



California ISO  
Shaping a Renewed Future

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# 2012 Budget and Grid Management Charge Rates

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December 7, 2011

**FINAL**

Prepared by Department of Financial Planning  
California Independent System Operator Corporation

## 2012 Budget and GMC Rates

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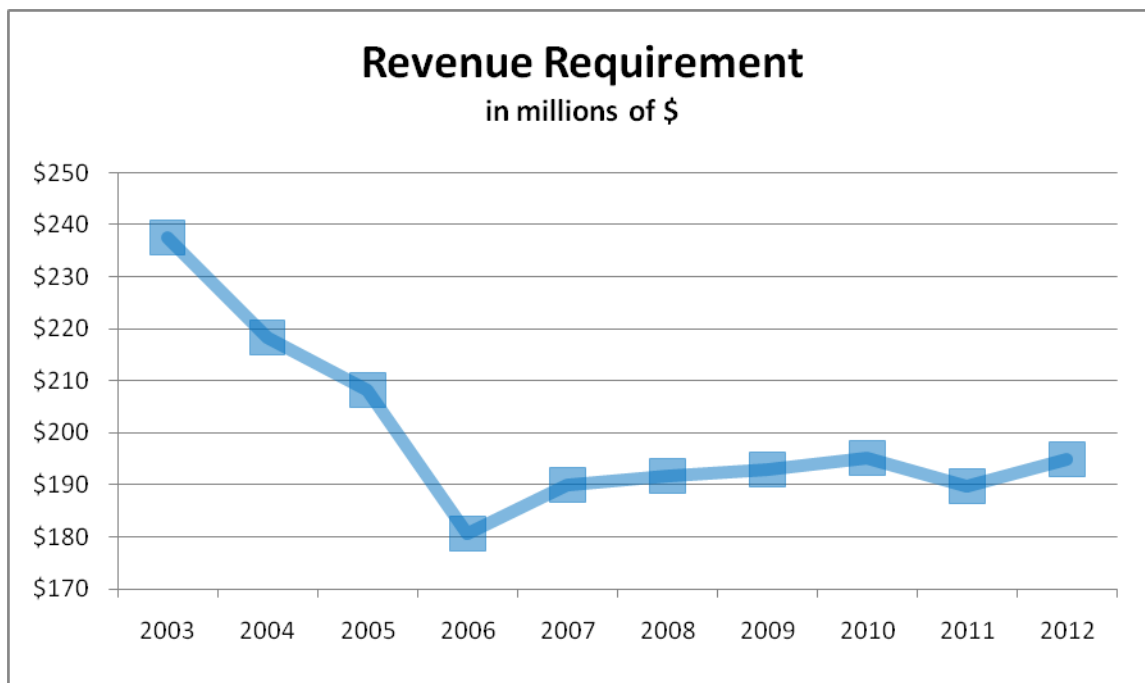
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## I. 2012 REVENUE REQUIREMENT

The 2012 proposed budget provides for a revenue requirement of \$194.8 million, \$5.0 million higher than 2011. This document describes how the California Independent System Operator Corporation (the ISO) is increasing service levels through effective management and allocation of resources toward key corporate initiatives, which follows the ISO Five-Year Strategic Plan.

The revenue requirement has been substantially reduced since 2003 and has remained in a tight range since 2006. The ISO has held the growth rate of the revenue requirement over the last five years to less than 1.7% while transmission volume has declined at a 4.4% rate during the same period.



Transmission volume projections show an increase of 1% from 2011 to 242.4 TWh, but volumes remain down 4.4% over the last five years. Dividing the higher revenue requirement by the estimated volumes results in a bundled composite grid management charge (GMC) of \$0.804 per MWh. The GMC rate is \$0.01 higher than 2011, which was also higher than in previous years because of lower transmission volumes.

## Components of 2012 Revenue Requirement

A comparison of the 2012 proposed revenue requirement to 2011 is as follows:

Revenue Requirement (\$ in millions)	2012 Budget	2011 Budget	\$ Change	% Change
Operating & Maintenance (O&M) Budget	\$163.0	\$162.5	\$0.5	0.3%
Miscellaneous revenue	(8.4)	(6.9)	(1.5)	21.7%
Subtotal net O&M	154.6	155.6	(1.0)	(0.6)%
Debt Service including 25% reserve	46.3	43.7	2.6	5.9%
Cash funded capital	17.0	23.5	(6.5)	(27.6)%
Subtotal before revenue credit	217.9	222.8	(4.9)	(2.2)%
Revenue credit	23.1	33.0	9.9	30.0%
<b>Total Revenue Requirement</b>	<b>194.8</b>	<b>189.8</b>	<b>\$5.0</b>	<b>2.6%</b>
<b>Transmission volume in TWh</b>	<b>242.4</b>	<b>240.0</b>	<b>2.4</b>	<b>1.0%</b>
<b>Pro-forma Bundled GMC per MWh</b>	<b>\$0.804</b>	<b>\$0.791</b>	<b>\$0.013</b>	<b>1.6%</b>

The ISO recovers its revenue requirement through the unbundled grid management charges. Each unbundled service offering has corresponding rates paid by users of that service. The first step in calculating these rates is 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 rates.

## II. BUDGET OVERVIEW

This budget package provides an overview of and detail about the 2012 ISO cost of service that consists of the following:

- Operating and maintenance (O&M) budget (sections III thru V)
- Debt service costs (section VI)
- Capital and project funding (section VII)
- Other revenues and expense recoveries (section VIII)
- Revenue credit from operating reserve account (section IX).

The O&M budget, the primary focus of this report, is the largest of these components and consists of the costs necessary for ongoing operations. The O&M budget of \$163.0 million in 2012 is \$500,000 higher than 2011. The O&M budget presentation is in three views:

- By process — such as support customers and stakeholders (section III)
- By resource — such as salaries (section IV)
- By division — such as the Operations Division (section V).

Debt service costs are the principal and interest payments related to the ISO series 2008A and series 2009A bonds, and a 25% debt service reserve collection. In June 2008, the ISO issued fixed rate bonds that funded 2008 to 2010 capital expenditures and retired existing variable rate demand bonds. During 2009, the ISO issued bonds to build a new headquarters facility in Folsom, California. Bond proceeds funded debt service during the building's development stage in 2009 through part of 2011. Total debt service to be collected in the 2012 revenue requirement increased by \$2.6 million to \$46.3 million in 2012.

The ISO occupied its new headquarters and campus in mid January 2011; its completion came in ahead of schedule and under budget. In July 2011, the ISO received the coveted Platinum rating from the U.S. Green Building Council as part of its Leadership in Energy and Environmental Design (LEED) certification program. The ISO headquarters design is as green as possible and is one of just 260 LEED Platinum certified facilities worldwide.

Capital requirements for 2012 amount to approximately \$20.8 million, with funding from existing funds of \$3.8 million and cash funded capital included in the revenue requirement of \$17.0 million. Collecting capital as a component of the revenue requirement avoids additional costs of tax-exempt debt financing, including debt issuance costs, interest expense, and 25% debt service reserve. Total capital spending for 2012 is primarily for systems development related to expanding market capabilities.

Other revenues and expense recoveries are offsets to the revenue requirement. Budgeted other revenues of \$8.4 million in 2012 is \$1.5 million higher than 2011. Such transactions include interest income, billings for large generator interconnection

studies, path operator fees for the California-Oregon Intertie and intermittent resource forecast fees.

The operating reserve credit is a reduction or offset to the ISO revenue requirement for 2012. In any year that the ISO operating reserve account exceeds 15% of the prospective year's O&M budget, the ISO uses the excess to reduce the revenue requirement for the coming year. For 2012, the ISO forecasts a credit from the operating reserve account of \$23.1 million.

For 2012, a new rate design will go into effect, which provides for three volumetric charges (and five transaction fees). The three volumetric charges include the following: the market services charge, which makes up 27% of the revenue requirement; the systems operations charge, which comprises 69% of the revenue requirement; and the congestion revenue rights (CRR) services charge, which makes up 4% of the revenue requirement. The market services charge billing is to MWh and MW of supply and demand awards in the ISO markets. The systems operations charge billing is to MWh of metered supply and demand in the ISO controlled grid. The CRR services charge billing is to MWh of congestion.

## **Budget Guidance**

The ISO held a budget kick off meeting with stakeholders in June 2011, seeking input on budget goals. The feedback reinforced the Company's vision for the 2012 budget development. Guidance for developing the 2012 revenue requirement called for each ISO division to develop an O&M budget consistent with the Five-Year Strategic Plan with no increase in the overall O&M budget. Management provided guidance on expectations for the overall budget outcome and the mechanics of how to prepare it.

The overall ISO budget results in a revenue requirement under the \$197 million threshold that triggers a review filing with federal regulators. The budget achieves the goals outlined above, and funds ISO operations and initiatives as set forth in the company's Five-Year Strategic Plan.

The Board in late August provided feedback on the preliminary budget posted it to the ISO website for stakeholder review. The stakeholders discussed the budget during a workshop on October 4, with discussion notes posted on the ISO website. Stakeholders also submitted to which the ISO prepared responses and posted both on the website.

## **Strategic Outlook**

The ISO remains fully engaged with state, regional and federal officials in shaping the policies and goals to meet energy and environmental goals while enhancing reliability. Clean energy is already meeting policy goals with almost 8,000 MW of renewable resources now connected to the ISO grid, including 3,600 MW of wind. Here is the ISO view of how demand, resources, and transmission will develop over the next decade,

consistent with California's Clean Energy Future, which is a formal roadmap and action jointly developed by the state's energy agencies and the ISO:

Demand:

- Implementation of state policies and programs to accomplish 100% of achievable cost-effective energy efficiency, including zero net energy standards for new construction, will result in significantly decreased energy consumption.
- Statewide implementation of smart grid technologies, as well as electric rate design reform will provide additional opportunities for customers to install behind-the-meter resources and enabling technologies to respond to a price signal or other demand response control.
- Demand response will play a major role in meeting peak power needs and managing intermittency of renewable resources. Price-driven demand response will be eligible to participate in the wholesale market, including ancillary service markets needed to support renewable integration.

Resources:

- Renewable energy is first in California's supply-side loading order.
- California will replace approximately 28,000 gigawatt-hours of coal-fired generation owned by or under long-term contract to the state's electric utilities through 2030.
- Carbon pricing and related policy uncertainties will create financial risks for investors making the future resource mix less predictable.
- Regional coordination expands to help green the grid and increase sharing of resources in the West.
- Plant retirements driven by once-through cooling and clean air standards occur as planned.

Transmission:

- Planning and permitting coordination ensures that transmission infrastructure is available to achieve renewable goals.
- Advanced transmission technologies, improved dispatch algorithms and enhanced system visibility leads to higher grid utilization and productivity.
- Permitting of new transmission lines triggers new generation investment.
- Transmission owners remain responsible for maintaining safety and reliability, and upgrading network facilities.



The ISO plays a leading role in providing policymakers with technical advice to aid them in their regulatory and policy deliberations, such as those implementing the 33% renewable portfolio standard. The ISO is also actively working with the California Air Resources Board to implement greenhouse gas emission curbs called for by Assembly Bill 32 (California Global Warming Solutions Act of 2006).

Just as in 2011, the sluggish economy continues to affect the ISO, mostly through lower electricity volumes, and its customers. The ISO is keeping its costs contained while improving services by making sure staffing levels and skill sets efficiently meet current and future needs, scrutinizing expenses, and deftly managing investments and debt obligations.

The ISO maintains flexibility as a strategy for dealing with uncertainty in where, when and how much renewable resources are approved, sited and built. For instance, the ISO interconnection study queue is now signaling that solar resources growth will outpace wind expansion by 2020, which means the ISO must leverage the flexibility of its grid and market operations to accommodate evolving development patterns.

## **Aligning with the Five-Year Strategic Plan**

The ISO is continuing in 2012 the focus begun in 2005 to contain or lower operating costs while improving services and enhancing the reliability of the California transmission grid. This includes, for instance, strengthening compliance efforts without adding costs. It also includes performing the increased responsibilities and necessary planning to integrate the thousands of megawatts needed to meet the 33% renewable portfolio standard and its milestones.

The 2012 budget aligns with the Five-Year Strategic Plan, which is the ISO's primary roadmap to achieve organizational and operational objectives and goals. The Five-Year Strategic Plan focuses on four key strategies, which are as follows:

- Facilitate California's transition to a smarter, cleaner and more secure energy future;
- Ensure continued reliability during grid transformation;
- Strengthen California's global leadership commitment to renewable, responsible and reliable energy; and
- Explore opportunities for regional collaboration and technological innovation.

The Five-Year Strategic Plan contains the refined vision of moving the corporation forward and is supported by initiatives to further flesh out the ISO strategy, while the budget explains how the Corporation funds and allocates its resources to support its business plans. ISO management and staff created a 2012 budget that supports the Five-Year Strategic Plan with the right mix of talent, skills and financial resources to be successful.

Aligning the strategic planning process more closely with budget planning reveals with greater transparency how ISO uses its resources and the costs associated with business and operational activities. This, in turn, enables management to better assess the value of corporate projects and processes and determine whether they are under or over resourced. The ISO is also scrutinizing day-to-day expenses in an effort to ensure the most effective use of budgeted resources.

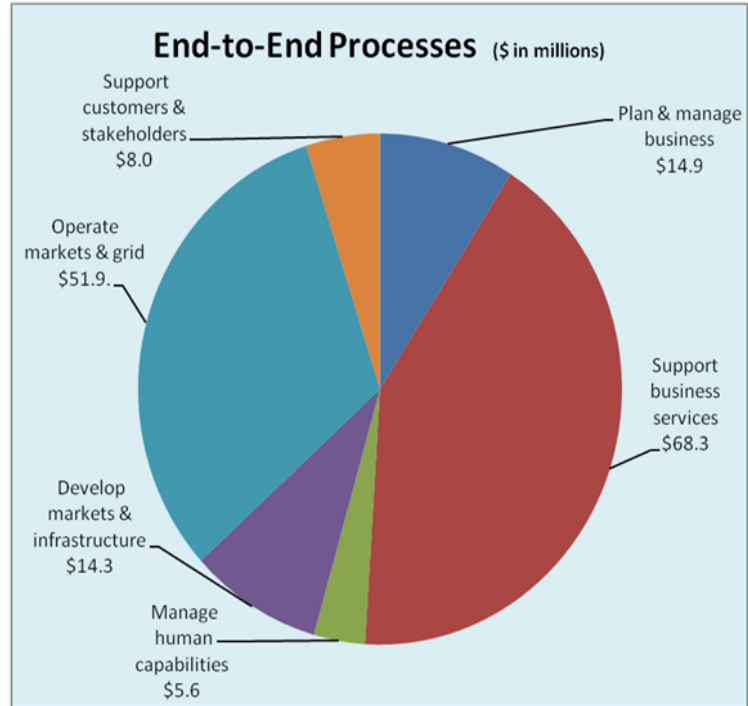
The highest levels of the ISO are actively involved with defining, creating and nurturing a culture of cost-consciousness as well as enhancing services while not adding costs. Stakeholders also participate in ISO governance by engaging in policy and tariff stakeholder processes that weigh and balance costs and reliability issues.

