicles to access their sites.

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Project ID Project Name

215 Physical Security Systems Modification and Enhancement (Marsh Recommendations)

Priority	*Project Size*
1 Top Priority	Small

Impacted Systems

Security Systems

Overview/Summary of Project

Modification and enhancement of physical security equipment, including access control and related facility modifications, as identified by the Marsh Report and supported by previous internal assessments.

Problem Statement

In early 2007 Marsh completed a security assessment as part of an overall review of the ISO's response to the March 15 incident involving a disgruntled contractor. This project request funds to incorporate the Marsh Recommendations that are supported by ISO Security Management.

Most of the recommendations made in the Marsh Security Assessment were known issues. Major hardware and software components of the access control system and related security tools have been in place since start up. Periodic replacement, modification and/or enhancement is likely to continue. Additionally, changing business requirements frequently require increased physical access controls.

Solution/Alternatives Considered

The recommendations were evaluated against a set of internally established criteria including, difficulty to incorporate, total costs, the specific risk the recommendation address, the actual benefit incorporating the recommendation would have, and how long the recommendation would be useful.

Business Impact

Incorporating these recommendations will:

1. Bring the level of physical security systems in Alhambra to a level consistent with Folsom.
2. Specifically address the "Critical" recommendations and allow targeted implementation of High Risk/High Benefit recommendations

Business Benefit

Allows the ISO to maintain a reliable and effective access control infrastructure and respond to changing business needs.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

M

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

The level of risk associated with not implementing theses security recommendations has increased due mainly to the fact that they have been documented and tied to a specific malicious act. If future malicious acts were to occur and these recommendations were not incorporated there may be a perception that we could have/should have done more

Other Issues

2008-2009 Capital and Project Budget

Resource Requirements from Other Departments

IT Project Management, Facilities support for installation

2008-2009 Capital and Project Budget

Project ID Project Name

316 2008 Facilities Leasehold Improvements/Furniture Purchase- Annual Request 2008 & 2009

Priority	*Project Size*
1 Top Priority	Small

Impacted Systems

Facilities

Overview/Summary 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, and 4) misc. installations for small projects, misc. data center electrical installations ,Boiler for 101 and 151 buildings, 5] Costs for moves of employees to accommodate realignment structure.

Problem Statement

Boiler, required by municipal code, -furniture/equipment failure - requiring replacement.

Solution/Alternatives Considered

Upgrade as required, annual leasehold situations that cannot be forecasted

Business Impact

Reliability and lessening of Employee of Choice Initiative-

Business Benefit

This project will reduce the number of smaller projects that need to be presented to the CMC for approval.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Code violations, equipment non functioning, employee satisfaction

Other Issues

n/a

Resource Requirements from Other Departments

n/a

2008-2009 Capital and Project Budget

Project ID Project Name

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

Priority	*Project Size*
1 Top Priority	Large

Impacted Systems

EMS

Key Initiatives

KI.01 - National Reliability Standards

Overview/Summary 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.

Problem Statement

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.

Solution/Alternatives Considered

HP is the sole provider of hardware to ABB Network Manager

Business Impact

There are over app. 46 HP Servers that make up the various EMS systems (including production, QAS / PDS / Training Simulators etc). All HP True 64 hardware will be changed out.

Business Benefit

Having our most critical system on a highly supported platform and maintained with ABB's Application development.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

This project will have to happen eventually regardless of 2007 timetable. Our HP support and ABB support will go away in 2010.
The O&M support costs for True 64 are increasing every year.

Other Issues

Resource Requirements from Other Departments

EMS, Unix, NetApps etc.;

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Project ID Project Name

429 Capitalized Labor for portion of Project Management Office

Priority	*Project Size*
1 Top Priority	Small

Impacted Systems

N/A

Overview/Summary 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 Management 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 2 project managers in the PMO are assumed to be dedicated and directly contributing to capital projects. It is assumed that the PMO Manager is providing administrative oversight to the PMO, 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.

Other Issues:
The "IT Projects Group" also contains CAISO staff that work extensively on capital projects. The same treatment could be used for that group. The costs shown for this capital program do not at this time provide such treatment for the IT Projects Group.

The staff in the MRTU cost center were removed from the O&M budget in 2007. These staff will need to be returned to the O&M budget in 2008 unless they are dedicated to other capital projects.

Problem Statement

The following issues also are to be addressed related to this program:
1. Staff to be capitalized in this manner should be assigned to a separate cost center.
2. Staff will need to record their time spent on capital projects to the Oracle ATM system.
3. Rather than establishing a separate capital project in the budget, budgets for the projects that such staff will work on could (should) be increased to accommodate the project manager's time.

Solution/Alternatives Considered

Business Impact

Business Benefit

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Accounting for CAISO staff that work on capital projects should be consistent, clear and in conformance with the appropriate accounting guidelines. Further, it should allow CAISO to appropriately set and manage the funding sources for such costs, specifically-- all funding comes from either annual GMC collections, or from bonds. For 2008, the funding for CAISO's capital projects will be from a bond offering. It is appropriate that the costs of PMO

staff dedicated to capital projects be funded from the bond proceeds (CAISO has used bond funds to reimburse for CAISO staff costs on capital projects). Accordingly, it is appropriate to align the budget and actual accounting treatment for such staff.

Other Issues

This program moves costs from the O&M budget to the Capital Budget.

Resource Requirements from Other Departments

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Project ID Project Name

248 Modification of Settlements in support of Payment Acceleration

Priority	*Project Size*
1 Top Priority	Large

Impacted Systems

SaMC - Settlements

MV- 90 MDAS

N/A

Key Initiatives

KI.02 - Reduce Settlement timeframe

Overview/Summary of Project

The existing interfaces to/from the Settlement system must be modified to accept estimated meter data in support of the Payment Acceleration initiatives that is expected to be implemented in 2008 (about 6 months after MRTU go live).

Problem Statement

The current payment timeline is one of the longest in the country. This long payment timeline puts creditors at risk of default, which is offset by higher credit requirements from debtors.

Solution/Alternatives Considered

Shorten the payment timeline, bringing it in line with other ISO's. This will significantly reduce market risk, and costs to participants.

Business Impact

- Delay in implementation of Payment Acceleration

Business Benefit

- SaMC will be able to get estimated meter data to support Payment Acceleration calculations.
- Continue support of Rerun process and settlement dispute process involving dates before the implementation of SaMC.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Significant credit cost to market participants, which also creates an entry barrier for new participants.

Other Issues

Need a clear coordination between the Settlement system and other legacy systems (Compliance, Master file, Market Systems, and Metering System) to implement any interface changes.

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Project ID Project Name

297 Oracle Ebusiness Suite Enhancements (HR/Corporate Financials)- 2 year Project

Priority	*Project Size*
1 Top Priority	Large

Impacted Systems

Oracle Financials/HR

Key Initiatives

CM.13 - Impacts to actual O&M Expenses

Overview/Summary of Project

Implementation of already purchased Oracle Applications to improve productivity and efficiency within the HR and Finance departments through integration and the availability of self-service functionality. The primary impact of this project is to eliminate back-end manual work-a-rounds in the Finance and HR departments. Create a self-service environment for employees that will reduce backend workload on HR and Finance.

Problem Statement

We upgraded our Oracle Software to 11.5.10.2 in 2006, which now allows us to continue installation of additional software modules that were purchased as far back as 2001, as well as enable functionality to streamline operations within the HR and Finance departments.

Solution/Alternatives Considered

Install/Implement Oracle E-business Suite applications; iRecruitment, Standard Appraisals integration with Compensation Workbench, Oracle Learning Management, Project Management, OTL integration with Projects, and Contract Management. We will also be looking to enhance our previous implementations of iExpense, iProcurement, and ATM by phasing in additional functionality and improvements. These tools will allow the ISO to integrate business functions and streamline processes. Certain applications will require additional license costs (Oracle Learning Management and Project Management) and additional hardware to allow external users access (Oracle Learning Management and iRecruitement).

Business Impact

We will retire old Microsoft Access applications by adding integrated online business functionality to our existing Oracle Financials software. Increased efficiencies will lead to cost reductions and free up resources that have been otherwise working manual processes.

Business Benefit

Efficiency, automation, and process control.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

We will continue to leverage our investment in the Oracle Financials software which the company has used since start-up.

Resource Requirements from Other Departments

HR Analyst
IT Analyst and Engineers

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Finance Analyst
Project Manager

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Project ID Project Name

311 Control Room Work Environment Upgrade

Priority	*Project Size*
1 Top Priority	Medium

Key Initiatives

KI.03 - Design and Build new control room

Overview/Summary of Project

This project funds new dispatch consoles, Audio Visual equipment, and electrical to the Folsom and Alhambra Control Room.

