California State Auditor

BUREAU OF STATE AUDITS

California Energy Markets

Presentation by

California State Auditor

Joint Legislative Audit Committee Informational Hearing

January 8, 2002

This briefing document is only intended to outline selected portions of Report 2001-009, *California Energy Markets: Pressures Have Eased, but Cost Risks Remain* (December 2001). For a more complete explanation of the points outlined in this document, refer to the report.

AUDIT SCOPE

- California Water Code Section 80270 (amended by AB 1X) requires the Bureau of State Audits to conduct a financial and performance audit of the Department of Water Resources (DWR) implementation of the power-purchasing program.

- Audit focused on critical tasks necessary to implement and manage a program to purchase a sufficient and reliable supply of electric power at the lowest possible price per kilowatt-hour.

- Performed a legal and economic review of the contract portfolio to determine whether contracts provide for reliable power at the lowest possible price per kilowatt-hour.

- Reviewed DWR's strategies, policies, resources, organization and trading tools it used in its real-time power trading and scheduling operations.

- Evaluated DWR's efforts to segregate properly the expenditures of the power-purchasing program from other programs the DWR administers.

- Reviewed DWR's current practice of monitoring potential conflicts of interest.

AUDIT HIGHLIGHTS

- ☑ Although the energy crisis has eased, there remain significant cost risks to manage.

- ☑ DWR responsibilities came at the height of an unprecedented financial and reliability crisis in power markets.

- ☑ DWR's capabilities were dwarfed by the magnitude of its mission under the power-purchasing program.

- ☑ DWR spent $10.7 billion from January through September 2001 purchasing power on behalf of the investor-owned utilities (IOUs) and has assembled a portfolio of 57 contracts totaling $42.6 billion over a 10-year period.

- ☑ The portfolio does not contain sufficient power for peak-demand periods, thus potentially exposing consumers to high market prices if energy supply becomes limited during those periods.

- ☑ Majority of the long-term contracts may not ensure a reliable source of power in times of tight supply and high prices and may not ensure that sellers follow through with construction of proposed power plants.

- ☑ Contracts contain provisions that can increase the cost of power; thus, they need careful management to avoid additional costs to consumers.

- ☑ Contracts convey lucrative financial terms upon suppliers to ensure that energy is delivered.

- ☑ Under most of the contracts, the DWR cannot terminate the contract or assess penalties even if the generators repeatedly or deliberately fail to deliver power at times when the State is in dire need of it.

- ☑ DWR lacks the necessary infrastructure and staff to manage its energy purchases in the short-term market.

RECOMMENDATIONS

Policy

Legislature and governor should consider developing a long-term strategic framework for the electricity industry in the State and for the DWR's role in that system.

Legislature should consider amending AB 1X to extend DWR purchasing authority to allow time for development and implementation of a strategic framework to assure continuity of purchasing function and an effective transition presumably back to IOUs.

Department of Water Resources should:

- Create a strategic plan for the future of the power-purchasing program, including an assessment of the transition processes needed to allow an orderly transfer to IOUs, the California Independent System Operator (ISO), and others as appropriate.

- Continue its efforts to coordinate with the power authority to clearly establish the roles and responsibilities of each organization.

Portfolio Planning and Management

Department of Water Resources should:

- Conduct within 90 days an in-depth economic assessment of contracts and overall supply portfolio to assure that the DWR develops an effective contract management strategy. Assessment should focus on how contracts fit into the overall portfolio and on costs relative to current expectations of market conditions.

- Develop a contract renegotiation strategy that focuses on improving reliability and overall performance of the portfolio.

- Establish a planning process that more directly integrates the entire portfolio of supplies serving customers of the IOUs with the role of the long-term contracts.

Power Contracts

Department of Water Resources should:

- Conduct within 90 days an in-depth assessment of legal risk and legal services requirements to ensure that it can develop an effective strategy for managing contracts.

- Establish an ongoing legal services function that specializes in power contract management, negotiation, and litigation. To avoid conflicts, this legal function should be separate and distinct from counsel retained to sell bonds or to provide legal advice to the State Water Project.