Not only is the ISO vigilant in containing costs, it also places a high emphasis on managing our resources in a smart and prudent manner.

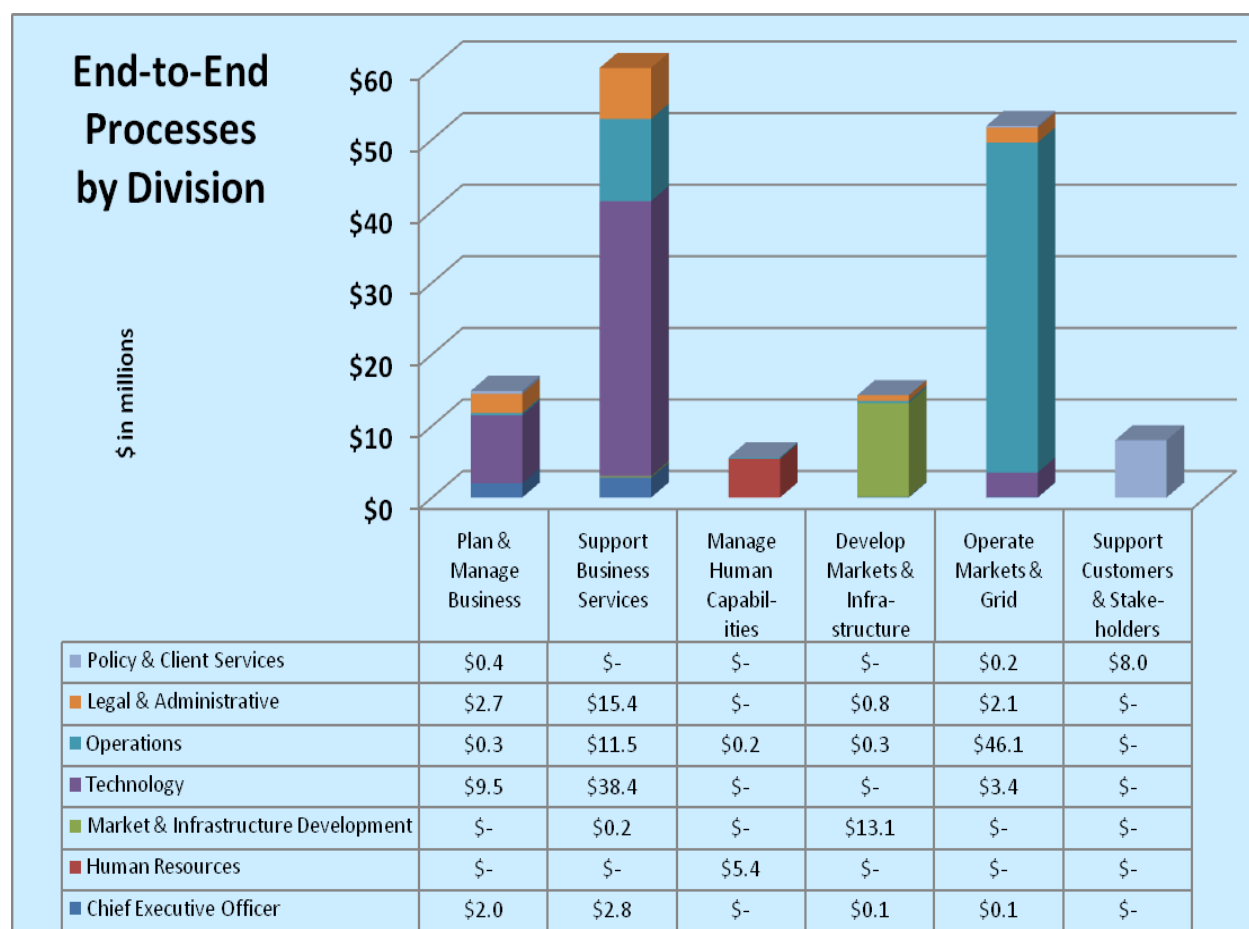
### III. PROCESS VIEW

In the fall of 2009, the ISO initiated activity based costing and since then has further leveraged the system to provide greater transparency and granularity in how the budget supports business plans. The ISO anticipates all employees charging time to second level processes by the end of 2011. The ISO derives the costs for the activities by using an estimate of the percentage of time spent by each cost center on the end-to-end process and then aggregating the results into the six summary activities (see below). This budget aggregates the cost centers in the following buckets:

- Support customers and stakeholders — client, account and stakeholder processes, government affairs and communications;
- Develop markets and infrastructure — regulatory, market, policy and product design and transmission planning, grid asset reviews and interconnection studies;
- Operate markets and grid — manage and operate the markets including modeling, setup, and settlements;
- Manage human capabilities — employee lifecycle, training and organizational development;
- Support business services — general, information technology, financial, legal and compliance support services; and
- Plan and manage business — strategic planning, governance, budgeting and project management



The ISO allocated division costs into the end-to-end processes as follows:



The ISO has 10 long-term initiatives and added 2 new ones in 2011 to respond to evolving needs related to renewable integration and new state policy.

The formal corporate initiatives are:

1. Enable renewable resources integration
2. Implement system and tools
3. Evolve the market and infrastructure policy
4. Enhance markets and performance
5. Develop infrastructure
6. Advance state energy and environmental initiatives
7. Focus on customer service
8. Foster a compliance culture
9. Develop next generation of ISO people
10. Institutionalize process and quality
11. Incorporate distributed resources (new in 2011)
12. Improve forecasting capabilities (new in 2011)

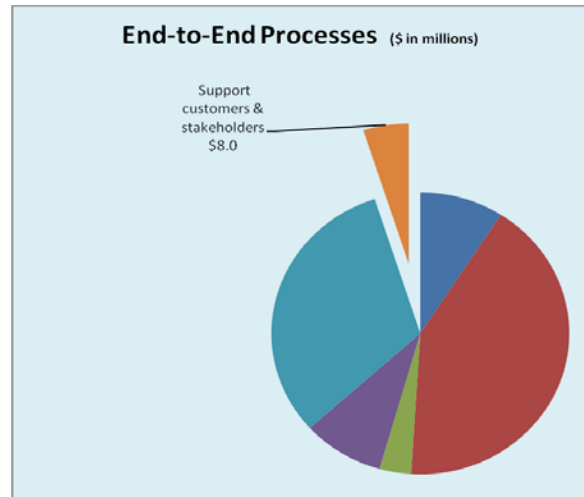
## Support Customers and Stakeholders

Support Customers and Stakeholders, amounting to \$8.0 million and 36 staff, consists of the efforts of the Policy and Client Services division. The ISO commitment is to provide the highest quality of service to its customers, market participants and stakeholders. This includes the timely resolution of customer issues and streamlining access to market information.

### Primary Activities

A formal corporate initiative supports the process that directly promotes improving customers' business experience with the ISO and disseminating clear and consistent corporate information to stakeholders and the public. Besides surpassing previous goals to resolve inquiries quickly and encouraging quality dialogue between the ISO and its key customers, this activity provides the resources necessary to drive improvements in the stakeholder processes as well as building proactive outreach and encouraging involvement by new market participants.

Additionally, this effort includes improving government affairs activities that communicate ISO advice and technical expertise to government and regulatory bodies to advance policies and mandates that also protect grid reliability.

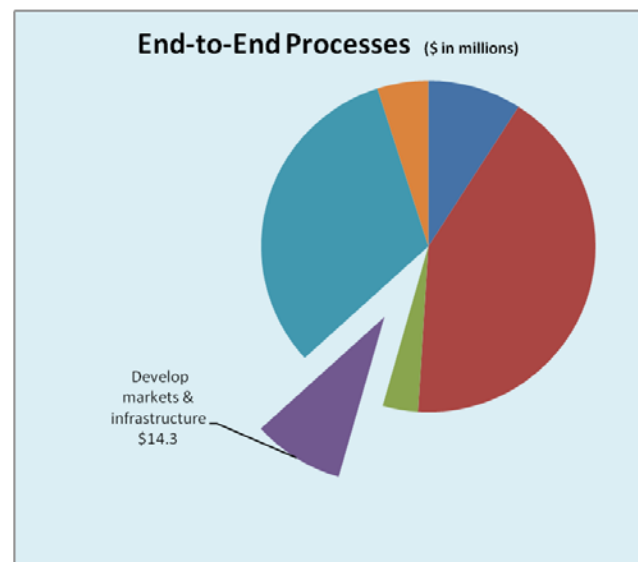


## Develop Markets and Develop Infrastructure

Develop Markets and Develop Infrastructure are two separate processes that cover the ISO activities in creating and implementing value-added enhancements to the market design and proactively planning and facilitating grid upgrades, especially those needed to integrate renewable resources.

### Develop Markets

Develop markets, amounting to \$5.6 million and 23 staff, comprises elements from three divisions: the Market Monitoring department of the CEO division, Market Infrastructure and Development, and Legal and



Administrative divisions. This activity includes improving our abilities to review and analyze the efficiency and quality of market results, as well as identifying needed market design enhancements that increase efficiencies and transparency.

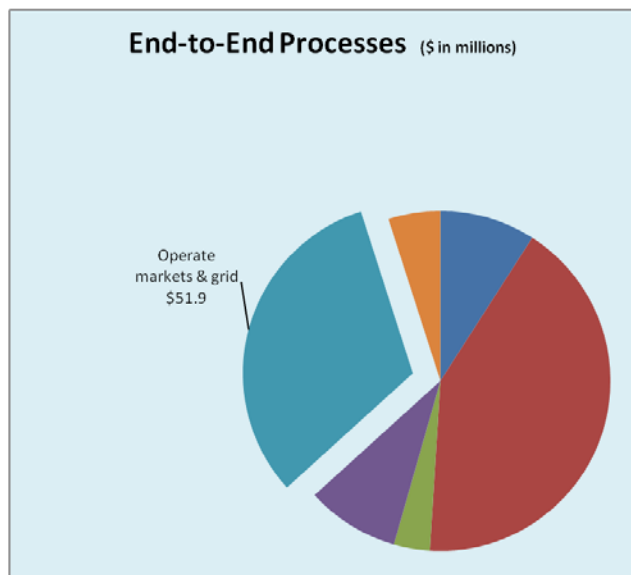
Among the initiatives under this banner are ones that are building the business and operational framework that accommodates demand response and renewable resources, including distributed generation, and storage technologies participation in the ISO market.

### **Develop Infrastructure**

Develop infrastructure, amounting to \$8.7 million and 44 staff, comprises four divisions: Market Infrastructure and Development, Technology, Operations and Legal and Administrative divisions. The budget supports a proactive approach to transmission planning that has resulted in reforming transmission planning into a comprehensive approach that considers reliability and public policy needs.

## **Operate Markets and Grid**

Three end-to-end processes make up Operate Markets and Grid: Manage Market and Reliability Data and Modeling, Manage Markets and Grid, and Manage Operations Support and Settlements.



### **Manage Market and Reliability Data and Modeling**

Manage Market and Reliability Data and Modeling, amounting to \$15.2 million and 79 staff, comprises the Operations division with elements of Market and Infrastructure Development, Technology, Legal and Administrative, Policy and Client Services, and the Market Monitoring Department of the Chief Executive Officer divisions.

The ISO diligently checks and rechecks its network modeling policies and protocols to reduce as much as possible out-of-market energy dispatches, assure models reflect all grid constraints and produce timely and

accurate prices.

### **Manage Markets and Grid**

The ISO combined in 2011 the Operate Real Time Market and Grid process and the Manage Market Setup and Execution process into a single process titled Manage Markets and Grid. The functions of the two reside within the new process area. Manage Markets and Grid, amounting to \$26.5 million and 101 staff, comprises the Operations division with elements of the Technology division. A demanding ISO responsibility is to manage transmission and generation outages, especially those that are unplanned, as it

takes expertise honed in split-second decision-making situations (and training) to ensure continuous flow of power to all customers. Managing the market includes executing the day-ahead market and interchange scheduling to meet all local capacity requirements and the power delivery is for the most reasonable cost possible.

### **Manage Operations Support and Settlements**

Manage Operations Support and Settlements, amounting to \$10.2 million and 60 staff, comprises Operations along with the help from the Technology and Legal and Administrative divisions. The budget provides the resources that work to improve market efficiency. This effort includes lowering the financial risk of participating in the wholesale market that in turn lowers the cost of doing business with the ISO. The lower cost translates into less overhead for ISO customers who can pass the savings to ratepayers.

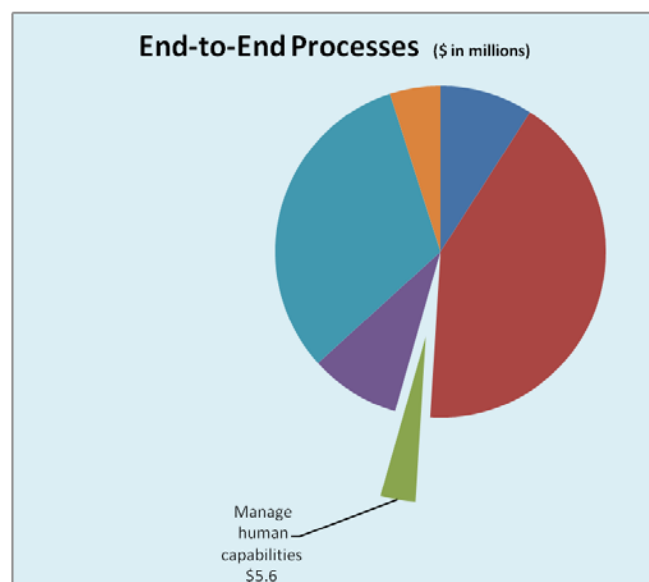
## **Manage Human Capabilities**

Manage Human Capabilities, amounting to \$5.6 million and 15 staff, comprises the Human Resources division and elements of Operations division. It consists of five primary end-to-end processes that combine to ensure the ISO attracts and retains the skills and talent necessary to achieve business objectives. The processes are compensation, benefits, recruitment, training and development, and employee relations.