Problem Statement

Solution/Alternatives Considered

Business Impact

Dispatching electricity is one of ISO's core functions and the space dedicated to a core function needs to meet the requirements of the end user.

Business Benefit

This project will update the Folsom control room and enhance the dispatcher's ability to not only perform their job on a day-to-day basis but also during Grid and Market emergencies.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

Resource Requirements from Other Departments

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Project ID Project Name

354 Implement single outage Management Application - Two Year Project

Priority	*Project Size*
1 Top Priority	Large

Impacted Systems

SLIC

EMS

Key Initiatives

KI.12 - Market Simplifications

Overview/Summary of Project

"Initiative created by ACN team based upon analysis of Ops application structure; Outage components are separated among multiple applications and this initiative was added to achieve high performance via a single Outage application that can closely integrate with EMS and Market applications. This integrated outage management capability would be part of the EMS and Market applications, not integrated with the EMS and Market applications. This would be a multi-year project.

Problem Statement

All transmission & generation outages are currently handled in SLIC. There is currently a disconnect of getting SLIC information into SE/EMS. This extends to getting information back and forth between the two.□□CAISO already has this functionality and based on previous investigations, existing vendor applications do not meet the needs of the CAISO Operations and Market structure."

Solution/Alternatives Considered

1. Automate Process (recommended)
2. Do Nothing (does not allow update of NM required for MRTU (not recommended)
3. Manual entry of outages into NM for use by MRTU; requires undetermined number of additional qualified FTEs (not recommended)

Business Impact

Business Benefit

Efficiency, accuracy, timeliness of data into Network Model for use by MRTU.
Avoid additional FTEs

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Ø□Internal MRTU preparedness
Reduced, accuracy and timeliness of data entry into Network Model for use by MRTU

Other Issues

TBD

Resource Requirements from Other Departments

TBD

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Project ID Project Name

360 Interim Capacity Procurement Mechanism

Priority	*Project Size*
1 Top Priority	Small

Key Initiatives

KI.09 - Assess Capacity pricing mechanisms

Overview/Summary of Project

The ISO will have made a tariff filing for the successor to the RCST, the Interim Reliability Requirements Mechanism, in September 2007: A FERC order is expected in mid-November 2007, which will require a compliance filing in late December 2007. It is likely that there will be some topics that may require further effort in the first quarter of 2008 by MPD and Legal to submit additional materials to FERC. It also is possible that the expected November 2007 FERC order could set some topics for settlement discussions. This budget item covers the development and implementation of the business requirements.

It also is worth noting that there will be some implementation work required in 2008 to arrange for a mechanism to settle the new tariff provisions outside of the SaMC system. Such settlement mechanism is likely to be in use for 6-18 months (estimated) after the MRTU Go Live date.

Problem Statement

An transitional reliability capacity service backstop mechanism needs to be developed for implementation prior to 1/1/2008. A backstop is necessary to fill any un-satisfied reliability requirement under the Resource Adequacy provisions established by the CPUC and other Local Regulatory Authorities. RCST-2 would have integrate with MRTU. RCST-1 was only intended to be in place to start of MRTU.

Solution/Alternatives Considered

Alternative 1: No backstop mechanism and rely strictly on RA
Con: May not satisfy reliability needs.

Alternative 2: Rely on direct contracting ability
Con: Based on past summer reliability procurement term and cost of capacity via direct contracts will be expensive and non-transparent.

Alternative 3: Expand RMR criteria and maintain RMR contracts
Con: Objective is to reduce RMR contracts

Business Impact

The impact of an RCST-2 produce will be similar to the effort to implement RCST-1 but would be integrated into new MRTU business processes.

Business Benefit

RCST-2 would provide the business a transparent, tariff based approach for ensuring sufficient reliability capacity is available when and where needed. This will emulate the need for continuation of RMR.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

M

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

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If RCST-2 is not implemented in conjunction with MRTU, there is a risk that the CAISO will not have sufficient means to acquire capacity to meet reliability requirements that have remained un-satisfied by the RA showings and procurement.

Other Issues

After policy is developed and approved, this project will require an expansion to Master File, SIBR and IFM/RTM Obligation rules similar to RA reliability requirements. In addition, Settlement modifications are required to ensure such backstop capacity can be settled and allocated consistent with adopted policy.

Resource Requirements from Other Departments

1. Project Manager: 1 FTC/FTE 6 months
2. Market System Analyst: 1 FTC 3 months
3. Settlement Analyst: 1 FTC 3 months

Vendor contract likely need to make SIBR/IFM modifications

4. Training: 1 FTE 1 month
5. Other 6 FTE 1 month

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Project ID Project Name

361 Demand Response System Integration

Priority	*Project Size*
1 Top Priority	Medium

Impacted Systems

EMS

SaMC - Settlements

Key Initiatives

KI.10 - Increase demand participation in ISO Market

KI.32 - Integrate state demand response program in

Overview/Summary of Project

As part of the CAISO's reliability and market efficiency objectives, the CAISO is looking to further incorporate the economic and emergency-relief benefits provided by demand response. 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. For example, the CAISO needs to ensure that it does not over procure in RUC by not accounting for economic demand response products in the load forecast. Additionally, the CAISO needs to investigate how aggregated demand response products can be woven into the CAISO's LMP based market/model so that they are effectively dispatched and don't exacerbate congestion. On the market systems side, SIBR needs to allow for multi-segment, three-part bids in and account for load ramping and incorporate the equivalent of start-up and min-run time characteristics for demand response.

Problem Statement

Solution/Alternatives Considered

Prospects for Enhanced Participating Load
Original MD02 conceptual design included comprehensive Participating Load model
Voluntary 3-part bids similar to generators' start-up/ minimum-load cost/ multi-segment energy bid, RUC participation, load aggregation, multiple markets (DA & RT), non-spin eligibility, run-time constraints, etc.
Original design included option for scheduling at local or aggregated levels, but overall MRTU design changed to scheduling Load at highly aggregated level.
Dispatch is needed at physical location.
Participating Load model could not be adapted in time for Release 1.
Participating Load model was partially developed, and can be restored as a market enhancement
Timing = TBD

A full Dispatchable Demand Resources model can consist of:
Three-part bid: Load curtailment cost, Minimum load reduction cost, Energy bid
Load curtailment time (time to begin curtailing load)
Minimum load reduction time (minimum operating time after load curtailment)
Minimum base load time (minimum time in normal operation after load restoration)
Maximum number of daily load curtailments
Load drop rate
Load pickup rate
Non-spinning reserve capacity (load reduction within 10 minutes)

Comparability to Generation
Dispatchable Demand Resource□Generator Resource
Load Schedule□Base Load
Minimum load reduction□Minimum generator output
Minimum load□Maximum generator output

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Load curtailment time□Start-up time
Minimum load reduction time□Minimum up time
Minimum base load time□Minimum down time
Maximum number of daily curtailments□Maximum daily start-ups
Load drop rate□Ramp up rate
Load pickup rate□Ramp down rate
Load curtailment cost□Start-up cost
Minimum load reduction cost□Minimum load cost

Business Impact

Business Benefit

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

Resource Requirements from Other Departments

MRTU Team 2 FTE for 1 month
EMS 1 FTE for .5 month
Market Systems (Market Ops and Settlements) 2 FTE .5 month
MPD 1 FTE for 1 month

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Project ID Project Name

370 Implement Network Application Tools - Dynamic Stability

Priority	*Project Size*
1 Top Priority	Large

Impacted Systems

Network Applications

Key Initiatives

KI.04 - Implement advanced tools to support operati

Overview/Summary of Project

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

Problem Statement

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.

Solution/Alternatives Considered

Status Quo - Continued use of planning tools.

Business Impact

Enables the operators to perform their jobs efficiently and increase the situational awareness of the abnormal state of the power system.

Business Benefit

Helps monitor "System Stability" and enables proactive actions to improve the stability of the system.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

C

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Dynamic Instability in the system may cause black-out.

Other Issues

Resource Requirements from Other Departments

EMS Information Technology group, RTE & Grid Ops need to provide resources for implementation

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Project ID Project Name

371 Renewable Day Ahead Forecasting Tool

Priority	*Project Size*
1 Top Priority	Small

Key Initiatives

KI.04 - Implement advanced tools to support operati

Overview/Summary of Project

Develop a Day Ahead forecasting tool for renewable resources - especially wind generation and concentrated solar system.