- Investigate all rights under contracts to assure that it can develop a proper program to enforce performance.

Short-Term Transactions

Department of Water Resources should:

- Enhance the organization's skills for market analysis and contract management to address the implications of uncertainty on portfolio management and dispatch decisions.
- Develop a transition plan for the orderly transfer of the short-term purchasing and net short management functions to the IOUs and the ISO, or others as appropriate.
- Collaborate with the IOUs to share information about generation sources and to organize least-cost dispatch. IOUs need to commit to this effort.
- Coordinate with IOUs and the California Public Utilities Commission to ensure that rate incentives associated with Utility Retained Generation are resolved so that lowest cost energy is dispatched.
- Collaborate with market participants to resolve settlement problems associated with energy and ancillary services functions that DWR conducts on behalf of ISO.

DWR Operations

Department of Water Resources should:

- Retain independent legal counsel to advise DWR on matters pertaining to state and federal regulatory issues that affect the power-purchasing program.
- Seek clear statutory authority to use financial instruments to manage gas and electric transaction risks.
- Amend servicing agreements to include language that promotes accuracy in estimates of customer usage.
- Develop audit procedures to review periodically the IOUs performance of critical elements in the servicing agreements such as cash remittance methodologies, allocation of the power that the DWR purchases, and the cost of energy conservation programs.
- Coordinate with IOUs to develop audit procedures to detect noncompliance with critical elements of the servicing agreements.
- Complete its efforts to execute agreements with the IOUs that cover power purchases designed to balance in real time the electricity power supplied to the grid with total customer usage.
- Continue its efforts to review potential conflicts of interest among all employees and consultants twice each year and retain a record of its review.
- Improve its controls designed to have all power-purchasing costs appropriately charged to the program and supported by evidence of service.

PORTFOLIO OF POWER

The DWR became responsible for providing the net short for retail customers of the IOUs.

Portfolio Contains Numerous Risks That Must Be Managed and Mitigated

Portfolio strategy indicates that DWR elected to emphasize long-term contracts as a means to secure new generation capacity for greater reliability and long-term price stability.

Most of the power procured to meet the net short in 2001 was supplied from spot market and short-term forward contracts (Figure 16):

- Through October 26, 2001, approximately 84 percent of net short was purchased through short-term contracts, block forward, and the spot market.

Portfolio includes a significant amount of capacity from new units. (Figure 1)

DWR's consultant estimates that the cost of contracts over the 10-year period ending December 31, 2010, to be approximately $45.6 billion or $70 per megawatt (7 cents per kilowatt).

Current result of procurement efforts appears to be a set of contracts that are largely priced higher than the market with respect to a recent projection of market prices prepared by the DWR's consultant. (Figure 2)

Contracts Provide Ample Energy But Less Ample Capacity

At all times system operators must ensure that sufficient generating capacity is operating to meet consumer demands. (Figure 3)

Net-short energy is the total amount of electric production required above that produced by the IOUs over a period of time, such as a year. (Figure 4)

Net-short capacity is the peak demand of power in any given hour above that produced by the IOUs. (Figure 5)

Calculations by a DWR consultant reflect that the contracts will not cover a substantial portion of the estimated load during hot summer days when demand for electricity is at its maximum.

Portfolio lacks a significant component of true peaking capacity to supply energy during peak demand or extensive generating unit outages.

Conversely, the energy purchases during the 6 X 16 peak period will exceed the average net-short position during certain hours for several years:

- The potential for energy surplus is particularly high in the southern part of state—south of the Path 15 transmission interface. Some estimates indicate that power purchased under long-term contracts will exceed the average net-short position by an average of 2,000 megawatts from the last quarter of 2003 through the first quarter of 2005.

Portfolio of contracts appears to overemphasize year-round energy, underemphasize delivery during peaking hours, and underemphasize capacity requirements as they change with time.

A more effective strategy would have placed a greater emphasis on the procurement of supplies to meet daily and seasonal peak demands.

- DWR acquired little by way of capacity contracts to respond to consumer demand during the most critical future peak demand periods—summer and super peak periods, when the net-short capacity requirements might be unusually high.