With respect to compensation and benefits, the budget provides resources to support the Company's ability to attract and retain uniquely skilled and highly sought-after professionals. The menu of benefits offerings reflects creative and competitive cost containment measures while at the same time preserving the options needed to meet the needs of a diverse employee population.

Developing the next generation of ISO people equipped with the knowledge, skills and expertise to meet the increasingly complex challenges of today and the future remains a top priority. The budget provides resources to ensure employees not only grow in their jobs but also increase their value to the corporation.

In addition, the budget provides resources to support management and employees in maintaining a high-performance and respectful workplace environment where employees pursue their highest potential and are actively contributing to the success of the corporation.

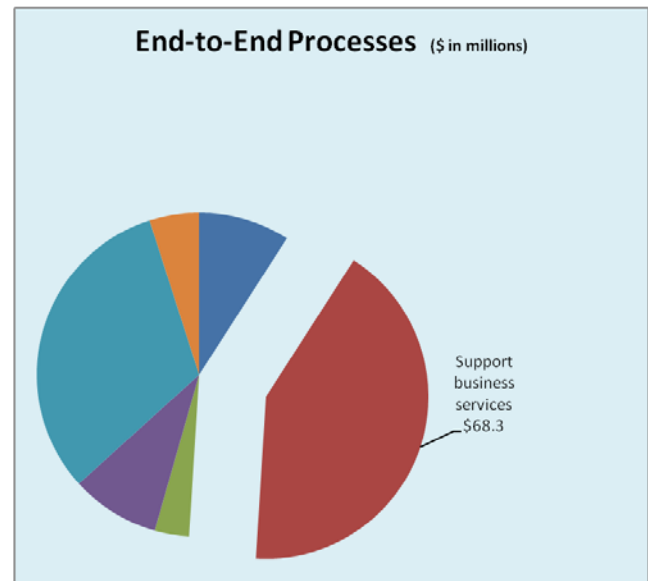


## Support Business Services

Support Business Services, amounting to \$68.3 million and 204 staff, comprises elements of all divisions: CEO, Market and Infrastructure Development; Technology; Operations; Legal and Administrative; and Policy and Client Services.

This process provides the resources to improve upon the ISO's ability to effectively carry out its business duties by developing well defined, measured and controlled processes (workflow and information technology), as well as nurturing disciplined business decision making, maintaining quality assurance and efficiently implementing enhancements.

In addition, this process supports the initiatives that improve and maintain a responsive and effective compliance culture.

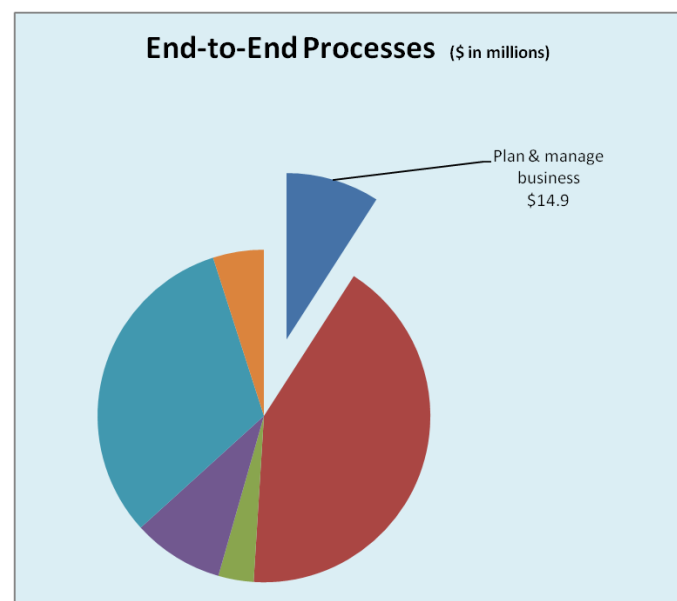


## Plan and Manage Business

The Plan and Manage Business process, amounting to \$14.9 million and 39 staff, comprises five divisions: CEO, Technology, Operations, Legal and Administrative, and Policy and Client Services.

Every process, project or policy the ISO has or is considering includes weighing the identified benefits. Supporting this activity includes aligning the strategic planning process with budget planning, as outlined in Section II: and aligning with the Strategic Plan.

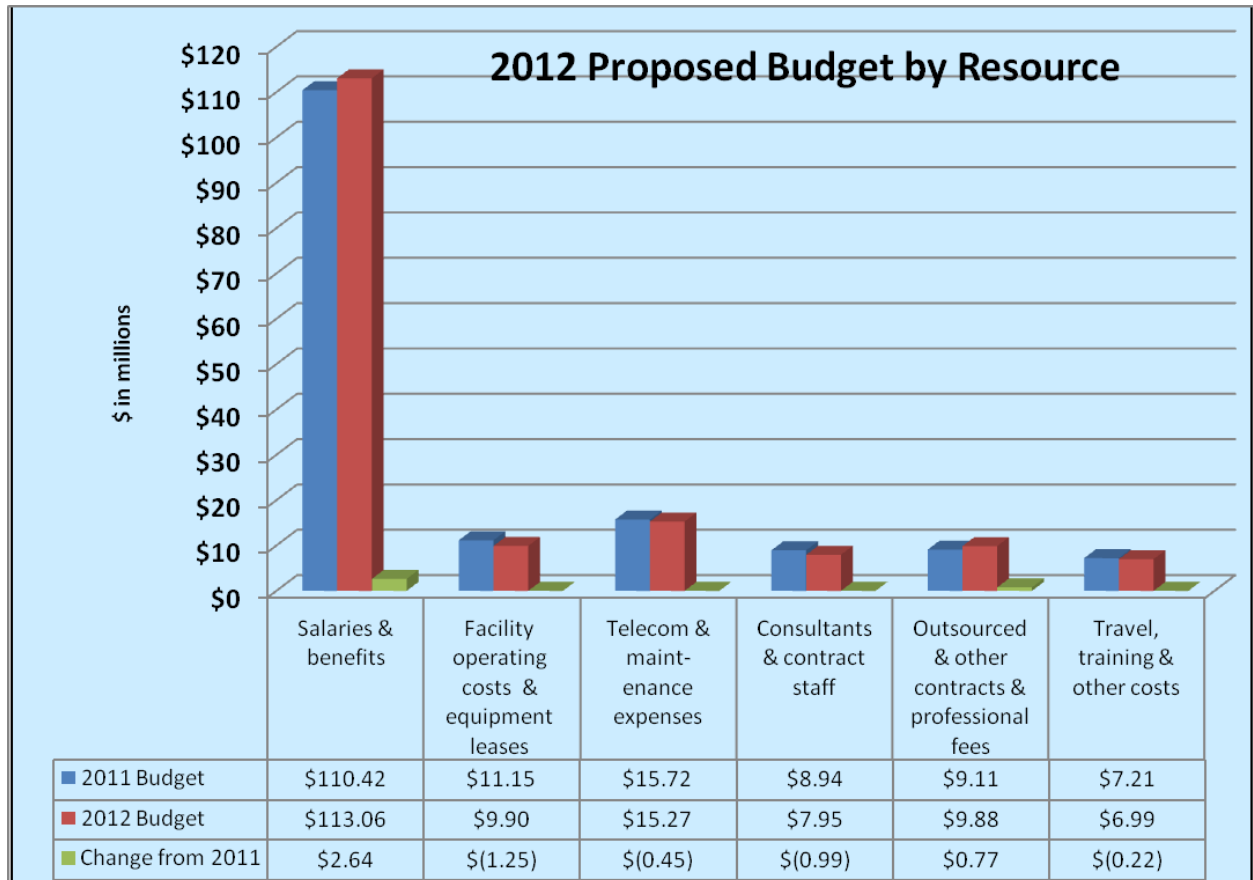
It is the budget process that drives revenue requirement needs, which translates into rates charged to scheduling coordinators and other market participants.





## IV. ISO RESOURCE UTILIZATION

This section deals with the resources consumed by the ISO in its O&M budget to accomplish its strategic objectives and goals. The chart below contains the major resource components.



### Staffing

To operate the grid, the ISO depends on its highly educated employees, which makes staff a critically important resource with salaries and benefits comprising 70% of the 2012 O&M budget and 68% of the 2011 O&M budget.

The staffing plan concentrates on attracting and retaining the best and brightest individuals in the industry, and, at times, the ISO will revise the organizational structure to accommodate such talent. The Company also makes periodic organizational changes to align resources to focus on the important matters identified in the Five-Year Strategic Plan, and better reflect end-to-end business processes.

The staffing level for 2012 is 598 employees plus 3 trainees; the staffing level remains unchanged from 2011. As of October 31, 2011, the ISO had 589 full time employees. The ISO did not make any provision for vacancies in the 2012 budget, as full time

employees equals 98% of the budgeted staffing level. A summary of the budgeted headcount for 2012 and 2011 is as follows:

<b>Projected Staffing Levels</b>	<b>2012 Budget</b>	<b>2011 Budget</b>	<b>Change</b>
Chief Executive Officer	17	17	-
Human Resources	15	15	-
Market and Infrastructure Development	63	63	-
Technology	173	171	2
Operations	240	242	(2)
General Counsel and Administration	55	55	-
Policy and Client Services	38	38	-
<b>Gross headcount</b>	<b>601</b>	<b>601</b>	-
Less Program Office staff included in capital	(5)	(7)	2
<b>Net headcount</b>	<b>596</b>	<b>594</b>	2

The 2012 budget saw staffing costs increase \$2.6 million, or 2%, for a total of \$113.0 million from \$110.4 million in 2011. The increase relates to anticipated merit increases, which amounted to a \$1.6 million increase, and anticipated overtime, which amounted to a \$1.1 million increase over the prior budget. This is not an increase in actual overtime worked as the budget for 2012 more accurately captures anticipated overtime based on experience. A reduction in other payroll costs of \$104,000 slightly offsets these increases by.

### **Staffing Related to Capital**

The ISO, as in past years, removes the costs of staff dedicated full-time to capital projects from the O&M budget, and charged to capital projects, which have separate funding. The capitalized staff amounts to five full-time staff in the Program Office department of the Technology division. The respective cost centers captures the budgets for other ISO staff engaging in capital projects, but capitalized for the financial statements in accordance with generally accepted accounting principles.

### **Compensation Structure**

The 2012 compensation budget includes funding for employee base salaries, benefits and payroll taxes, as well as other compensation elements such as overtime and performance compensation, and related costs such as relocation and tuition reimbursement. The budget also includes funds for 2012 salary adjustments for merit, equity and market adjustments. These costs have been budgeted for each position.

In setting the annual merit, equity and market adjustments budget, the Human Resources division participates in multiple salary surveys that third party vendors administer confidentially to compile information on competitive market pay rates. The

ISO's ability to attract and retain talent with the necessary skills and knowledge maintains a direct link to our ability to maintain competitive pay practices.

The total compensation package for employees includes performance compensation with payouts in the subsequent year based on individual and corporate performance.

Employee benefits budgeting threshold remains at 36% of salary costs as summarized in the table below. The percentage for employee benefits, or the benefit burden, remains unchanged from 2011. Management will enter into contracts with selected vendors to ensure these benefits are available to eligible employees with the costs primarily depending on employee population levels and participation.

The 36% benefits burden is broken down as follows:

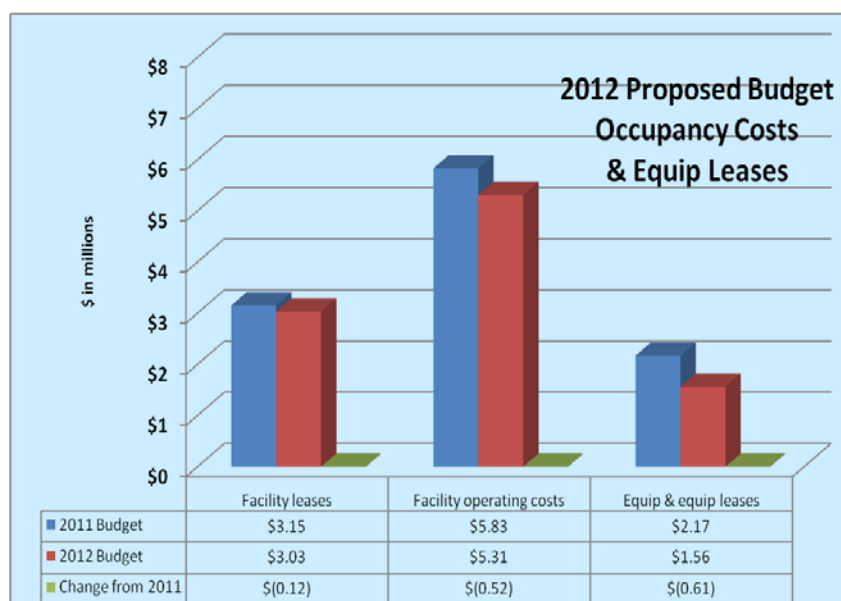
Benefit Obligation	ISO Cost Components	Rate
Health and Welfare plans Medical, Dental and Vision	Medical, dental and vision; life, accidental death and long-term disability insurance; state unemployment insurance; and worker's compensation	13%
Retirement Benefit Plans	Retirement Savings Benefit Plan 401(k); Federal social security and Medicare; executive retirement plans; and Retiree Medical Benefit Plan	22%
Other obligations	Administration related costs	1%
<b>Total Burden</b>		<b>36%</b>

## Occupancy and Equipment Leases

Occupancy and equipment lease costs decreased by \$1.3 million from \$11.2 million in 2011 to \$9.9 million in 2012. These costs make up approximately 6% of the 2012 budget and 7% of the 2011 budget.

Facility leases fell by \$116,000, or 4%, because of expiring leases in 2012 for the original Folsom, CA locations.

Facility operating costs decreased by \$523,000, or 9%, to \$5.3 million in 2012 from \$5.8 million in 2011. This is because facility operating costs not being as high in the new building as originally anticipated.



Equipment leases contracted by \$607,000, or 28%, because of expiring leases for data storage hardware in 2012.