Problem Statement

An estimate 5000 to 7000 MW of renewable resources will be added to the ISO control area in the next 2-3 years. Day Ahead Forecasts of the amount of energy from these renewable resources is essential for the ISO and the SC's to accurately schedule the generation resources for the next day. This forecast will be a key piece of our decision making process on what units should receive dispatch notices for the next day. We want to avoid starting up fossil units that ultimately will not be needed and will be sitting a minimum generation levels all day because the wind generation ramped up. A previous study for NY State has shown that a day ahead forecasting tool can reduce costs by $100 million a year. The potential cost reduction for the CAISO system is currently being analyzed in a special study and this number will be available later this year.

Solution/Alternatives Considered

One alternative is to do nothing and just dispatch units on or off as needed. This may work successfully for hydro units part of the year and for quick start units. With the large amount of wind and solar generating resources that will be connected to our system, we will need a large amount of quick start units for this strategy to be successful and to maintain system reliability.

Reasonably accurate Day Ahead forecasts can ensure we only have the units on that we really need. A small amount of quick start units can be used to compensate for forecast inaccuracies. The CEC funded a major R&D project to develop this forecasting technology and the results have now been published. We can capitalized on this work to design and scope a industrial grade forecasting tool.

Business Impact

This tool needs to be developed and tested in 2007 for deployment and use in 2008-2010. It can be used initially as a stand alone tool and integrated in MRTU at a later date when it has been validated and refined.

Business Benefit

Potential benefit should substantially exceed $100 million per year in cost savings for the rate payers in our system. The results will have to be shared with the SC's that are responsible for scheduling the energy from renewable and a collaborative effort will be essential for success.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

M

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

If this project is not initiated, the SC's will all have to develop their own forecasting tools and include the results in their day ahead schedules. If their forecasts are wrong or inaccurate, we are still responsible for maintaining system reliability. We also will be making less than optimum decisions on unit commitments and dispatch notices. There is a significant reliability risk if we do not have a good forecasting tool that can be used by both the

markets group and by real-time operations.

Other Issues

To be determined. We need to write a detailed project description and project charter to determine the costs and impacts on other departments

Resource Requirements from Other Departments

To be determine

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Project ID Project Name

373 Ramp Forecasting Tool for Renewable

Priority	*Project Size*
1 Top Priority	Small

Key Initiatives

KI.04 - Implement advanced tools to support operati

Overview/Summary of Project

Develop a ramp forecasting system that predicts major ramps both up and down due to wind generation and concentrated solar resources. This system will be used by real-time operations and will give them several hours advanced warning of major weather fronts or other weather conditions that will results in large ramps (1500 MW to 3000 MW) in short periods of time (less than 1 hour)

Problem Statement

Large weather changes such as a Pacific Storm front will result in major energy ramps from wind generation. These units can also suddenly cut out when wind speeds exceed 50+ miles per hour. It is critical that real-time operations have advanced warning of these sudden system changes so they can position the system to take the large ramps (increase the amount of regulation available, move units up/down to make room for the forecasted change, send dispatch notices to quick start units, or notices to loads, etc.). The current weather forecasting systems can tell us amount storm fronts approaching Sacramento but they typically do not cover large wind generation areas such as Tehachapi. If 5000 MW of wind generation is going to be built in the Tehachapi area, we need to have weather forecasting visibility for that specific area.

Solution/Alternatives Considered

The wind generation owners are as much interested in this information as the ISO. This project should be done in cooperation with these owners and there is probably a cost sharing opportunity. It is possible we can contract with a weather forecasting service to provide us with the information needed so this option should be explored. There would still be a service cost but that would be an O&M cost and not a capital cost. We would like to keep this item in the capital budget until we can fully explore the alternatives.

Business Impact

There will be a major impact on system reliability if we do not have some type of a ramp forecasting tool.

Business Benefit

Improved operational reliability, less stress on the real-time operators, and potential cost savings by making the best possible dispatch decisions on moving units to accommodate the forecasted ramps.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

M

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Potential impact on grid reliability and increased number of operating violations.

Other Issues

to be determined

Resource Requirements from Other Departments

The major user and beneficiary of this project is Grid Operations

2008-2009 Capital and Project Budget

Project ID Project Name

388 Development of Simulation Tool for LMP Analysis

Priority	*Project Size*
1 Top Priority	Small

Impacted Systems

Probe

Key Initiatives

KI.08 - Implement Value-added market enhanceme

Overview/Summary of Project

Develop a tool for quickly re-simulating the MRTU Day Ahead market and performing comparative analysis of results of various alternative scenarios representing different bidding patterns or operational conditions.

Problem Statement

With implementation of a day ahead LMP market under MRTU, the complexity and need for more detailed monitoring and analysis of market behavior, outcomes and potential design problems or modifications will significantly increase. In order to effectively and accurately analyze market behavior and outcomes under various 'what if' scenarios, the Department of Market Monitoring (DMM) will require a tool that can quickly and accuracy re-simulate the day ahead market. The MRTU project includes plans for a DMM Test Environment, which is designed to consist of a working version of the actual MRTU software that it may used by DMM to 're-run' the CAISO markets with modified inputs. However, DMM's ability to perform extensive scenario analysis with the DMM Test Environment will be limited due to the relatively lengthy run times required for each market run of the market software.

In addition to DMM's need to re-simulate the day ahead market as part of its on-going market monitoring and analysis responsibilities, DMM will need to perform such analysis as part of a variety of market monitoring and design requirements established by various FERC Orders and approved tariff provisions. For example, in the first year of MRTU, DMM will need to perform extensive re-simulation of market outcomes in order analyze the following specific issues:

o On a quarterly basis, DMM is required to provide a comparative analysis of the market impact of using the CAISO forecast of demand rather than bid-in demand in (April 20, 2007 Order at ¶496)

o Under MRTU, DMM is required to reassess whether each transmission path is "competitive" or "non-competitive" on at least an annual basis, or more frequently if required by changes in transmission infrastructure, generation or load conditions (April 20, 2007 Order at ¶491)

o In response to concerns about the potential for economic withholding under the LMP-option for Default Energy Bids used in Local Market Power Mitigation, FERC directed DMM to monitor and report any such behavior to FERC (April 20, 2007 Order at ¶506)

o The potential need for market power mitigation provisions for Ancillary Services will need to be assessed as the CAISO considers more granular procurement of Ancillary Services.

Within 12 months of initial MRTU implementation, the CAISO is also required to implement a variety of additional market design changes that will require increased monitoring and analysis by DMM, such as:
o Convergence (or Virtual) Bidding. This market design change will require extensive monitoring and analysis of the potential impacts of different ways in which participants may seek to indirectly profit from virtual trading through the effect of virtual trades on LMPs and congestion (e.g. by increasing revenues earned from CRR holdings).
o Reserve Scarcity Pricing. This market design change will require extensive monitoring and analysis of the potential impacts of different ways in which participants may seek to effectively withhold capacity from the energy

and Ancillary Services markets in order to trigger Reserve Scarcity Pricing

Solution/Alternatives Considered

In 2006, DMM reviewed the other leading software packages capable for performing electric market simulations and interviewed vendors about the current software capabilities and potential enhancements (UPlan, Promod, Plexos and PROBE). DMM also has extensive experience with the Plexos software and has already worked with the vendor of this software to seek to implement a number of enhancements that would be needed to utilize this software to meet DMMs various needs under MRTU. DMM also visited market monitoring staff at the NY-ISO and PJM – both of which use the PROBE software – and obtained input from these sources on the capabilities and uses of PROBE in market monitoring.

Based on information from these sources, DMM has determined that PROBE is the only software with the capabilities and proven track record needed for use by DMM in market monitoring.

Business Impact

This project does not impact other ISO systems. All data inputs for the model will be available from the DMM Test Environment. No special hardware is required to run PROBE, but high-performance PCs (with 2Gb of RAM) are recommended.

Business Benefit

This project supports the Corporate Goals and Business Plan of Market Efficiency by enhancing the CAISO's ability to more quickly identify, and subsequently mitigate participant behavior or market design problems that are creating market inefficiencies.

At other ISOs, the PROBE software is also uses by various operations and transmission planning departments. For example, PJM's Operations Department uses the PROBE on a daily basis to check and supplement results of it primary day ahead unit commitment market software. In this context, the extremely rapid execution time and accuracy of the PROBE software allows highly customized contingency analysis of various 'what-if' scenarios for use in meeting reliability requirements in a highly cost-effective manner. The PROBE software has even been used by PJM operations staff as a backup to the primary day ahead unit commitment software when problems have occurred with the primary software. PJM's transmission outage staff also use the software to routinely assess the magnitude of potential costs associated with planned transmission outages, and uses these results to determine how transmission outages may be scheduled to lower market impacts.