- IOU customers remain exposed to supply shortages and purchases in the spot and other short-term markets when prices are high. System reliability also might be threatened if insufficient generating capacity is available on short notice to meet the DWR's needs.

Portfolio Lacks the Flexibility To Substantially Reduce Purchases

Majority of contracts provide for delivery of firm energy—the DWR must pay for the power whether or not it is needed.

Retail consumers are unlikely to benefit significantly from the expected fall in spot electricity prices over the next 10 years because spot market purchases will, on average, account for 9.5 percent of total energy requirements.

DWR purchased too much power in Southern California:

- The amount of capacity under contract to serve loads south of Path 15 from the 4th quarter of 2003 through the 1st quarter of 2005 will exceed average peak demand resulting in significant energy surpluses.

- DWR did not consider the Path 15 problem in its portfolio design because it believed that the Path 15 upgrade would be completed in time for its power purchases beginning in 2003.

Although natural gas prices have fallen, only 30 to 40 percent of contracted capacity in megawatts include provisions designed to follow trends in gas prices. (Table 4)

Portfolio includes little renewable energy: only 6 contracts totaling 2 percent of all megawatts purchased.

LONG TERM CONTRACTS

Terms and Conditions In Contracts May Not Ensure Reliability

- ❑ Contract terms were successful in establishing DWR as a creditworthy buyer.

- ❑ Contracts may not assure reliable delivery of power especially in times of tight supply and high prices.

- ❑ Assessment of contracts is not simply their impact in 2001 but rather how the terms will affect California over the next 10 years.

- ❑ Five provisions that should be in contracts to increase assurance that seller will perform (Page 86):
    - Favorable terms to seller (high price, lenient delivery).
    - Cover damages.
    - Monetary rewards and penalties to assure performance.
    - Performance standards to assure seller performance.
    - Right to terminate for repeated failure to perform.

- ❑ Majority of contracts may not ensure a reliable source of power in times of tight supply and high prices and may not ensure construction of proposed power plants.
    - Contracts do not include terms and conditions that would ensure that generators are making progress in building facilities and allowing the State to inspect facilities unable to produce power because of mechanical failures.
    - Some contracts for which the State paid a premium for construction of new generation may not ensure that the new units will be built and that power will be made available and delivered.

        In some cases, the contracts can provide disincentives to perform. For example, DWR could be exposed to risk that it will have to pay Calpine $1.56 billion in exchange for little or no new generation. (Page 93)

- Some contracts based on new generation do not expressly provide that failure to build the generation is an event of default or a trigger for other penalties.

- Under most contracts a seller must pay cover damages for failure to deliver, but the State cannot terminate or penalize generators even if they repeatedly or intentionally fail to deliver power when the State is in dire need of it.

  Cover damages: generator has to pay difference in contract price and amount the State pays. (This remedy does not address "reliability" rather it addresses "price stability." It also assumes adequate supply of power.)

  If repair costs to get generation back on-line exceed the cost of cover damages, the supplier may chose to pay cover damages rather than incur those costs.

  Best means to ensure delivery is to make repeated or intentional failure to deliver an event of default. If there is the possibility of losing a lucrative long-term contract, then the generator has more incentive to keep power on-line.

Portfolio Of Contracts Contains Significant Cost Risks That Need To Be Closely Managed

DWR's contracts provide lucrative terms for ordinary performance:

- Long-term high megawatt contracts with significant long-term income.

- Favorable price terms.

- Reduced risk associated with future generation and delivery costs.

- Enhanced seller termination rights.

Many contract costs are not fixed and shift risks and costs to the DWR:

- Contracts require DWR to pay for any new taxes that California may levy that affect generation and delivery of power.

- Some contracts require DWR to pay for any emissions charges or environmental upgrade costs the seller incurs as a result of generating power for the DWR.

- Calpine contract price increases if any governmental action results in increase of Calpine's cost of service greater than 50 cents per megawatt hour.

Sellers have broad rights to terminate by declaring an event of default and the financial consequences of a seller declaring an event of default would be significant:

- DWR fails to comply with material provision of contract.
- DWR fails to make payment after written notice.
- DWR fails to satisfy creditworthiness requirements.