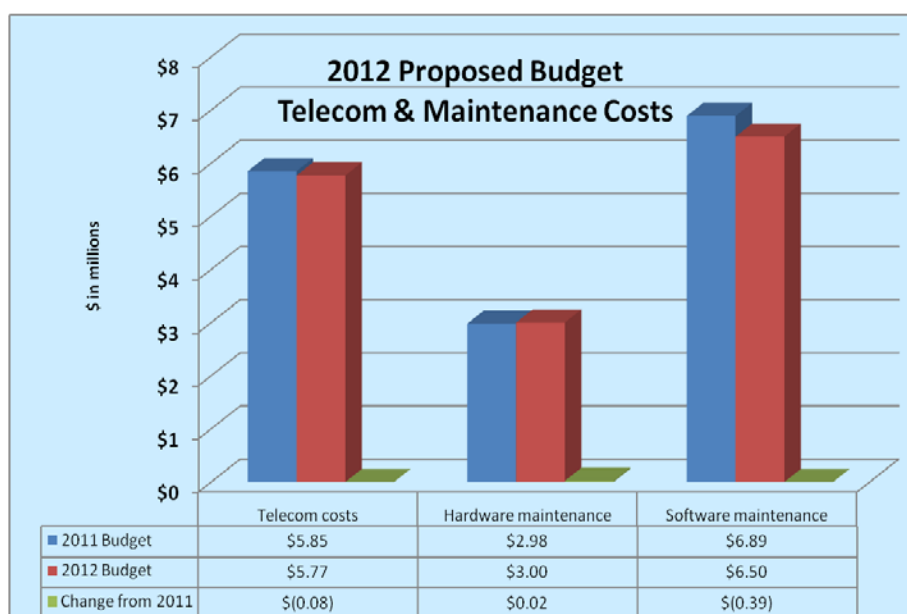
## Telecommunications and Hardware and Software Maintenance Costs

Telecommunications and hardware and software maintenance costs decreased \$446,000, or 3%, to \$15.3 million compared to \$15.7 million in 2011. These costs make up approximately 9% of the 2012 budget and 10% of the 2011 budget.

Telecommunication costs went down by \$79,000, or 1%, for the 2012 budget amounting to \$5.8 million compared to \$5.9 million in 2011 primarily because of increased cost management efforts.

Hardware maintenance costs increased slightly by \$18,000, or 1%, over the 2011 budget.

Software maintenance costs decreased \$385,000, or 6%, to \$6.5 million in 2012 from \$6.9 million in 2011. This was, again, primarily due to increased cost management efforts.



## Consultants and Contract Staff

Consulting and contract staff costs declined by \$978,000, or 11%, to \$8.0 million in 2012 from \$8.9 million in 2011 and make up approximately 5% of the 2012 and 2011 budgets

The Technology division contributed to a majority of the reduction with \$548,000 while the other divisions had a combined decrease of \$430,000. This reduction is due to improvements made to the ISO project management process. The ISO transferred certain project related costs that were previously included in O&M to the capital budget, which includes an additional level of oversight. The ISO evaluates on an ongoing basis how to fulfill its responsibilities in a manner that is cost effective while providing the highest service quality, whether this is through hiring full-time employees or using outside resources (contractors, consultants, or temporary staff). At times, the Company may bring contractor work in-house when it is of an ongoing nature and provides lower overall cost with the same or better service quality. See additional discussion under Section VII.

## Outsourced Contracts and Professional Fees

The budget for outsourced contracts and professional fees increased by \$765,000, or 8%, in 2012. The budget category makes up 6% of the 2012 budget and 6% of the 2011 budget.

Professional fees fell \$595,000, or 10%, to \$5.6 million in 2012 from \$6.2 million in 2011. The decrease is a result of the need for less outside legal counsel and audit services.

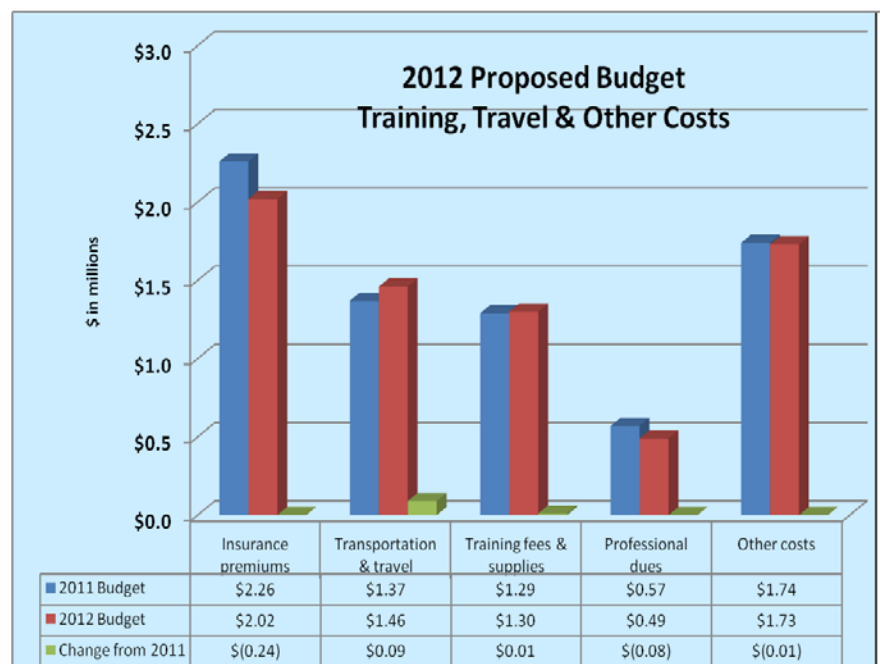
Outsourced and other contracts combined increased by \$1.4 million, or 46%, to \$4.3 million in 2012 from \$3.0 million in 2011. Major outsourced contracts include locational marginal price validation, weather and wind forecasting, and credit rating services. The increase is due to increased forecasting costs for the expanding wind and solar resource fleet. The intermittent resources pay increased forecasting revenues to offset the increased forecasting costs.



## Training, Travel and Other Costs

Training, travel and other costs decreased \$223,000, or 3%, to \$7.0 million in 2012 from \$7.2 million in 2011. These costs make up approximately 4% of the 2012 and 2011 budgets.

Insurance premiums went down by \$242,000, or 11%, to \$2.0 million in 2012 from \$2.2 million in 2011. This is due to the reallocation of the Workers Compensation premium to the payroll benefit burden where it



could be absorbed without further increase in the burden rate of 36%.

Transportation and travel went up by \$92,000, or 7%, to \$1.5 million in 2012 from \$1.4 million in 2011.

Training fees and supplies increased slightly by \$9,000, or 1%, over the 2011 budget.

Professional dues and other costs (primarily bank fees, office supplies and meeting costs) decreased \$82,000, or 14%, to \$2.2 million in 2012 from \$2.3 million in 2011.

## Reconciliation with 2011 O&M Budget

The 2012 proposed O&M budget decreased by \$1.0 million, or 1% to \$161.5 million compared to \$162.5 million in 2011. A reconciliation of the change follows (\$ in millions):

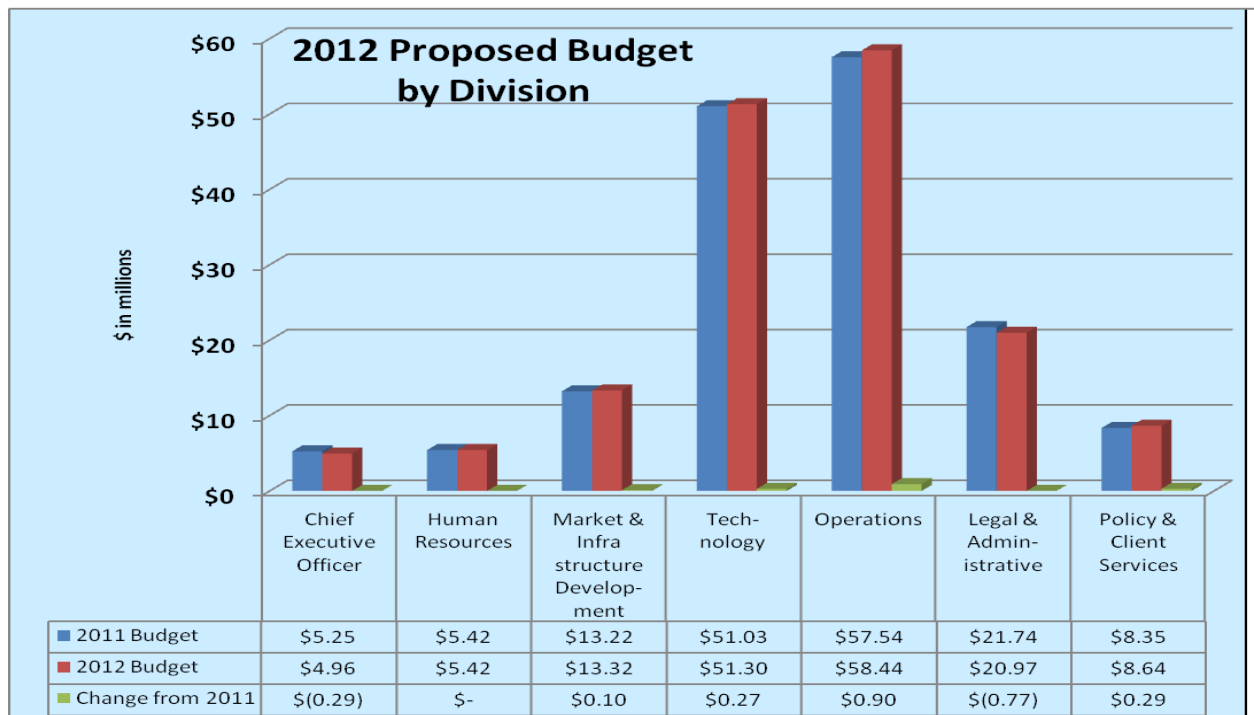
<b>2011 O&amp;M Budget</b>	<b>\$162.5</b>
<b>Increases in the budget</b>	
Merit increases	1.6
Increased intermittent forecasting costs	1.5
Projected overtime increase	1.2
Increase in other costs	0.2
<b>Net increases in the budget</b>	<b>4.5</b>
<b>Decreases in the budget</b>	
Reduction in consultants and contract staff	(1.0)
Reduction in facility operating expenses and facility leases	(0.7)
Reduction in professional fees	(0.6)
Reduction in equipment leases	(0.5)
Lower software maintenance costs	(0.4)
Lower insurance premiums	(0.2)
Decrease in other costs	(0.6)
<b>Net decreases in the budget</b>	<b>(4.0)</b>
<b>Proposed 2012 O&amp;M Budget</b>	<b>\$163.0</b>

## V. ISO DIVISIONAL BUDGET OVERVIEWS

Each corporate division provides a description of their department, functions, staffing, and proposed budget. The divisions are:

- Chief Executive Officer
- Human Resources
- Market and Infrastructure Planning
- Technology
- Operations
- Legal and Administrative
- Policy and Client Services.

The 2012 proposed budget of \$161.5 million is \$1.0 million, or 1%, less than the 2011 budget of \$162.5 million. The Operations and Technology divisions account for 35% and 32%, respectively, of the 2012 O&M budget while the Legal and Administrative division comprises 13%. The Market and Infrastructure Development division accounts for 8%, the Policy and Client Services division accounts for 5% and the Human Resources and Chief Executive Officer divisions makes up 3% each. Staffing remains unchanged from 2011 at 601.



Minor organization changes made during 2011 include creating a new business unit, Interconnection Resources, in the Market and Infrastructure Development division, under the Infrastructure Development group. In addition, the Operations division has two new business units: System Operations Support and Analysis, under the System Operations group, and Market Settlement Validation and Resolution, under the Market Services group. To satisfy the general ISO goal to optimize efforts, it was necessary to

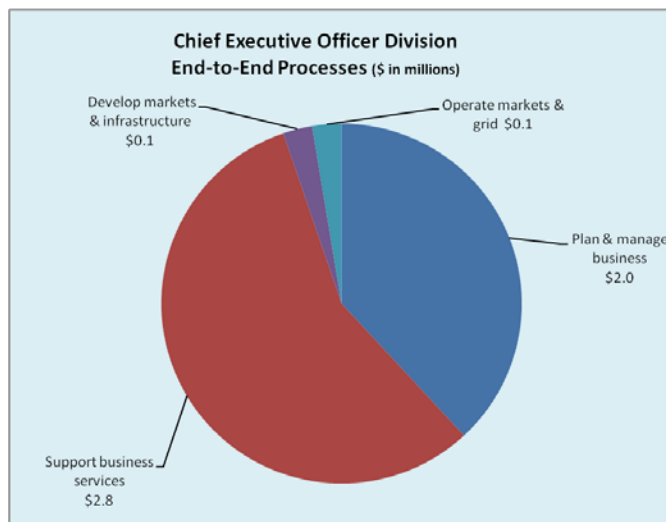


transfer some staff members among and within the divisions. The 2011 budget reflects these changes to be comparable with the 2012 budget.

## Chief Executive Officer Division (including Department of Market Monitoring)

The division comprises the office of the Chief Executive Officer and the Department of Market Monitoring.

The Department of Market Monitoring provides independent oversight and analysis of the ISO markets by identifying market design flaws, potential market rule violations and market power abuses. While the department reports administratively to the CEO, it reports functionally to the ISO Board of Governors to ensure independence in its role as market monitor.

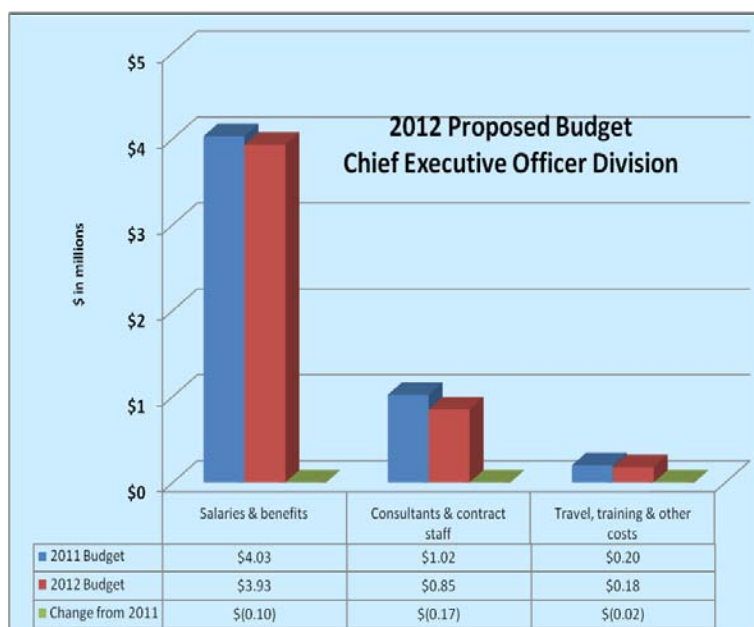


The department is a highly skilled group of analysts with advanced degrees in economics and engineering who publish quarterly and annual reports on market issues and performance as well as periodic ad-hoc reports. The market monitoring group is active in shaping policies to help establish provisions to ensure market efficiency and mitigate the exercise of market power, especially with new market features and services that facilitate the integration of renewable resources.