As noted below, once the PROBE software is modified and implemented by DMM as a market monitoring tool, the software could be available for use by other CAISO Departments for relatively minor incremental annual cost. Other potential users of the model include Grid Operations, Market Operations, Transmission Planning, and Market and Product Development

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Without this type of market monitoring tool, DMM's ability to quickly diagnose market performance problems, and perform analysis necessary to develop and support potential market rule changes will be extremely limited. In addition, DMM's ability to meet various FERC monitoring and reporting requirements (without detracting from DMM's other monitoring and market design responsibilities) may be compromised.

Risks from Enterprise Risk Inventory List:
- Effectiveness of market abuse detection
- Regulatory compliance

Other Issues

DMM expects that some additional development work will be needed in 2009 and beyond in order to update the PROBE for various market design changes.

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In addition to this additional development work, annual O&M requirements include $100,000 for licensing for all DMM staff. Additional licenses can be obtained for other Departments based on the following schedule:

1st application (DMM) - $100,000
2nd application - $50,000
3rd application - $25,000
ISO-wide license - $200,000

Resource Requirements from Other Departments

None anticipated at this time.

2008-2009 Capital and Project Budget

Project ID Project Name

391 Development of Market Monitoring Framework within SAS EBI

Priority	*Project Size*
1 Top Priority	Medium

Impacted Systems

MMS

Key Initiatives

KI.06 - Implement and Enhance Market Redesign

Overview/Summary of Project

The purpose of the proposed project is to develop long-lasting improvements to the CAISO's ability to effectively monitor and report on market performance through enhancing existing software functionality within the SAS Enterprise Business Intelligence platform. 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 2008 and that the requested funds are specifically to hire consultants to enhance existing functionality within existing software utilized at CAISO. This project is required to develop the following functionalities:

DMM:

- Develop additional portal and drill-down functionality to accommodate market monitoring and performance metrics beyond the base set of metrics being developed in 2007,
- Incorporate MRTU EDR data structures into the EBI Metadata Server for increased efficiency and functionality of the EBI platform in generating market monitoring and performance metrics,
- Enhance existing EBI metric production functionality through developing and optimizing production of "intermediate" SAS data tables used in metric production, and
- Develop "templates" in EBI for frequently executed operations and graphics to reduce future time commitments by Analysts in inventing and re-inventing the same wheel.

MPD:

- Enhance existing SAS portal structure to accommodate metrics to assess separate market design elements including residual market design issues identified by LECG and market design issues identified on the Market Initiatives Road Map maintained by MPD,
- Develop and optimize production of “intermediate” data tables in the EBI environment that are specific to MPD’s market design performance metrics.
- Enhance existing “drill-down” capabilities to incorporate market design performance information.

MS:
- Similar functionality as described in DMM section, specifically for Market Information requirements and content, building off of 2007 work and coordinated with DMM 2008 effort.
- Enhance EBI web reporting functionality to take advantage of DMM and MS metric production for automated market performance report production.
- Automation and reporting of LMP price validation, triggering, and correction production processes

Problem Statement

Staff from DMM, MPD, and MS will be tasked in 2008 with both monitoring a completely new and more complicated set of markets and developing additional performance metrics and monitoring indices in a new software system (SAS EBI). It is anticipated that there will be insufficient staff time to perform both functions concurrently, and risk of insufficient monitoring, detection, and analysis due to utilization of an inefficient and incomplete monitoring system must be mitigated. In order to adequately monitor the MRTU market in 2008 and continue development of the market monitoring system to insure completeness and effectiveness of that system,

these three business units require further enhancements to (what will then be) the existing monitoring framework and the experience and expertise of specialized outside consultants to assist with development of those enhancements. Staff do not possess sufficient knowledge and experience in the software system used to make in-house enhancements efficient given competing demands for resources to perform core functions.

Solution/Alternatives Considered

Staff will develop additional performance metrics to be migrated into SAS EBI as well as 'intermediate' data tables comprised of MRTU EDR data most frequently used in monitoring metric generation. SAS consultants will assist in developing the infrastructure discussed in the "Overview/Summary of Project" section, migrating metric and data content into the SAS EBI platform, further develop the respective portal environments for monitoring and reporting, develop the SAS EBI Metadata repository to improve the effectiveness of metric development, and provide code templates for regularly performed functions (algorithms, graphic production, report generation).

Business Impact

This project further develops the monitoring capabilities of these business units beyond the base functionality through additional content, efficient production of monitoring metrics, and additional time for Analysts to monitor and analyze market and process outcomes in lieu of performing manual steps to produce metrics.

Business Benefit

This project supports the Corporate Goals and Business Plan of Market Efficiency by enhancing the CAISO's ability to more quickly identify, and subsequently resolve, participant behavior or market design elements that are creating market inefficiencies.

- An effective market monitoring system is imperative under a more complex market design.
- Market participants and the CAISO benefit by keeping Staff focused on their core function of monitoring MRTU markets in 2008 and developing market indices to be migrated into SAS EBI, not learning and executing portal development or data management.
- CAISO benefits by not diverting IT staff or hiring additional consultants to develop in-house expertise in the intricacies of the SAS EBI platform to provide timely support to business unit development of their respective MRTU monitoring portals.
- CAISO benefits through efficiency and minimized risk of project delay or failure by having experienced consultants assist in development.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Under-developed market monitoring system (portal and metric development) that is inefficient in producing market metrics and is disjointed from CAISO market data (metadata development). Outside consultant assistance is required for these items. Potential impacts are:

- Staff will be required to spend less time monitoring markets and investigating anomalous market activity / outcomes so that they can develop additional metrics and data relationships required.
- Monitoring in 2008 will be limited to content developed prior to MRTU go-live with marginal incremental content added by Staff during 2008.
- Monitoring content will be less efficient and potentially less effective due to inefficient use of EDR

Other Issues

None.

Resource Requirements from Other Departments

Minimal support by IT staff (Unix & Oracle) - not anticipated to be significant.

2008-2009 Capital and Project Budget

Project ID Project Name

377 Tools to Support Market Systems and Processes

Priority	*Project Size*
1 Top Priority	Medium

Key Initiatives

KI.04 - Implement advanced tools to support operati

Overview/Summary of Project

These tools are needed for Market Services to support the implementation ofnew market application. This item would include transitioning existing tools or creating new tools for the new application. This may include the transition of the MAPP tool . This also includes Actuate report development for MQS deemed out-of-scope for MQS.

Problem Statement

Scoping of MRTU did not include tools currently used to support the market and which may be needed for the new applications. These include items needed for the Floor and Access queries used by both Market Services and Grid Operations offline. Other alternatives would be to hire additional staff to perform workarounds or develop ad-hoc analysis tools.

Solution/Alternatives Considered

Business Impact

While the business units know we will need tools, it is unclear what exactly will be needed. However, absent this item, the units will not be able to function. This is was not budgeted in MRTU.

Business Benefit

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

M

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

MAPP or similar tool is designed to manage the high number of manual post processes expected right after MRTU is implemented. Without such tool, the number and volume of manual corrections may exceed the team's ability to complete. Certain items may have to be left without correction thus potentially increasing disputes and audit exposure.

In addition, lack of tools will impact the ability to provide analysis to management.

Actuate is the corporation reporting tool for MRTU and specifically MQS. However, Actuate scope to MQS was not budgeted. Complex reports require and Actuate developer to create and cannot be created by MQS users themselves.

Other Issues

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Project ID Project Name

393 Market System Operator Required Enhancements

Priority	*Project Size*
1 Top Priority	Large

Key Initiatives

KI.06 - Implement and Enhance Market Redesign

Overview/Summary of Project

The MRTU project will be implemented on April 1, 2008. 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) Important features identified previously, but were deferred because they were not critical for go-live of MRTU.

This project is intended to address operator requested enhancements for applications which are required to maintain grid reliability or will improve the efficiency of operation.

Problem Statement

Historically, after implementation of a major project, unanticipated problems occur which affect the ability to run the systems in a manner that is consistent with Applicable Reliability Criteria. In addition, initial implementation typically has not completely met the need of the users. These needs are identified but in many cases not implemented due to higher priority items taking precedent. Initiation of this new project will create a means to immediately assess and address the higher priority problems that occur, in a timely basis.