During 2011, the department focused a considerable portion of its resources on monitoring convergence bidding - a major new market feature the ISO implemented in February 2011. In 2012, the department will place a major emphasis on the implementation and monitoring of significant enhancements to the automated local market power mitigation mechanisms incorporated in the ISO market software.

### Discussion of Proposed Budget

The 2012 proposed budget of \$5.0 million compares with the 2011 budget of \$5.2 million, which is a





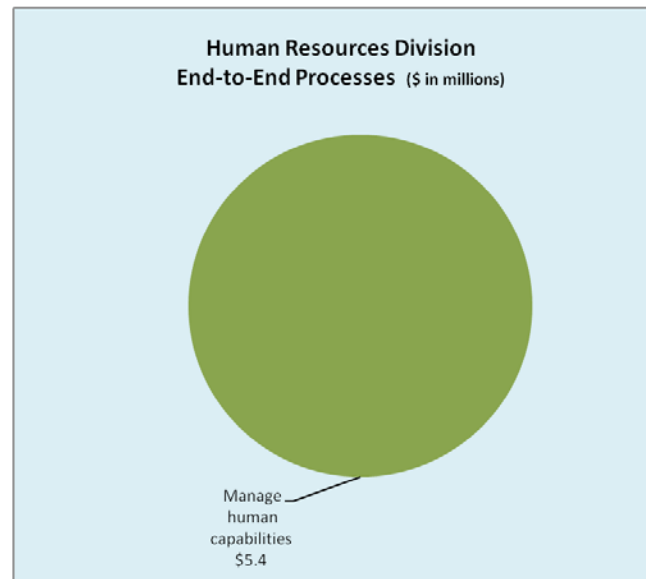
decrease of \$293,000, or 6%. Staffing remains the same at 17.

Personnel costs decreased \$102,000 and consultants and other contracts decreased \$173,000, because of the need for less outside services, while other costs decreased \$18,000.

## Human Resources Division

The Human Resources division establishes the policies, programs and “people” strategies that enable the Corporation to attract and retain the uniquely talented professionals the Company needs to operate and meet its objectives.

In addition to managing the division with best practices, in 2012 Human Resources will advance the corporate focus on developing the next generation of ISO people. Ensuring the organization has the right people with the right skills in all jobs is key given the United States Department of Labor prediction of diminishing resource pools in engineering and other technical fields, and the global explosion of smart grid investments. ISO technical staff is extremely marketable and sought after as the competition for highly qualified people intensifies. At the same time, increasingly complex market systems, technological change and demanding operational needs require the ISO to keep staff skills up to date and on the cutting edge of technology.

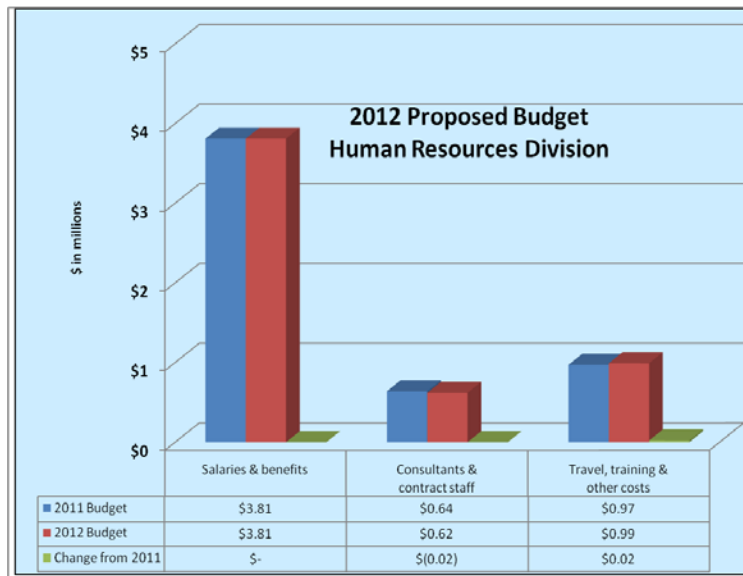


Our integrated approach to developing the next generation of ISO people in 2012 includes focusing on five key areas: enhancing the knowledge and skills of existing staff; continuing to develop technical experts; strengthening leadership and managerial capabilities; retaining and recruiting targeted skills for critical areas; and, sustaining an engaging workplace environment. Power systems operators will participate in enhanced training simulations to master new tools and advanced technologies. Subject matter experts including economists, transmission engineers, market planners and IT professionals receive targeted training via the ISO Academy and other venues. Mentoring and coaching for leaders and managers will continue with executive-level sponsorships and support from the Leadership Academy. Human Resources will recruit externally for expertise in emerging areas and to fill skill and knowledge gaps to supplement the ISO mentoring efforts. The ISO takes its reputation as an employer of choice seriously. The ISO will continue to ensure its workplace supports every team member in achieving excellence.

## Discussion of Proposed Budget

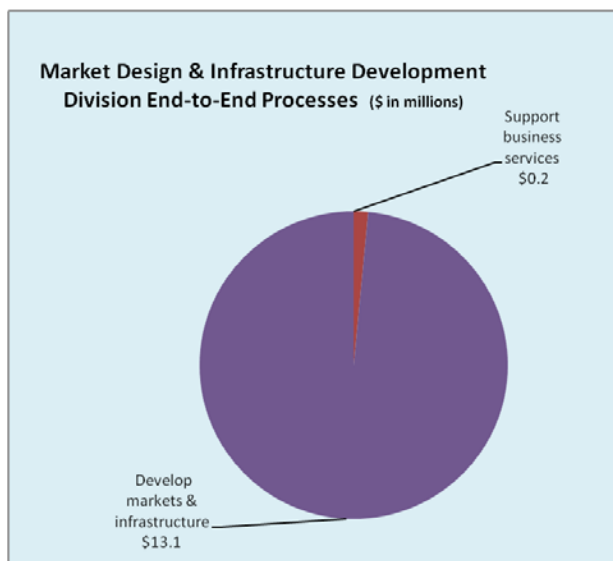
The 2012 proposed budget of \$5.4 million remains unchanged from the 2011 budget. Staffing remains the same as well at 15.

Consultants and contract staff decreased \$20,000, while travel, training and other costs increased \$20,000.



## Market and Infrastructure Development

The Market and Infrastructure Development division develops a forward-looking, comprehensive and fully compliant transmission plan that incorporates initiatives that facilitate a robust market, support the state's resource adequacy program, generator interconnection studies and renewable resource integration analysis. Other responsibilities include performing seasonal operating studies, maintaining operating procedures, supporting real-time operations and coordinating with surrounding control area operators on engineering issues.



Ongoing duties include developing policy positions on regulatory issues and responsibility for over 1,700 ISO regulatory contracts, including their negotiation, drafting and administration.

This division provides subject expertise and regulatory support to policymakers developing state initiatives such as greenhouse gas emission reductions, increasing demand response resource participation in the wholesale market and setting capacity requirements. It also provides technical support to the Market Services group in the Operations division on congestion revenue rights issues and to the Market Operations group, which is also in the Operations division, on full network modeling capabilities.

The Market and Infrastructure Policy Department is responsible for designing market rules and mechanisms including those mandated for enhancement, expanded functionality for demand response resources participation in the wholesale markets, real-time dispatch and pricing rules for constrained generation and decremental generation bidding rules.

The Market Analysis and Development Department monitors the market and identifies systemic issues that may need attention. When it identifies issues, the department develops conceptual solutions to address them. The department holds a stakeholder web conference about every six weeks that provides updates and observations on market performance with an emphasis on coordinating plans with stakeholders to implement market enhancements, services and features. The outreach is reflective of the ISO efforts to elevate its communications with stakeholders and encourage feedback.

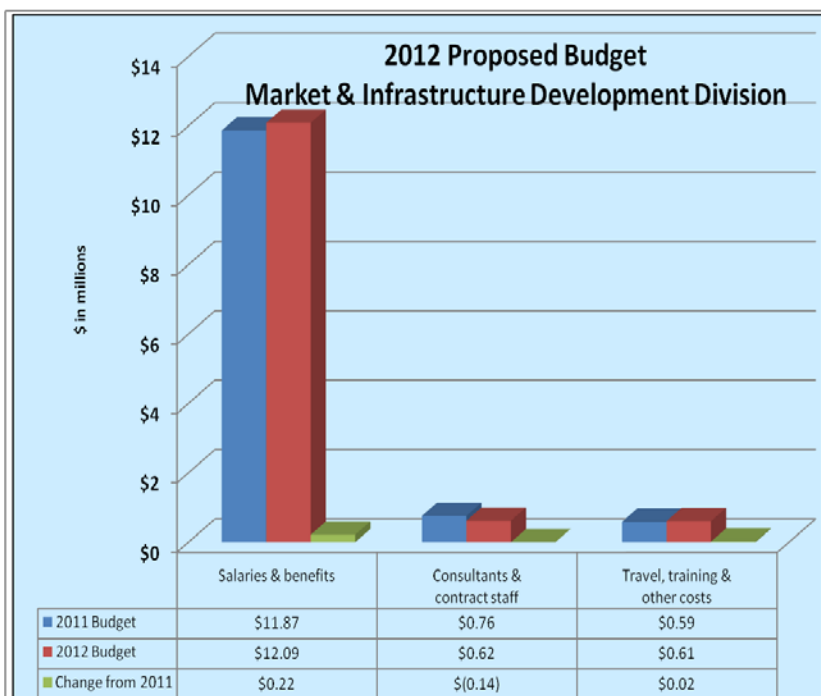
The division as a whole is focusing a substantial amount of resources in developing the rules and mechanisms to integrate renewable resources. Progress on meeting related initiatives includes meeting goals to advance smart grid technology, distributed resources and renewable resources integration. In addition, the division is reforming the transmission planning and generator interconnection processes that help support meeting state renewable portfolio standard targets as well as reliability needs.

The ISO in 2011 fully engaged with investor and municipal owned utilities via the California Transmission Planning Group in establishing the metrics that led to publishing a conceptual statewide transmission plan that the ISO used in its regulatory compliant transmission planning process.

## Discussion of Proposed Budget

The 2012 proposed budget of \$13.3 million compares with the 2011 budget of \$13.2 million, which is an increase of \$114,000, or 1%. Staffing remains unchanged from 2011, at 63.

Personnel costs increased \$222,000, which reflects merit increases and overtime. Consulting costs fell \$140,000, because of less need for outside services. Other costs increased \$28,000.

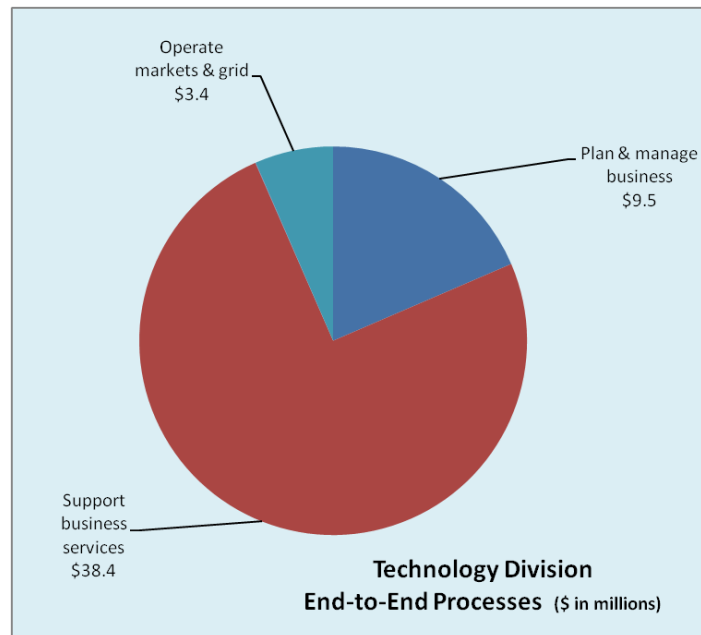


## Technology

The Technology division encompasses Information Technology and the Project Office. The division provides reliable, cost efficient and world-class services and innovation through technologies that deliver exceptional system availability and new functionalities that support corporate goals and objectives.

The division's priorities in 2012 are as follows:

- to make incremental technology improvements, especially for market and reliability operations;
- to proactively identify system problems and to fix them; and
- to predict system vulnerabilities and strengthen them before they become problems.



The Technology division is the ISO anchor in managing the many changes needed to support renewable resource integration and has key initiatives directly related to facilitating new generation and transmission construction in California.

In the mid- to long-term future, the division is developing plans to make network architectural changes so that ISO systems are easier to maintain, reduce maintenance costs and leverage technologies to improve cost effectiveness.

The Program Office Department leads and manages key initiatives and projects that focus on enhancing customer service and processes. Core functions include release planning, program management for the Strategic Plan and the market initiatives roadmap, and providing project delivery via a standardized program lifecycle approach. All Program Office efforts have a strong process and quality focus based on Project Management Institute and Capability Maturity Model Integration standards.

The Smart Grid Technologies and Strategy Department leads the ISO effort to identify emerging technologies, which also includes new uses for mature technologies that enhance grid efficiencies and monitoring capabilities. These technologies are critical in enabling the ISO to interconnect and manage the variability of renewable resources.

The Power Systems Technology Development Department is responsible for the functional testing related to market-related projects. Working with the Program Office,

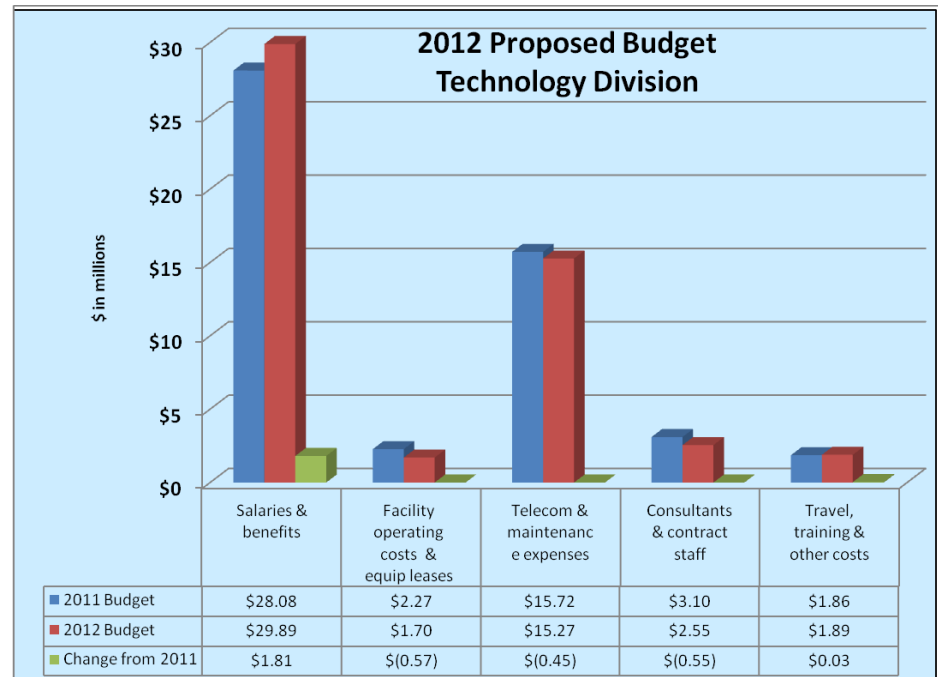
the department makes sure that project implementation plans are feasible. This department leads the advanced technology applications development efforts such as voltage stability and dynamic stability applications projects.