Solution/Alternatives Considered

The project will address operator requested enhancements which are required to maintain grid reliability or will improve the efficiency of operation. Other options: it is possible to defer to later years operator efficiency issues which provide a smaller benefit related to cost. As part of this project, a list of enhancements will be developed and reviewed with Grid Operations and Market Services to ensure the most important issues are addressed.

Business Impact

Enhancements will have low to significant business impact, and generally confined to IFM/RTM and SIBR applications.

Business Benefit

Implementation is expected to resolve several important operations-related problems that will occur in the first few months of go-live.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

L

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

The main risks of not implementing the project are budget related. To the extent major operational problems are identified which affect the ability to correctly run the MRTU applications, a way to resolve them will be found, usually to the detriment of other, less critical projects.

Other Issues

No additional maintenance requirements are expected.

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Based on prior experience, a project of this magnitude takes 1.0 FTE for business analysis, 0.5 FTE for project management, and 2.0 FTE for development and testing.

2008-2009 Capital and Project Budget

Project ID Project Name

394 Market ParticipantMarket Systems Required Enhancements

Priority	*Project Size*
1 Top Priority	Medium

Key Initiatives

KI.06 - Implement and Enhance Market Redesign

Overview/Summary of Project

The MRTU project will be implemented on April 1, 2008. Additional funds are requested to incorporate the following Market Participant requested enhancements:
1) new features resulting from unforeseen usability problems that may be encountered after MRTU implementation.
2) Important features identified previously, but were deferred because they were not critical for go-live of MRTU.

This project is intended to address MP requested enhancements for Market Systems applications which will improve client satisfaction with the new applications.

Problem Statement

Historically, after implementation of a major project, unanticipated problems occur which affect the ability to run the systems in a manner that allows Market Participants to efficiently participate in the market. In addition, initial implementation typically has not completely met the need of the users. These needs are identified but in many cases not implemented due to higher priority items taking precedent. Initiation of this new project will create a means to immediately assess and address the higher priority problems that occur, in a timely basis.

Solution/Alternatives Considered

The project will address MP requested enhancements which will resolve a client usability issue or improve client satisfaction with the new applications. Other options: it is possible to defer to later years client satisfaction issues which provide a smaller benefit related to cost. As part of this project, a list of enhancements will be developed and reviewed with External Relations and Market Services to ensure the most important issues are addressed.

Business Impact

Enhancements will have low to significant business impact, and generally confined to IFM/RTM and SIBR applications.

Business Benefit

Implementation is expected to resolve several important MP-related problems that will occur in the first few months of go-live.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

L

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

To the extent major usability issues arise, failure to address may result in limitation of participation in the market by Market Participants. It could also increase manual workarounds by Grid Operations, Market Services and Operations Support.

Other Issues

No additional maintenance requirements are expected.

2008-2009 Capital and Project Budget

Resource Requirements from Other Departments

Based on prior experience, a project of this magnitude takes 0.75 FTE for business analysis, 0.5 FTE for project management, and 1.5 FTE for development and testing.

2008-2009 Capital and Project Budget

Project ID Project Name

422 Application corrections and automation of manual workarounds

Priority	*Project Size*
1 Top Priority	Small

Impacted Systems

CAP

OMAR

Key Initiatives

KI.06 - Implement and Enhance Market Redesign

Overview/Summary 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 and OMAR systems

Problem Statement

Through the MRTU implementation process, many gaps are being identified that will require manual workarounds at the time of "go-live". In addition, integration and user acceptance testing may identify add ional workaround that will need to be performed by the compliance and metering business units.

Solution/Alternatives Considered

Automation of manual workarounds that are conducted due to gaps identified as part of MRTU implementation and workarounds that were due to gaps in scoped CAP and OMAR functionality

Business Impact

Manual workaround will require additional contractual resources until such time that the automated solutions are implemented. In addition overtime of the Compliance and Metering FTEs will be required to conduct daily business

Business Benefit

Automated solutions remove the need for additional contractual resources

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

L

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Project ID Project Name

427 MQS Enhancements to Automate Manual Workarounds

Priority

1 Top Priority

Project Size

Medium

Impacted Systems

MQS

Key Initiatives

KI.06 - Implement and Enhance Market Redesign

Overview/Summary 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. We anticipate approximately $1 million dollars for a release subsequent to 2.0. This capital item is a place holder for that project

Problem Statement

Many of the fixes required to settle according to the tariff will not be in MQS. We need them to be in MQS as it is safer and better than ad hoc processes.

Solution/Alternatives Considered

Siemens built the MQS system and there is no alternative as it is proprietary.

Business Impact

By doing this we will be instituting best practices for the organization and increasing the reliability of our systems

Business Benefit

Transactions will settle properly within our system

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

If we don't do this we increase the business risk of incorrect settlement

Other Issues

None

Resource Requirements from Other Departments

None

2008-2009 Capital and Project Budget

Project ID Project Name

141 EMS System Enhancements

Priority

1.1 High Priority

Project Size

Small

Impacted Systems

EMS

Key Initiatives

KI.01 - National Reliability Standards

KI.04 - Implement advanced tools to support operati

Overview/Summary 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 and enhancements accrue. The dollars represented here should be considered "must do's " and not "nice to haves" and act as a placeholder for required changes. Place holder for Business Plan

Problem Statement

There are specific upgrades and licenses required.
Upgrade to the latest ABB release
Define / Develop and Implement a number of EMS Application Enhancements etc.
ESRI Licenses - There is a need for 10 additional licenses
ICCP Licenses - We need approximately 5 more licenses to augment our test systems

Solution/Alternatives Considered

N/A

Business Impact

EMS is a large suite of applications and functions that will require necessary changes for our internal customers, outside required entities such as NERC etc.

Business Benefit

Staying with the same EMS system has many benefits but requires necessary changes based on changing criteria and opportunities.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

C

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

We cannot allow this system to remain static. We will need to continue to provide a state of the art system for our Operations group.

Other Issues

Typical in any year has been EMS enhancements that fall into buckets of must do's and needed enhancements. Since most are covered in other projects (MRTU / State Estimator) etc. the visibility is often not clear as to the amount but it is anticipated there will be needful changes in Phasor Measurement and other emerging technologies.

Resource Requirements from Other Departments

Typical enhancements are purchased from our vendor ABB and tested and implemented by our EMS staff.

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Project ID Project Name

333 Portal Enhancements

Priority

1.1 High Priority

Project Size

Medium

Impacted Systems

Market Participant Portal

Key Initiatives

KI.29 - Provide customer portal to Access Market in

Overview/Summary 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.

Problem Statement

This project seeks to use the portal to enhance information access and security and simplify customer interaction with the ISO.

A series of sub-projects are included in this project to

>Enhance/replace the Portal technology to ensure we are situated to take advantage of changing technologies
>Enhance/replace the Portal content management system to enable dispersed administration, by non-technical staff, while meeting IT security requirements
>Implement customization and personalization functionality
>Create new, secure reporting portlet to retrieve critical information that supports business decisions and processes, without the complexity of multi system interfacing. This data may include individual market participant trading behavior, detailed market results, transmission and generation facility data, and market financial risk and responsibility information, etc.
>Enable access to secure documents, like secure operating procedures, SAS 70 audits, Transmission Outage Reports, in a centrally managed location.
>Enable two way sharing of secure information through a web-interface, replacing the need to send secure files by e-mail and by CD/FedEx.

Solution/Alternatives Considered

We are just beginning the process of requirements gathering and have not yet evaluated alternatives.

Business Impact

Business Benefit

Enhanced customer service, increased transparency

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Customer Care and Information Technology: Failure to seek a simplified method of providing client with information continues to force our client to constantly seek capital expenditures to feed their ever-growing need to create systems that attempt to communicate with each of the CAISO systems. Failure to create a simplified single point data access also continues to foster the need for the ISO to manage multiple data access needs for both

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internal and external clients, and makes it more difficult to implement consistency across ISO applications and processes.

Other Issues

The project cost is incurred by several cost centers. Among these cost centers are External Affairs, Information Services, and Operations, but anticipate the bulk of the cost to be incurred by External Affairs.
Utilization of consultant and contractors will be used in the development effort of the product. In-house resources will provide project management and information subject matter experts.
Current application currently licensed to the CAISO will be investigated to determine proper fit with the Information product or service being developed. This may save in new application licensing cost, but anticipate the likelihood of an application acquisition.
We anticipate optimal use of system hardware resources and thus, do not anticipate the need to acquire hardware resources.
Web portal technology is expected to be used and is reflected in the cost estimated for this project.
The development effort is anticipated to be spread during the entire duration of 2008 – 2010 as we will have a series of enhancement projects.

Resource Requirements from Other Departments

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Project ID Project Name

358 Enterprise Local Area Network Infrastructure Upgrade

Priority	*Project Size*
1.1 High Priority	Large

Impacted Systems

Commumication Network

Overview/Summary of Project

The current Local Area Network (LAN) is within the typical 3 to 6 year technology refresh window. There are multiple technical advantages to more current technologies in this environment. Upgrading the LAN (also known as “NGN”) would provide benefits including an increase in overall availability and improved reliability and performance of the underlying LAN infrastructure (and, in turn, an increase in reliability and availability for the rest of the Information Technology computer systems).

Problem Statement

The current Enterprise Local Area Network ("NGN") was purchased in 2002 and installed in 2002 and 2003. This puts the current equipment in the typical 3 to 6 year technology refresh window. The current equipment is running on technology called "Cisco Supervisor 2", which is the hardware and software moving all data between all critical ISO Applications, Systems and End-User computers. The current generation equipment for this functionality is called "Cisco Supervisor 720". This new technology is faster, provides increased availability and more seamless failover between redundant components.

Solution/Alternatives Considered

The only alternate solution is "do nothing", leave the current equipment in place for another year.

Business Impact

Upgrading the underlying infrastructure can be an impact to the business, so close coordination across ISO divisions will be required in order to minimize business impact.

Business Benefit

The upgraded technology will provide the ISO with an updated network infrastructure, as well as increased reliability and availability of key Information Technology systems.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

M

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

Resource Requirements from Other Departments

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Project ID Project Name

374 Increase the detail of Network Model and add SCADA to Neighboring Control Areas

Priority

1.1 High Priority

Project Size

Small

Impacted Systems

Network Applications

Key Initiatives

KI.11 - Increase regional outreach & coordination

Overview/Summary of Project

This initiative includes; adding more detail for the adjacent control areas; adding more SCADA points to EMS; testing and expanding the SE solution with more detail.

Problem Statement

Network Solutions for neighboring control areas are static and solved for a base case, which is not accurate.

Solution/Alternatives Considered

Static values used from base case.

Business Impact

Real time solutions for neighboring control areas, producing meaningful results.

Business Benefit

Greater situational awareness of neighboring areas.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Results produced from Net apps may not be representing reality.

Other Issues

Resource Requirements from Other Departments

OPs, RTEs, EMS IT

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Project ID Project Name

389 Network Access Control

Priority	*Project Size*
1.1 High Priority	Small

Impacted Systems

Commumication Network

Overview/Summary of Project

Network Admission Control (NAC), a set of technologies and solutions built on an industry initiative, uses the network infrastructure to enforce security policy compliance on all devices seeking to access network computing resources, thereby limiting damage from emerging security threats. Networks using NAC can allow network access only to compliant and trusted endpoint devices (PCs, servers, and PDAs, for example) and can restrict the access of noncompliant devices.

Problem Statement

Access to CA ISO Critical Computing Resources is currently managed via higher layer access control systems such as firewalls. However, a non-ISO computer brought into the building, or connected via the ISO's Wireless LAN, can be used to gain access to the ISO's critical computing infrastructure, or introduce a virus, worm or malware. Network Admission Control (NAC), a set of technologies and solutions built on an industry initiative, uses the network infrastructure to enforce security policy compliance on all devices seeking to access network computing resources, thereby limiting damage from emerging security threats. Networks using NAC can allow network access only to compliant and trusted endpoint devices (PCs, servers, and PDAs, for example) and can restrict the access of noncompliant devices.

Solution/Alternatives Considered

The only alternative is to "do nothing" and continue to accept the current risk to our computing infrastructure.

Business Impact

Impact to the business is high to critical, should the ISO's network be compromised via an internal network connection, or should a virus or worm be introduced into the environment through an unsecured computer.

Business Benefit

ISO Security policy compliance can be on all devices seeking to access network computing resources, thereby limiting damage from emerging security threats.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Risk to the business is high to critical, should the ISO's network be compromised via an internal network connection, or should a virus or worm be introduced into the environment through an unsecured computer.

Other Issues

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Project ID Project Name

390 Wide Area Network Acceleration and Optimization

Priority	*Project Size*
1.1 High Priority	Small

Impacted Systems

Commumication Network

Overview/Summary of Project

To accelerate application and file performance and to reduce Wide Area Network (WAN) bandwidth usage, WAN optimization appliances incorporate application acceleration and WAN optimization techniques, including compression, redundancy elimination, transport optimizations, caching, and content distribution. These techniques help overcome the bandwidth, throughput, and latency limitations associated with TCP/IP and application protocols.

WAN optimization appliances achieve superior results over alternative offerings by applying optimization at three separate layers:

Latency and bandwidth reduction at Layer 7 using application-specific optimizations that suppress unnecessary messages, perform message and operation batching, and employ sophisticated caching techniques to minimize data transfers across the WAN

Bandwidth and throughput improvement at Layer 4 using techniques such as Data Redundancy Elimination (DRE), LZ Compression, and Transport Flow Optimization (TFO) based on extended TCP standards

Transparent network integration at Layers 3 and 4, allowing the appliances to take advantage of traffic classification, QoS, policy-based routing, high availability, load balancing, and other network policies

Problem Statement

Wide Area Network (WAN) bandwidth between Folsom and Alhambra is a finite resource, and expanding current bandwidth is a very expensive proposition. MRTU brings significant unknowns in terms of potential increase in utilization of network bandwidth between Folsom and Alhambra.

To accelerate application and file performance and to reduce Wide Area Network (WAN) bandwidth usage, WAN optimization appliances incorporate application acceleration and WAN optimization techniques, including compression, redundancy elimination, transport optimizations, caching, and content distribution. These techniques help overcome the bandwidth, throughput, and latency limitations associated with TCP/IP and application protocols.

Solution/Alternatives Considered

Alternatives include "do nothing" (with an associated risk of over-utilization of network bandwidth between locations), and increasing the current network bandwidth. An increase in existing bandwidth would be expensive in terms of both one time costs for hardware upgrades, as well as an increase in monthly recurring charges. The ROI for the WAN Optimization appliances, compared to increasing network size between locations, is a matter of months.

Business Impact

Business Benefit

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Business benefits include reduced costs (when compared to increasing network size between locations), reducing risk to the business due to over utilization of network bandwidth, and additional network overhead to accommodate future systems and applications.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

M

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Additional network bandwidth requirements introduced by MRTU could impact the available bandwidth for all critical applications, and introduce a risk of disruption of critical IT services and applications.

Other Issues

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Project ID Project Name

398 Credit/Finance System Enhancements

Priority	*Project Size*
1.1 High Priority	Medium

Impacted Systems

SaMC - Settlements

Key Initiatives

KI.02 - Reduce Settlement timeframe

Overview/Summary of Project

Implementation of several requested SaMC enhancements that benefit both Accounting and Finance. Items include:
-1. Reconfiguration to a single market invoice for the month.
-2. Elimination of the monthly invoice for annual FERC fee payment - change to SaMC information monthly, with an annual billing.
-3. Availability of EAL information by SC's through the SaMC application, and pass through of credit notices to SC's through the SaMC application.

Problem Statement

1. Single invoice was original configuration for market design. Cuts process time in half. Both 1 and 2 align with accelerated payments)
2. Currently 12 monthly invoices are issued for one annual payment. Original design was to provide information to SCs monthly but only include the annual amount on one market invoice
3. Credit notices are currently published to market participants via email after manually running a comparison of liabilities to credit limits in an Access database. Only market participants that are required to post additional collateral are currently notified. With SaMC, credit limits and liabilities will be in Oracle/Market Clearing. Liability amounts will be significantly more accurate due to the use of estimated meter data and the SaMC "credit management run". This proposed enhancement would push to the Portal the credit standing of each market participant.

Solution/Alternatives Considered

1. Options include: Continue dual invoicing or consolidate to one invoice
2. Options include: Continue additional invoices or eliminate invoices.
3. Options include: Continue manual process, or automate. Automate could include pushing credit management information to the portal, or email notifications.