## Discussion of Proposed Budget

The 2012 proposed budget of \$51.3 million compares with the 2011 budget of \$51.0 million, which is an increase of \$274,000, or 1%. Staffing increased by 2 to 173 from 171.

Personnel costs increased \$1.8 million, which reflects merit increases and overtime. Equipment leases decreased

\$565,000, or 25%, to \$1.7 million from \$2.3 million in 2011 because of expiring data storage hardware leases in 2012. Hardware and software maintenance costs decreased \$367,000, or 3%, to \$9.5 million in 2012 from \$9.9 million in 2011. The decrease was attributable primarily because of increased cost management efforts. Consultants and contract staff costs decreased \$547,000, or 18%, to \$2.5 million in 2012 from \$3.1 million in 2011. This was due to the transfer of project related contractor costs to the capital project budget, improved process management and automation. Other costs increased \$21,000.



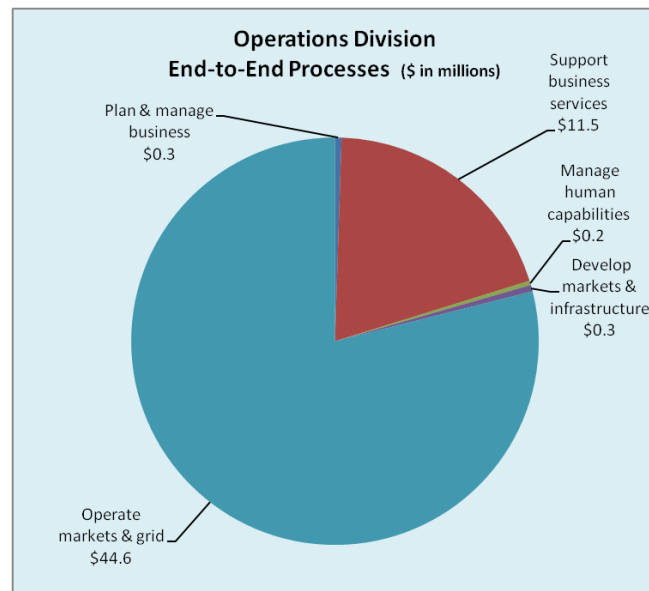
## Operations

The Operations division main mission is the reliable operation of the power grid; markets and operations support, and comprise Systems Operations, Operations Engineering Services, Market Services, and Operations Compliance and Control, as well as the Campus Operations Department.

The power system is evolving to accommodate an increasing amount of renewable and distributed resources connecting to the grid, rising levels of imports and exports, and the participation of demand resources in the wholesale market.

In addition, new applicable reliability standards may affect how the ISO reliably operates the grid. With advanced tools, the division will proactively manage the changing profile and characteristics of the power system and generation fleet changes, which includes managing the variability of renewables.

The ISO moved into its new state-of-the-art control center in late 2010. The center has a staff of industry leading professionals using innovative geospatial technology and advanced visualization capabilities that display information and data on a 36-screen video wall that is just shy of 7 feet high and 81 feet long, or nearly the length of a basketball court. The center's advanced technologies provide the ISO a more transparent view into the status of the real-time grid and market, and the capability to solve potential reliability problems well in advance of real time. The Systems Operations Department operates the forward and real-time markets in a manner that delivers the most cost effective energy to California consumers while maintaining grid reliability.



The Systems Operations and Operations Engineering Services departments are becoming centers of excellence by further developing a professional staff that is highly skilled using the advanced technologies and tools necessary to reliably operate the grid and facilitate efficient markets in complex environments while evolving the grid to meet policy goals.

The Market Services Department performs the market settlement function as well as metering. It supports implementing market enhancements that facilitate transparent, consistent and efficient operations as well as ones that reduce the settlement timeline to achieve efficient market outcomes.

The Operations Compliance and Control Department is re-writing and re-structuring operations procedures as well as taking training to a new level for operations development. That includes creating a new operations simulator, which is a smaller replica of the control room. The work includes re-categorizing, standardizing and simplifying procedures and processes. These two project areas are critical to the success of the operators, and although achieving much progress, the department plans additional work that will stretch into 2012. This includes reviewing and updating all level two processes. This department also develops and implements cross-training, market based training, forward analysis simulation training and individual career progression programs to empower our people to operate in a more complex, technical and challenging operating environment.

The Campus Operations Department manages the ISO building and infrastructure that supports a safe, efficient and comfortable work environment. Campus Operation minimized costs in 2011 while it learned to better operate and maintain the ISO's new 277,000 sq. ft. Leadership in Energy and Environmental Design (LEED) certified building on 27 acres.

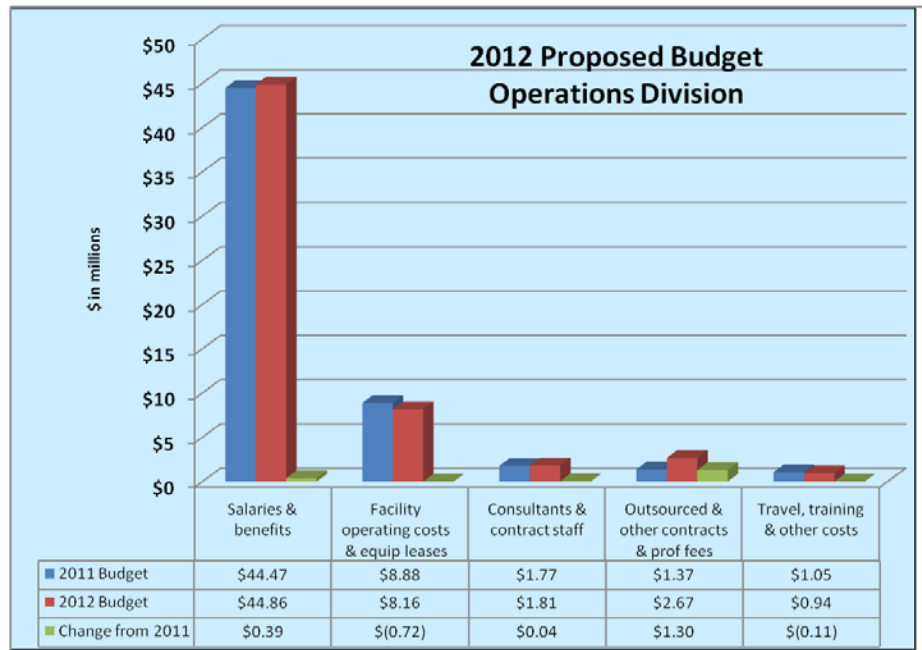


## Discussion of Proposed Budget

The 2012 proposed budget of \$58.4 million compares with the 2011 budget of \$57.5 million, which is an increase of \$893,000, or 2%. Staffing decreased by 2 to 240 from 242.

Personnel costs decreased \$387,000. Facility operating costs and leases decreased by \$.7 million, or 8%, to

\$8.2 million in 2012 from \$8.9 million in 2011. The decrease is due to facility operating costs not being as high as originally anticipated for the new building, as well as, expiring facility leases in 2012 for the original Folsom, California locations. Consulting and contract staff costs increased slightly by \$42,000. Outsourced and other contracts and professional fees increased by \$1.3 million due to increased forecasting costs for the expanding wind and solar resource fleet. The intermittent resources pay increased forecasting revenues to offset the increased forecasting costs. Transportation, training and other costs decreased \$106,000.

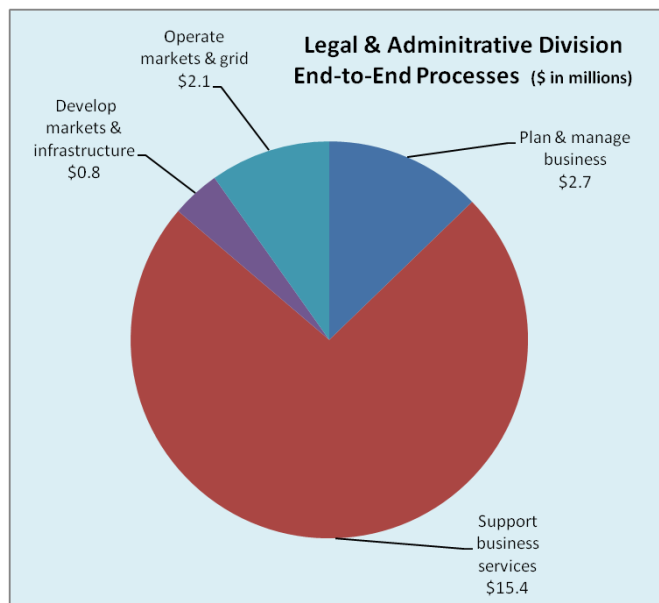


## General Counsel and Chief Administrative Officer

The Legal and Administrative division is comprised of the legal, compliance, internal audit, corporate secretary and finance departments.

This division strives to provide high quality counsel and advice throughout the organization to ensure compliance with complex rules and regulations that govern the ISO. The division's analytical skills and expertise are an integral component in resolving complex matters in all areas of the company's business. It represents the organization, in a variety of proceedings to protect ISO interests, and to ensure that the tariff and other legal requirements are sufficient to allow the company to meet its objectives.

The Corporate Counsel Department is responsible for key vendor contracts and other agreements, as well as providing counseling on corporate, employment, intellectual property, finance, tax, governance and other general legal matters including conflicts and ethics advice.



The Regulatory Counsel Department oversees legal and regulatory functions (including tariff amendments), state and federal regulatory matters, and litigation. Its duties include working closely with policy development teams to create market, transmission and operations services and features that conform to existing tariffs, or work in parallel to draft stakeholder and file tariff additions and modifications. This work was especially important in 2011 in reforming the ISO transmission planning process and enhancing current rules on integrating renewable and storage technologies.

The Tariff and Tariff Compliance Department is primarily responsible for tariff amendments, the tariff stakeholder process, tariff interpretations and advice, tariff maintenance and tariff compliance including advice and investigations. In addition, this department is responsible for regulatory contracts and tariff amendments associated with regulatory contracts. Highlights in 2011 include creating generation interconnection and demand response tariff amendments and integrating a new participating transmission owner into the ISO balancing authority area.

The Litigation and Mandatory Standards Department oversees all state and federal court litigation, appellate work, adversarial proceedings and matters pertaining to mandatory reliability standards. Its duties include managing work related to the pending crisis-era proceedings. Its duties also include providing advice to the corporate compliance team regarding mandatory standards, investigations and regulatory audits.

The Paralegal and Office Administration Department provides paralegal, administrative and technical assistance to the legal department.

The Corporate Secretary Department coordinates Board-related matters, including communications, setting meeting agendas and reviewing and coordinating the submission of Board documents. This department is also responsible for maintaining the official corporate record.

Corporate Compliance is the department that assesses and ensures business unit readiness for implementing new and revised mandatory reliability standards and ensuring a framework for tariff compliance as well as a corporate culture of compliance with all laws and corporate policies. This department also is responsible for corporate records management.

The Internal Audit Department is responsible for developing and implementing the annual internal plan and conducting audits to evaluate the effectiveness of management practices and controls. This department also has the responsibility for the enterprise



risk management assessment that feeds into the organization's initiatives to mitigate identified risks.

The Finance group consists of Treasury and Credit, Accounting and Financial Reporting, Financial Planning and Analysis, and Procurement and Vendor Management. The group's mission is to provide high quality financial and procurement services to the ISO and its customers and vendors and recognized as an innovative, customer focused business partner across the organization by developing a departmental culture of continuous improvement.

The Treasury and Credit Department is responsible for the cash and investment management of ISO resources, banking relationships, insurance and the credit and collateral management function of the ISO markets.

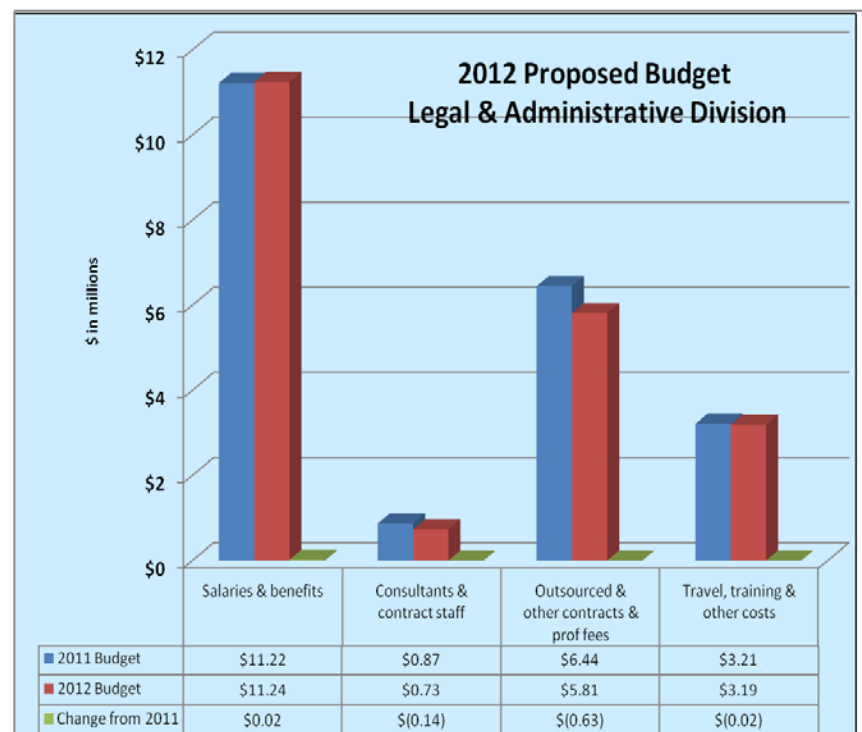
The Accounting Department is responsible for implementing internal control policies, general accounting, external financial reporting, clearing the markets, and payables processing.

The Financial Planning Department is responsible for debt management, financial administration of capital projects, financial planning and forecasting, budgeting, and the administration of the grid management charge.

The Procurement and Vendor Management Department is the focal point for all commercial contracting by procuring goods and services for the corporation through an effective process of selecting vendors and managing costs. This department also is responsible for issuing all corporate purchase orders.

### Discussion of Proposed Budget

The 2012 proposed budget of \$21.0 million is \$780,000, or 4%, lower than the 2011 budget of \$21.7 million. Staffing remained unchanged from 2011 at 55.

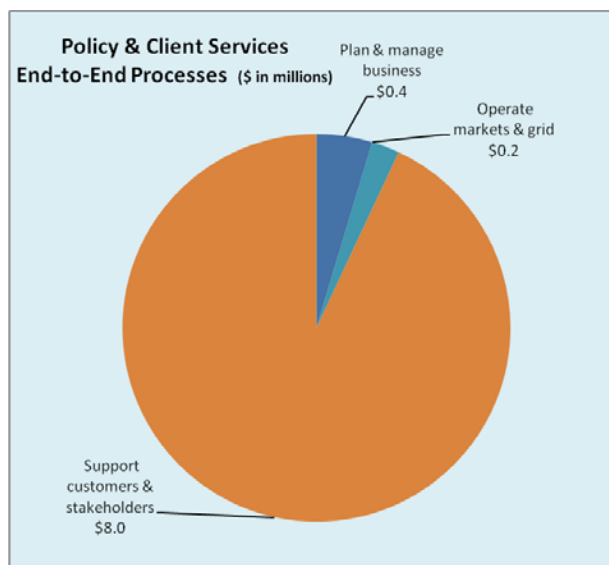


Personnel costs increased \$16,000. Outsourced and other contracts and professional fees decreased \$632,000, or 10%, as a result for less need of additional outside legal counsel and audit services. Consultants and contract staff decreased \$137,000, or

16%, because of less need for outside services. Travel, training and other costs decreased \$27,000, or 1%.

## Policy and Client Services

The Policy and Client Services division builds high quality collaborative relationships with a wide variety of stakeholders, regulators and consumer groups. It strives for excellence by providing timely and accurate information for public dissemination, fostering value added customer service, anticipating and addressing issues in a timely manner, and advancing objectives benefiting consumers and the electric industry. The division works toward these goals by collaborating across the ISO to quickly resolve customer issues, improve communication with stakeholders and effectively represent the ISO before state agencies, regional organizations and federal energy regulators.



The division is also responsible for key aspects in facilitating the integration of renewable resources by clearly presenting ISO advice, analyses and grid needs to technical and non-technical audiences. This has included such things as developing the “green pages” on the external ISO website and producing fact sheets, corporate brochures and info graphics that recast highly technical grid terms and concepts into easily understandable language. Other activity includes close coordination and consultation with state and federal agencies and the Governor’s office to help shape regulatory policies while strengthening grid reliability.

The division also performs important work to update and manage the ISO Business Practice Manuals, which contain the information underlying ISO tariffs and is critical in giving stakeholders and ISO customers the information they need to interconnect and operate renewable facilities, among other things.

The Communications and Public Relations Department manages internal and external communications, including all web communications and website management, and employee and media relations. The department also issues stakeholder communications and develops new information products and services that add value to customer and stakeholder businesses.

The external affairs departments (federal, state and regulatory) oversee interactions with state and federal legislators, the governor’s office, and federal agencies regarding matters that could affect the reliability or economics of the ISO controlled electric system. The departments’ activities include building and maintaining relationships with

regulatory agencies such as the California Public Utilities Commission, the California Energy Commission, and the California Air Resources Board, as well as monitoring and managing federal legislative and regulatory matters that could influence ISO practices and policies. The departments also work with legislators to advise and educate lawmakers on policies that could impact the power system. For example, the ISO collaborated closely with the Air Resources Board as it developed the rules to implement California's landmark greenhouse gas emissions reduction law, Assembly Bill 32.

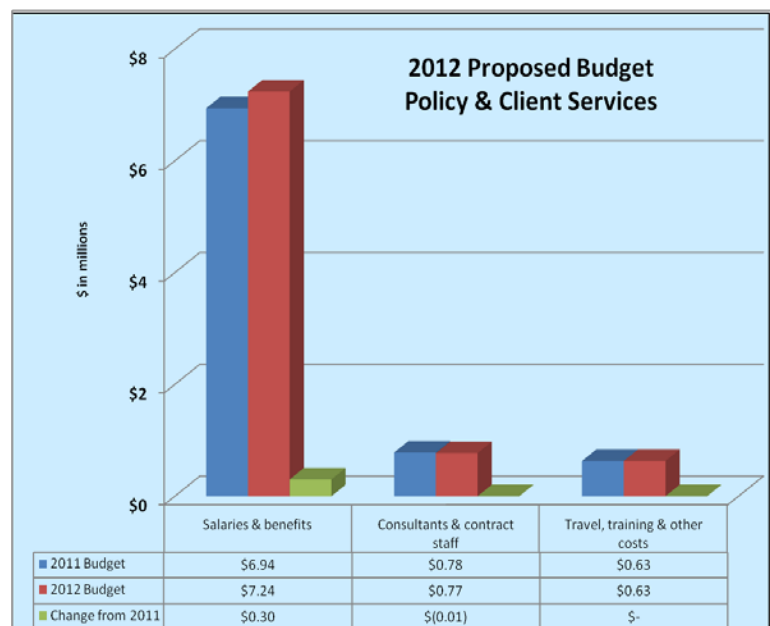
The Customer Services and Industry Affairs Department is the primary business interface between ISO and its clients and stakeholders. The Customer Services group reduced the average time to resolve client inquiries by about 8% — now currently at 3.56 business days — in the first half of 2011, as compared to year-end 2010.

The department has initiatives that continue in 2012 that include implementing a customer relations management system.

### Discussion of Proposed Budget

The 2012 proposed budget of \$8.6 million compares with the 2011 budget of \$8.3 million, which is an increase of \$291,000, or 3%. Staffing remained at 38.

Personnel costs increased \$300,000, or 4%, primarily because of merit increases and anticipated overtime. Consultants and contract staff decreased \$100,500, while travel, training, and other costs remained the same.



## VI. DEBT SERVICE

Debt service budgeted for inclusion in the 2012 revenue requirement includes principal and interest on the ISO's outstanding Series 2008A and 2009A bonds.

The 2008 bonds will retire in full by February 2014, and bear interest at 5%, as summarized below:

<b>Amortization schedule for 2008 bonds (\$ in millions)</b>	<b>Principle</b>	<b>Interest</b>	<b>Proceeds from debt service fund</b>	<b>Total</b>
2012	\$25.1	\$4.2	\$(0.7)	\$28.6
2013	36.0	3.0	(0.7)	38.3
2014	23.5	1.2	(20.4)	4.3
<b>Total</b>	<b>\$84.6</b>	<b>\$8.4</b>	<b>\$(21.8)</b>	<b>\$71.2</b>

The ISO included the 2012 payment of \$28.6 million in the 2011 revenue requirement and collected in the 2011 GMC rates. In an effort to maintain rate stability, the ISO modified its tariff to allow for level debt service over the two-year period of 2012 and 2013.

<b>Collection schedule for 2008 bonds (\$ in millions)</b>	<b>Collected</b>	<b>Paid</b>	<b>Balance</b>
Beginning Balance			\$42.2
2011	\$25.1	\$42.2	25.1
2012	20.5	25.1	20.5
2013	18.5	36.0	3.0
2014	-	3.0	-
<b>Total</b>	<b>\$64.1</b>	<b>\$106.3</b>	<b>\$ -</b>

In 2009, the ISO issued debt to finance a new facility in Folsom, California, on land owned by the ISO. The 2012 revenue requirement includes debt service costs related to this offering. The fixed rate serial bonds have coupons ranging from 4.5% to 6.25% with a final term of 30 years. Lease payments on former facilities expire at the end of November 2012. Amortization of the 2009 bonds is below:

<b>Amortization schedule for 2009 bonds (\$ in millions)</b>	<b>Principle</b>	<b>Interest</b>	<b>Proceeds from debt service fund</b>	<b>Total</b>
2012	\$3.5	\$11.3	\$(8.3)	\$6.5
2013	3.6	11.2	(0.5)	14.3
2014	3.7	11.1	(0.5)	14.3
2015	3.8	11.0	(0.5)	14.3
2016	4.0	10.9	(0.5)	14.3
Thereafter	181.5	158.3	(26.1)	313.7
<b>Total</b>	<b>\$200.0</b>	<b>\$213.6</b>	<b>\$(36.4)</b>	<b>\$377.2</b>

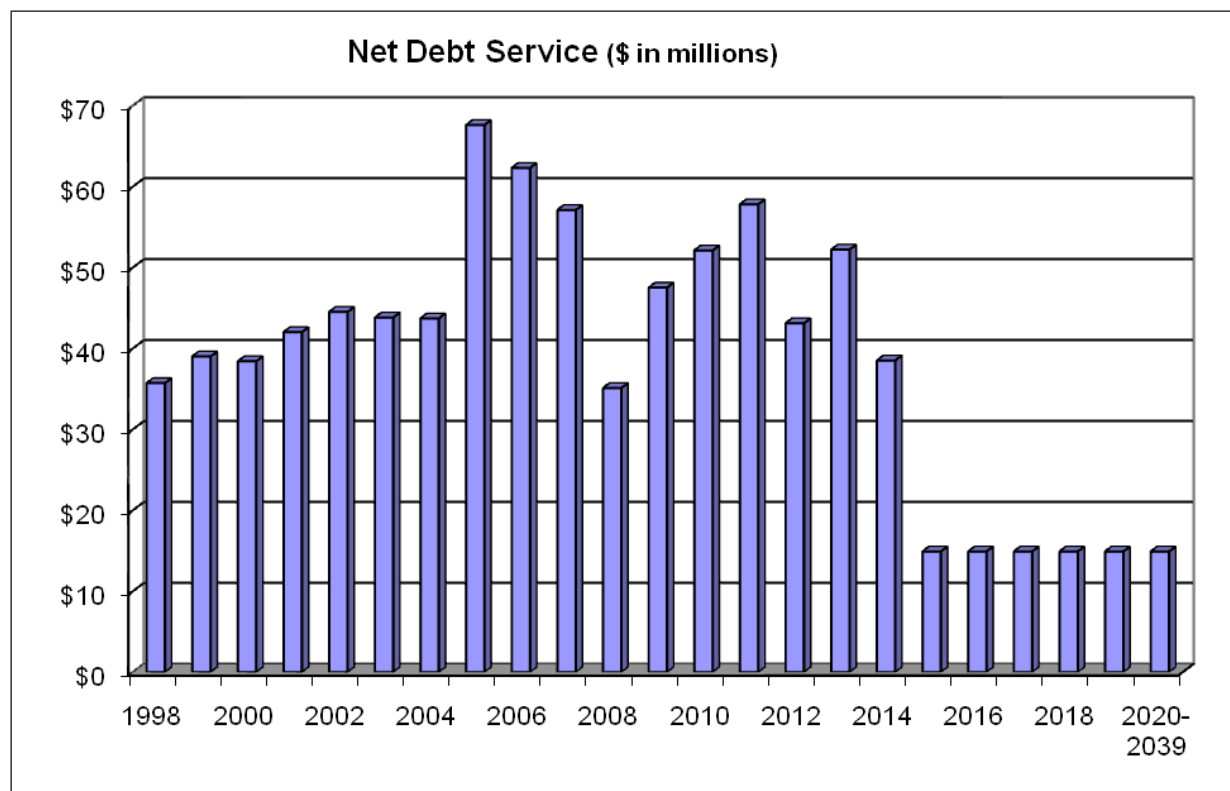
The collection for the bonds in the revenue requirement occurs the year before making the bond payments.

The ISO makes principle payments in February and interest payments occur semiannually in February and August.

A summary of the components of the debt service portion of the revenue requirement is as follows:

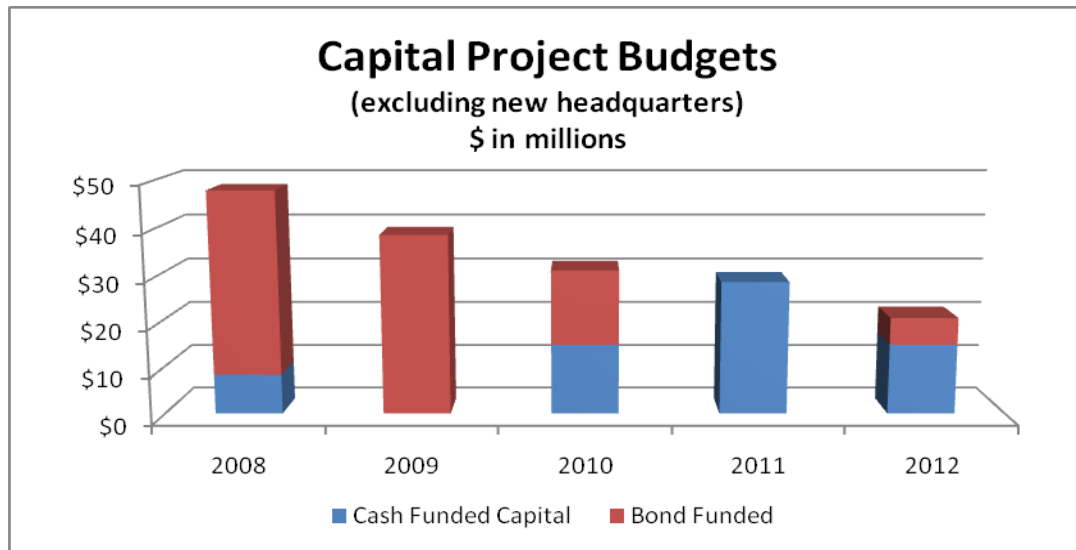
<b>Debt Service (\$ in millions)</b>	<b>2012 Budget</b>	<b>2011 Budget</b>	<b>Change</b>
Principle payments on 2008A and 2009A bonds	\$39.6	\$28.6	\$11.0
Interest payments	14.2	15.6	(1.4)
Less amounts from debt service reserve interest and capitalized interest	(16.8)	(9.2)	(7.6)
<b>Subtotal</b>	<b>37.0</b>	<b>35.0</b>	<b>2.0</b>
25% Debt Service Reserve	9.3	8.7	0.6
<b>Total</b>	<b>\$46.3</b>	<b>\$43.7</b>	<b>\$2.6</b>

Net debt service from ISO inception is shown below:



## VII. CAPITAL / PROJECT BUDGET

The 2012 capital and project budget of up to \$20.8 million will fund projects as detailed on the following pages. Cash funded capital collected in the 2012 revenue requirement provides \$17.0 million while \$3.8 million comes from capital reserves. An assessment of capital spending needs will continue over the coming months.