Business Impact

1. The final invoicing takes as much resources as preliminary invoicing but only aggregates 5% of the dollars. Final invoice amounts could be included on subsequent months preliminary invoicing. This is required for accelerated payments.
2. Additional resources to manage extra invoicing. Extra invoices that have an extended payment date also confusing to SCs. Goal is to reduce the monthly invoices to one (current invoicing: prelim and final for GMC and Market, finals for TAC refund, FERC Fee monthly and FERC Fee monthly annual and FERC Fee supplemental and CRR auctions. Goal one monthly invoice that contains all of the above)
3. Automating the credit notices will permit a reduction in CAISO staff time on the credit management function. Currently, credit notices are generated by Finance and sent to External Affairs, which then forward the notice to the market participant. At times, there is a lag between the External Affairs notification and sending to the market participant. Collateral posting is to take place within 5 business days and a delay can impact this timeline.

Business Benefit

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1. Reduced resource requirements both buy ISO and SCs.
2. Reduced resource requirements both by ISO and SCs. .
3. Reduce delays in requests for collateral. Provide greater transparency of credit information. With convergence bidding, there is a need for more frequent credit notices. This will allow for that.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

M

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

1, 2: Market clearing These align with accelerated payments which will reduce market credit support.
3: Credit Management

Other Issues

Changes impact SaMC primarily

Resource Requirements from Other Departments

External Affairs, Finance, Accounting.

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Project ID Project Name

402 Greenhouse Gas Tracking (Initial Specifications)

Priority	*Project Size*
1.1 High Priority	Small

Key Initiatives

KI.31 - Greenhouse Gas Policies

Overview/Summary of Project

Pursuant to recent state legislation the California Air Resources Board (CARB) will be considering alternative policy approaches to regulate greenhouse gas emissions by the electricity sector. There are two primary areas where the ISO needs to be engaged in the policy development process and ultimately in the implementation of the regulations once they are adopted: (1) provision of market data to the CARB or other appropriate state agency responsible for monitoring compliance with the regulations, and (2) analysis of alternative regulatory approaches with regard to their impact on and interaction with the ISO markets. For item (1) the ISO will need to develop systems and software to capture, process and store the necessary market data and convey it to the appropriate state agency. For item (2) the ISO will need to perform studies or market simulations under different assumed greenhouse gas regulatory approaches to assess their impacts on ISO market performance and market participant bidding and operating incentives.

Problem Statement

Two state laws represent the bulk of GHG reduction policy in this state. Below are summaries of these laws, followed by regulatory processes initiated by CARB, the CPUC, and the CEC and a description of the recently-enacted 5-state resolution established by the Governors of California, Washington, Oregon, Arizona and New Mexico.

The California Independent System Operator (California ISO) is responsible for the reliable operation of the electric transmission system serving approximately 80 percent of California residents, as well as for the operation of day-ahead and real-time wholesale markets for energy and ancillary services, and is committed to meeting these responsibilities in a way that is aligned with the state's key policy objectives. California is, once again, a leader in the nation with respect to one of the most prominent policy issues of our time--global climate change. California has embraced the global climate change challenge in the form of two state laws, as well as other initiatives involving surrounding states. The purpose of this budget item is to begin developing policy and business/functional requirement for the California ISO in support of the California's 2006 greenhouse gas (GHG) legislation.

Solution/Alternatives Considered

Business Impact

Business Benefit

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Project ID Project Name

404 Year 2 Market Design Enhancements (Release 2 Market Design Enhancements)

Priority	*Project Size*
1.1 High Priority	Large

Key Initiatives

KI.08 - Implement Value-added market enhanceme

Overview/Summary 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. These market design enhancements are described in the frequently updated Market Initiatives Roadmap. A stakeholder scoping process is underway to rank these features and functions during the third Quarter of 2007. The items identified for implementation in the second package of enhancements(24 months after initial MRTU implementation) will require capital budget in 2008 to begin the software specification for implementation in early 2010.

Problem Statement

The current list of potential Year 2 market design enhancements include: 1) Use of Bid-in Demand rather than demand forecast, 2) speaker/combined cycle modeling, 3) BCR for resources with greater than 24 hours minimum up time, 4) SLIC to SIBR interface, 5) Export of AS, 6) Multi-Segment A/S Bids, 7) Multi-Hour constraint in RUC, 8) 9 ramp-rate segments.

Solution/Alternatives Considered

The above plan is based on the assumption that the items stated above are indeed identified as high priority items in the post MRTU Release 2 scoping process and that their target implementation date is 24 months after MRTU Release 1. If either of those assumptions prove not to be correct the above budget would have to be revised accordingly.

Business Impact

The items identified above will have significant impact on improving the reliability and market efficiency as well as customer satisfaction. ISO commitment to implementation of Release 2 issues in line with prior commitments in Feb 9, 2006 MRTU filing and subsequent discussions with the stakeholders will augment CAISO's reputation and credibility.

Business Benefit

The items identified above will have significant impact on improving the reliability and market efficiency as well as customer satisfaction.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

Captured in the miscellaneous provision above.

Resource Requirements from Other Departments

Other business units primarily contributing to this effort are PMO, operations, settlements, legal, and external affairs.

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1. Project Manager - 1 FTE for 12 months
2. MRTU Team - 2 FTEs for 8 months
3. Market Systems (Market Operations and Settlement) 2 FTEs for 2 months
4. MPD 2 FTEs for 12 months
5. Settlements - 3 FTEs for 6 months
6. External Affairs - 3 FTEs for 2 months

Contractors:

2008-2009 Capital and Project Budget

Project ID Project Name

416 Server Monitoring Enhancement for ETE, Test, Development Server Environments

Priority	*Project Size*
1.1 High Priority	Small

Key Initiatives

KI.04 - Implement advanced tools to support operati

Overview/Summary of Project

CAISO in in the process of rolling out HP Openview across its server environment to enhance its server monitoring capability. As this work nears completion, CAISO would like to enhance the functionality to (1) include an additional 150 servers and (2) create a test HP OpenView environment where monitoring alerts and reports can be configured and tested before moving to the production network. This effort also requires labor to install, configure, and test new components.

Problem Statement

CAISO cannot fully monitor its development and test environments due to a shortage in software licenses and a test network Open View console.

Solution/Alternatives Considered

CAISO can continue to leave our test. Development, and ETE environments unmonitored, however this creates project delivery issues when those servers become unavailable or are over taxed. Ideally, CAISO would like to purchase the additional licenses and complete deployment into all environments.

Business Impact

Monitoring visibility into our development, test and ETE environments allows CAISO to provide a high-level of response to server failures within the computing environment.

Business Benefit

This investment allows for pro-active response leading to greater environment stability and reliability. Furthermore, this investment allows CAISO to capacity manage these environments such that server utilization characteristics can be captured and additional server purchases can be forecasted.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Monitoring will be incomplete and the development, test and ETE environments will be managed on a best effort basis.

Other Issues

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Project ID Project Name

417 Automation of new Resource Adequacy Requirements

Priority	*Project Size*
1.1 High Priority	Medium

Key Initiatives

KI.12 - Market Simplifications

Overview/Summary of Project

Placeholder - Resource Adequacy items for automation in 2008:
- 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 (we had a meeting about this a couple of weeks ago - called it IRR Phase 3 but I don't think it is happening this year)
- 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 (big unknown as to what is going to come out of this MPD initiative)
- 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 we need this at the start of MRTU, if not then it will have to be automated in 2008 for 2009 year)
- 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.

Problem Statement

Resource Adequacy is an annual and monthly process that spans multiple departments including Engineering, Operations Support and Grid Operations. Currently the majority of the Resource Adequacy process is manual and time consuming. The RA program has strict and short timelines that take 100% of staff time in each department to administer for every cycle. In addition, the ISO, CPUC and Market Participants are continuing to negotiate additional aspects to the program. Above is a list of items that we know will have to be implemented in 2008.

Solution/Alternatives Considered

The solution is to have an automated flexible system to that can be shared by all departments to administer the on-going RA requirement. The alternative would be to continue with manual work and hire additional resources to administer the current functionality and any new functionality that will be negotiated over time.

Business Impact

Considerable impact to the workload during the RA cycles. Other priority items will drop off during these times

Business Benefit

Efficiency gains that allow staff to focus on additional priorities and up-coming workload

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

L

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

2008-2009 Capital and Project Budget

Resource Requirements from Other Departments

IT resources will be necessary to manage, analyze and develop system

2008-2009 Capital and Project Budget

Project ID Project Name

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

Priority	*Project Size*
1.1 High Priority	Small

Impacted Systems

RIMS

Key Initiatives

KI.13 - Establish "third-category" of transmission

Overview/Summary of Project

The Resource Interconnection Management System (RIMS) application is scheduled for release in September 2007. There are known and anticipated enhancements that will be required to comply with Tariff changes expected in late 2007 and early 2008. These include FERC approval of the Small Generator Interconnection Procedures (SGIP) and addition of Tariff language to give the CAISO the ability to perform group Interconnection Studies. In addition, there are known and anticipated enhancements identified by RIMS users to improve the effectiveness of the application.