### Capital / Project Budget Development Process

The 2012 project prioritization process will run from August through November 2012. Throughout the year, the program office will collaborate with the internal business units and maintain a list of projects. The list uses the Five-Year Strategic Plan, the information technology roadmap, and the ISO market initiatives roadmap as guides. On a periodic basis, strategic initiative owners and managers review the progress of active projects, identify issues and risks, and propose changes to the master project listing. The ISO combines during the budgeting process, the information technology roadmap items with the strategic projects scheduled for the following year that results in an initial listing. Should the project list exceed the available budget, the ISO uses a prioritization and ranking process to determine preliminary project cut off. The following chart shows the criteria for ranking projects:

Ranking Criteria					
Criteria (weight)	Strategic Initiative	High (10 points)	Medium (7 points)	Low (3 points)	None (0 points)
Strengthening California's global leadership in renewable energy integration (10%)	Incorporate renewable resources / evolve the market / MAP	Key activity to meeting objectives	Contributor to key activity	Slight impact to key activity	No impact

Ranking Criteria					
Criteria (weight)	Strategic Initiative	High (10 points)	Medium (7 points)	Low (3 points)	None (0 points)
Ensuring continued reliability during grid transition (10%)	Evolve the market / MAP / develop infrastructure systems & tools	Key activity to meeting objectives	Contributor to key activity	Slight impact to key activity	No impact
Clarifying California's regulatory roadmap to the future grid (10%)	Advance State energy & environmental initiatives	Key activity to meeting objectives	Contributor to key activity	Slight impact to key activity	No impact
Exploring opportunities for regional collaboration & technological innovation (10%)	Incorporate renewable resources / improve forecasting capabilities / MAP	Key activity to meeting objectives	Contributor to key activity	Slight impact to key activity	No impact
Contributes to increased customer service (7%)		Universally desired	Desired by a majority of stakeholders	Desired by a small subset of stakeholders	No apparent desire
Compliance (15%)	Establish a culture of compliance	Required	n/a	n/a	Not required
Development of staff / talent pipeline (5%)	People strategies	Significant improvement	Moderate improvement	Minimal improvement	No improvement
ISO process improvement (5%)	Process & quality	Significant improvement	Moderate improvement	Minimal improvement	No impact
IT System qualities (7%)	System & tools	In line with technology roadmap & standards & significantly improves operations efficiency, usability & reliability for new business functions	In line with technology roadmap & standards & moderately improves operations efficiency, usability & reliability for new business functions	In line with technology roadmap & standards	Not in line with technology roadmap & standards. No contribution to operations efficiency or usability.
Requires market participant development efforts (7%)		No impact – internal activities only	Minimal impact – testing with specific market participants required	Moderate impact – will require some market simulation efforts	Significant impact – will require major market simulation efforts
Cost savings (7%)		Will free up whole resources to be re-dispatched to other work	Will eliminate manual work & free up a portion of multiple existing resources for other work	Will eliminate manual work & free up a portion of existing resources for other	None

Ranking Criteria					
Criteria (weight)	Strategic Initiative	High (10 points)	Medium (7 points)	Low (3 points)	None (0 points)
Project implementation costs (5%)		Less than \$500K	Between \$500K & \$2M	Between \$2M & \$5M	Greater than \$5M
Operations & maintenance costs (5%)		No additional ongoing operating costs - uses existing infrastructure & maintenance contracts	Minimal (less than 10%) additional ongoing maintenance costs	Moderate additional maintenance costs	Major ongoing operating costs - new contracts or significant increases to existing contracts
Resource constraints (5%)		No resource constraints	Minor resource constraints - can hire contractors to backfill	Significant resource constraints - many of the resources qualified for this project are fully dedicated to other work, can backfill most	Severe resource constraints - resources qualified for this project are fully dedicated to other work, cannot backfill
Executive discretion (10%)		High	Medium	Low	None

## Proposed Project List

The following listing provides the projects proposed for initiation during 2012. This year's list includes the following six areas and initiatives:

- Implementation of system and tools
- Enhancement of markets and performance
- Improvement of forecasting capabilities
- Technology projects
- Incorporation of distributed resources and
- Other costs.

The Corporate Management Committee made up of the Chief Executive Officer, Chief Financial Officer and General Counsel, reviews and approves all projects considered for funding. Projects brought for approval will undergo several levels of analysis including further consideration of project need, a cost-benefit analysis, business case analysis and completion of a project plan. The priorities set forth for 2012 may change depending on developments during the remainder of 2011 and 2012.



<b>Proposed Projects for 2012</b>	<b>Amount</b>
<b>Implementation of Systems and Tools and Develop Infrastructure</b>	
2012 local capacity requirements study	small
Architecture: consolidation of customer reporting	medium
Control area scheduler (CAS) improvements	medium
Common user interface deployment	small
Duplicate data	small
Energy management system automatic generator control enhancements	small
Hour ahead and resiliency and single points of failure remediation	medium
Implement enterprise model management systems	medium
Integration: deployment of common adaptor framework	medium
Market services enhancements including congestion revenue rights	medium
Market validation tool	medium
Master File enhancements	small
Outage management system (OMS) Phase 3	medium
Resource Interconnection Management System enhancements	small
Smart grid California Energy Commission Phasor project	small
State estimator enhancements	small
<b>Total</b>	<b>\$6,700,000</b>
<b>Enhancement of Markets and Performance and Improvement of Forecasting Capabilities</b>	
Automated load forecast system (ALFS) upgrade to 5.0/5.1	small
Ancillary services forecasting system	small
Bid cost recovery / meter energy adjustment factor (MEAF)	medium
Data release – phase 3	small
Dynamic transfers	small
FERC Order 755 – compensation for regulation	large
Flexible ramping	medium
Greenhouse gas regulation implementation	small
Non-Generator resources in ancillary services market requirements (REM Project)	large
Operations enhancements 2012	large
Ramp forecasting tools	small
Replacement requirements for schedule generation outages	small
<b>Total</b>	<b>6,200,000</b>
<b>Focus on Customer Service</b>	
Access and identity management	small
Customer Inquiry Dispute and Information system functionality expansion	small
Customer experience improvement initiative	small
Update Business Process Manual application	small
<b>Total</b>	<b>1,200,000</b>

<b>Proposed Projects for 2012</b>	<b>Amount</b>
<b>Technology Projects and Establishing a Compliance Culture</b>	
Architecture: consolidation of settlement and post processes.	small
Compliance North American Energy Reliability Council audit	small
Corporate systems enhancements project	medium
Enterprise server hardware upgrades and equipment purchases	large
Testing automation for compliance requirements	small
<b>Total</b>	<b>2,900,000</b>
<b>Incorporation of Distributed Resources and Enable Renewable Resource Integration</b>	
Assessment of visibility and control options – phase 2	small
Distributed energy resources penetration update process and implementation with investor owned utilities	small
Studies for renewable integration / fleet characteristics study	small
Vehicle to grid pilot program	small
<b>Total</b>	<b>1,200,000</b>
<b>Other Costs</b>	
Annual request for facilities costs	small
Blue Ravine (former headquarters site) decommissioning costs	large
Program Office project management costs	large
<b>Total</b>	<b>2,600,000</b>
<b>Total Proposed Projects for 2012</b>	<b>\$20,800,000</b>

Note: The costs of the individual projects are not shown, but are categorized by size as follows: small projects under \$500,000, medium projects from \$500,000 to \$1 million, and large projects over \$1 million. The actual projects completed during 2011 will vary, including the potential addition of projects not on this list, the deferral of projects on this list to future years, or the elimination of projects on this list if no longer necessary.

## VIII. MISCELLANEOUS REVENUE

Budgeted miscellaneous revenue for 2012 is \$8.41 million, an increase of \$1.5 million or 22% from 2011. The increase is due to increased intermittent forecasting fees charged to the expanding wind and solar resources. Interest income increased \$300,000 while interconnection billings decreased by the same amount. The details of this category are as follows:

Miscellaneous Revenue (\$ in millions)	2012 Budget	2011 Budget	Change
Interest earnings	\$2.9	\$2.6	\$0.3
California-Oregon Intertie path operator fees	2.0	2.0	-
Intermittent resource (wind and solar) forecasting fees	1.7	0.2	1.5
Large generation interconnection fees	1.5	1.8	(0.3)
Scheduling Coordinator application fees, training fees, metered sub-system deviation fees and other fees	0.3	0.3	-
<b>Total</b>	<b>\$8.4</b>	<b>\$6.9</b>	<b>\$1.5</b>

## IX. RESERVE CREDIT FROM 2011

The operating reserve credit is a reduction or offset to the ISO revenue requirement for 2012. In any year that the ISO operating reserve account exceeds 15% of the prospective year's O&M budget, the excess goes toward reducing the revenue requirement for the coming year. For 2012, the ISO forecasts a credit from the operating reserve account of \$23.1 million, as summarized below.

Reserve Credit from prior year (\$ in millions)	2012 Budget	2011 Budget	Change
Increase in 15% reserve for O&M budget	\$(0.1)	\$-	\$(0.1)
25% debt service collection from prior year	8.7	12.2	(3.5)
Collection of additional months grid management charges from implementation of payment acceleration	-	15.9	(15.9)
True-up of actual to forecast revenues and expenses	14.5	4.9	9.6
<b>Total</b>	<b>\$23.1</b>	<b>\$33.0</b>	<b>\$(9.9)</b>

## X. UNBUNDLED GRID MANAGEMENT CHARGE CALCULATIONS

The ISO recovers its costs through separate grid management charges to market participants. The ISO and stakeholders developed a new rate design for 2012, which the Board approved, and then filed with the Federal Energy Regulatory Commission (FERC). FERC approved the design on September 30, 2011 without change. The new design provides for three service categories and five associated fees and charges. The ISO derives the rate by dividing the recoverable costs for the category by the estimated billing determinants.

### Components of GMC and billing Determinants

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

Type	Bill Determinant	Charge Code
<b>Service Categories</b>		
Market Service Charge	Awards in MWh or MW of supply and demand excluding Transmission Ownership Rights (TORs)	4560
Systems Operations Charge	Metered flows in MWh of supply and demand in the ISO balancing authority with the following two exceptions, TORs and qualifying grandfathered supply contracts	4561
CRR Service Charge	MWh of congestion	4562
<b>Fees</b>		
Bid segment fees	Number of bid segments in the ISO market for supply or demand	4515
Inter-SC Trades fee	Number of trades by scheduling coordinator (SC)	4512
SCID fee	Monthly charge if statement produced for an SC	4575
TOR charges fee	Minimum of metered supply or demand in MWh on TORs	4560
CRR auction bid fees	Number of accepted bids in CRR auctions	4516

### Rate Calculation

There are seven steps to calculate rates:

1. Estimate billing determinant volumes for fees and charges
2. Multiply volumes by rates to derive revenues for individual fees and charges
3. Allocate revenue requirement into three service categories
4. Deduct fee and charge revenue from associated service category costs
5. Estimate billing determinant volumes for three service categories
6. Deduct TOR and grandfathered supply volumes from System Operations Charge
7. Divide residual revenue requirement from Step 4 by adjusted billing determinant volumes from Step 6 to derive individual service category rates.

**Calculation of Fee and Charge Revenue**  
(\$ in millions)

Fee or Charge	Rate	Estimated Volumes	Estimated 2012 Revenue
Bid segment fee	\$0.005	26,893,996	\$ 134,470
Inter-SC Trades fee	1.00	3,002,497	3,002,497
SCID fee (annual)	12,000	156	1,873,000
TOR charges fee	0.27	3,386,693	914,407
CRR auction bid fee	1.00	226,431	226,431
<b>Total</b>			<b>\$6,150,805</b>

**Calculation of Service Category Rates**  
(\$ in millions)

Component	Market Services	System Operations	CRR Services	Total
<b>Allocation of Revenue Requirement</b>				
Percentages	27%	69%	4%	100%
Allocated costs	\$52,601,667	\$134,426,482	\$7,792,840	\$194,820,989
<b>Deduct fee and charge revenue</b>				
Bid segment fees	134,470	-	-	134,470
Inter-SC Trades	3,037,877	-	-	3,037,877
SCID fees	1,987,000	-	-	1,987,000
TOR charges	-	959,581	-	959,581
CRR auction bid fees	-	-	213,103	213,103
<b>Total Fees and charges</b>	<b>5,159,347</b>	<b>959,581</b>	<b>213,103</b>	<b>6,332,031</b>
<b>Calculation of Recoverable costs</b>				
<b>Costs less fees &amp; charges</b>	<b>\$47,442,320</b>	<b>\$133,466,901</b>	<b>\$7,579,737</b>	<b>\$188,488,957</b>
<b>Estimated volumes in MWh</b>				
MWh Volumes	557,461,510	476,987,435	446,488,985	-
<b>Deduct exceptions</b>				
Less grandfathered supply	-	7,227,000	-	-
<b>Adjusted Volumes</b>	<b>557,461,510</b>	<b>469,178,593</b>	<b>446,488,985</b>	
<b>Resulting rates</b>	<b>\$0.0851</b>	<b>\$0.2845</b>	<b>\$0.0170</b>	

## Summary of GMC Costs, Volumes and Rates for 2012

### Net Revenue Requirement, Volume Forecast and Rate by Service Category (Budget in millions of \$, volumes in thousands of MW & MWh and rates in \$ per unit)

Charge Code	Service Category or Fee	2012 Budget	2012 Volumes	2012 Rates
4560	Market Service Charge	\$47.44	557,462	\$0.0851
4561	Systems Operations Charge	133.47	469,179	\$0.2845
4562	CRR Services Charge	7.58	446,489	\$0.0170
4515	Bid segment fees	0.13	26,894	\$0.005
4512	Inter-SC Trades fees	3.04	3,038	\$1.00
4575	SCID fees	1.99	1,987	\$1,000
4560	TOR charges	0.96	3,554	\$0.27
4516	CRR auction bid fees	0.21	213	\$1.00
<b>Total</b>		<b>\$194.82</b>		

Because of the new rate design in 2012, comparisons with 2011 are not applicable.

#### Other Charges

Currently, there is no charge to become a new CRR participant. Effective January 1, 2012 there will be a non-refundable fee of \$1,000 for applicants who are not already scheduling coordinators. The CRR application fee is less than the scheduling coordinator application fee of \$5,000 and reflects the level of effort to process the CRR application