Problem Statement

There are known updates to the RIMS application that will be required in 2008 to comply with FERC orders including SGIP and additional Tariff changes. In addition, known and anticipated enhancements identified by RIMS users are needed o improve the effectiveness of the application. Funding is necessary to make these changes.

Solution/Alternatives Considered

If RIMS enhancements are not made, compliance with implementation of FERC Orders will be accomplished with EXCEL spreadsheets which create inefficiencies in the Interconnection process, increases probability that FERC milestones will not be met, requires creation and maintenance of a separate database outside of RIMS, and jeopardizes user acceptance of the RIMS application.

Business Impact

Generation and Transmission projects are currently tracked via a combination of EXCEL spreadsheets and a REMEDY database. PTO's and IC's do not have access to these applications. The RIMS application is a tool that provides a central database for all project team members and

Business Benefit

Compliance with FERC Orders, improved efficiency of the Generation and Transmission Interconnection processes, improved communication with stakeholders (PTO's, Interconnection Customers). reduction of manual work.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

M

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Tariff Compliance and Customer Care are jeopardized.

Other Issues

Resource Requirements from Other Departments

IT

2008-2009 Capital and Project Budget

Project ID Project Name

419 Master File Application Enhancement

Priority	*Project Size*
1.1 High Priority	Medium

Impacted Systems

Master File

Key Initiatives

KI.12 - Market Simplifications

Overview/Summary of Project

Enhance the market reference data capabilities to improve business efficiency and data accuracy for market participants and internal business users. Also, improve product supportability.

Problem Statement

The Master File user interface was scoped as an application where Market Participants can enter changes to their master file data through a web interface with very few if any enhancements. In the process of integrating Master File with the SIBR and IFM applications as well as working through the internal business processes of validating and approving Market Participant Master File change requests, it became clear that an up-front rules engine in the user interface would be the most efficient way to ensure that all requested changes would be compatible with the applications and the ISO business standards.

Solution/Alternatives Considered

The master file store several hundred operational data elements that are utilized though SIBR in the IFM and RTN. Many of these elements have one or more rules applied in these systems. Providing a up-front rules engine in the Master File user interface will provide transparency to the participants for the changes they are requesting an the compatibility of the change with the Market application prior to the change being submitted. The rules engine will also provide assurances to the ISO that Master File data changes will not pass into the database until they are automatically validated by the rules engine thus mitigating the risk of human error.

Business Impact

The business impact will be to the IT organization to develop the automated solution and to the Subject Matter Experts to determine business requirements and user testing.

Business Benefit

Transparency for the Market Participants and human error risk mitigation in manually processing Master File change requests

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

M

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Human error in manually processing changes to the Master File data, this risk can be mitigated through manual workarounds and use of rule scripts

Other Issues

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Project ID Project Name

420 Market Operations Training Simulator (MOTS)

Priority	*Project Size*
1.1 High Priority	Medium

Key Initiatives

KI.05 - Expand Operator Training on new advanced

Overview/Summary of Project

This project is to integrate the Market Systems with the Grid Systems in a Training / Simulation environment. Currently, the Operations Division trains the Grid Operations personnel on the Grid Operation Training Simulator (GOTS). With the implementation of MRTU and the impacts and integration of the Market Systems, it is necessary to add the MRTU market systems (SIBR, IFM, RTM) into the simulation environment.

Problem Statement

Currently the Operations Support Department manages a Grid Operations Training Simulator and conducts simulation training with the Grid Operations personnel. In order to have a complete end-to-end training simulator, the Market Applications (SIBR, IFM, RTN, etc.) need to be integrated with the Grid applications (EMS, State Estimator).

Solution/Alternatives Considered

Integrate the new MRTU market applications into the Grid Operations Training Simulator. This can be accomplished by purchasing the hardware required to set up an additional MRTU environment as a training simulator. Alternatively, cost may be saved by re-using hardware from the MRTU program once that project is implemented into production. The estimated cost is based on the cost of setting up an additional environment for the MRTU program

Business Impact

The business impact is to the quality of training that the Grid Operations personnel receive on an annual basis. A full end-to-end simulator will allow the training team and Grid Operations to set up practice scenario's for a variety of conditions so our Grid Operations personnel will be well prepared and highly trained

Business Benefit

Highly training Grid personnel

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

L

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

Resource Requirements from Other Departments

2008-2009 Capital and Project Budget

Project ID Project Name

430 LMP Validation Software Tool for Market Validation Group

Priority	*Project Size*
1.1 High Priority	Medium

Impacted Systems

IFM/RTN

Key Initiatives

KI.04 - Implement advanced tools to support operati

Overview/Summary of Project

This is a capital project to develop or purchase a software tool to aid the Market Validation and Price Correction Process. We currently have a SAS software tool which is designed to validate prices after the market runs. In the eastern ISOs that we have visited they have developed real-time custom software which integrates with their systems to highlight prices that are beyond certain specified thresholds. This enables the validation group to catch incorrect prices more quickly than they otherwise would. This decreases the frequency of bad dispatches, improves reliability, and prevents prices from ""churning"". All three eastern ISOs have made substantial investments in this type of software. We feel it would be prudent to learn from their experience and prepare for a similar eventuality here.

Problem Statement

The Market Validation procedure needs an automated method of highlighting when there might be invalid market intervals. This procedure needs to occur literally in real-time, so it needs tight integration with IFM/RTN. We already have a non-real-time solution.

Solution/Alternatives Considered

Right now the solutions have not been fully investigated. What we know is that we potentially have a need based on the activities of other ISOs with similar systems.

Business Impact

The impact to the business should not be too great as most of this work will be done off-line, so there will be little business dislocation except when it goes into production.

Business Benefit

The potential business benefit is substantial. A proper tool would increase the quality of our pricing, which is obviously a key concern of stakeholders. Further it may minimize the incidence of poor dispatches, which will increase reliability.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

M

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

The quality of our pricing would be worse. We would need more overtime and more FTE positions to fix the errors that weren't caught. Further market participants might reassess their opinion of our abilities due to the constant pricing changes after the fact. This has happened at other ISOs. Market participants dislike changes in dispatch prices, and the fewer changes the better. A tool of this nature would be designed to catch errors as early as possible to prevent pricing changes.

Other Issues

None

2008-2009 Capital and Project Budget

Resource Requirements from Other Departments

IT for hardware and software infrastructure support.

2008-2009 Capital and Project Budget

Project ID Project Name

432 LMP Contour Graphics

Priority

1.1 High Priority

Project Size

Small

Impacted Systems

OASIS

Key Initiatives

KI.04 - Implement advanced tools to support operati

Overview/Summary 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 ISOs, and has been identified as the sort of service/product that participants are expecting. There are similar maps for the ISO-NE, NYISO, PJM etc. This project would enhance the information that we provide to 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

Problem Statement

In the absence of this product market participants will still have access to pricing data, however they will have to look at 3000 prices every five minutes to gain an idea of the pricing pattern over the CAISO footprint.

Solution/Alternatives Considered

We need to push the existing DMM product to the web

Business Impact

Minor business impact on current personnel. The product will need to be integrated with our current web services.

Business Benefit

Our stakeholders will be grateful

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

L

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Stakeholders will like us less and will complain

Other Issues

None

Resource Requirements from Other Departments

None

2008-2009 Capital and Project Budget

Project ID Project Name

435 Testing Infrastructure Update

Priority	*Project Size*
1.1 High Priority	Small

Overview/Summary of Project

The purpose of this project is to update testing environments. This project will cover server updates, build out of new environments, operational process updates, as well as all of the associated human resource costs.

Problem Statement

The current test environment is out of date and needs to be updated to support the FNM from MRTU, updated Legacy systems (as a result of MRTU), shared services, and a multithreaded capability.

Solution/Alternatives Considered

Existing hardware will be repurposed as much as necessary.

Business Impact

Minor impact to current operations. Schedule for implementation will need to be worked into existing project and development schedules.

Business Benefit

Essential for development and testing of all ISO applications in a timely manner.

Risk Magnitude: L=Low; M=Medium; H=High; C=Critical

H

Risks if project is not initiated (provide cross reference to the Enterprise Risk Inventory, as appropriate)

Other Issues

Resource Requirements from Other Departments