DWR (in early contracts) has few if any rights to declare an event of default.

Form Contracts Lacked Important Terms

DWR started from a weak bargaining position when it did not request industry-standard contract terms and conditions. Model contracts used were designed for functioning markets where purchase of electricity is treated as a financial transaction:

- DWR chose to use model contracts without modifying them to meet the State's reliable energy needs.
- DWR proposed "seller-friendly" contracts that lacked reliability terms and thus are not adequate instruments for a buyer in an unstable market with insufficient supply.
- DWR apparently did not identify a need to modify the form contract to include industry-standard provisions to ensure reliability. (Later contracts did include terms regarding reliability.)

By not requesting reliability terms, DWR had no way of knowing if generators would be willing to accept such terms. Also, negotiators and legal consultants did not have a checklist of provisions that should have been negotiated on as agreements in principle were crafted into contracts.

Form contracts lacked five provisions to ensure reliability:

- Define failure to deliver as an event of default.
- Assess penalties for unexcused failure to deliver.
- Provide availability guarantees (ability to produce and deliver).
- Require operation and maintenance within prudent industry standards.
- Give DWR the right to inspect and monitor generator.

Form contracts lack three provisions to ensure construction and maintenance:

- Mandate construction and penalizes for failure to complete the unit.
- Construction milestones.
- Permit specific performance.

Speed of Contracting Process Had an Adverse Impact on the Nature of the Deals and the Terms and Conditions of the Contracts

Failure to achieve buyer-friendly terms appears to be due to speed and failure to request terms in the request for bids and the negotiation process:

- First 30 days the State negotiated and agreed in principle on 35 contracts for $35.9 billion. (Figure 9)
- More than 80 percent of power was negotiated in principle during intense contracting period from January 24 to March 2, 2001.
- Contracts negotiated prior to March 2, 2001, provide highly favorable financial deal for generators and it is this incentive rather than the terms of the contracts that will compel them to deliver power.

Negotiators believed that the principal mission of the DWR was to sign up as much power as possible at the lowest price. What is unclear is why the urgency to move from a letter of intent to a fully executed contract in 7 days when the power would not be delivered for 4 to 10 months.

Problem provisions in Calpine Peaker ($2.9 billion for 20 years, 495 megawatts):

- Allows Calpine to substitute power from other sources.
- Lacked prudent industry practice requirements as to operation and maintenance.
- No availability standards.
- Except for the first year, it does not clearly link reductions in capacity payments for new generation for failure to construct timely or failure to operate.
- Did not provide the DWR the ability to terminate for failure to operate for a period of time.

DWR is exposed to the legal risk that, at Calpine's option it will be obliged to pay $1.56 billion in exchange for little or no new generation because the capacity terms are unclear.

Contract Report Card Shows That Terms In Later Contracts Are More Favorable

Later contracts contain more favorable terms than earlier contracts. Later contracts included performance and reliability guarantees. (Table 8)

After March 2, 2001, DWR carefully reviewed contracts and analyzed problem provisions. Problems in early contracts not repeated in subsequent contracts.

Unfortunately, later contracts are for less power, lower costs, and less duration.

Contract terms did not improve until it was too late to make a meaningful impact on the overall portfolio of contracts.

DESPITE ITS LIMITATIONS, THE DWR MET THE STATE'S POWER NEEDS

DWR's capabilities were dwarfed by the magnitude of its mission under the power-purchasing program.

DWR struggled to fulfill its role as creditworthy purchaser for the net-short position.

DWR has had difficulties staffing the California Energy Resources Scheduling Division (responsible for administering AB 1X):

- Recruiting and retaining employees was highly problematic.
- Used existing staff, hired additional staff, and retained experts under contract.

DWR spent a large amount on short-term energy supplies but expenditures have declined and will likely remain low. (Figures 13 and 14)

- January through August DWR spent $8 billion on short-term energy.
- Spent well over $1 billion per month from February through May.
- January through April market offers were insufficient so the DWR used out-of-market purchases to serve net-short.

Prices for short-term electricity began declining in June 2001 due to a combination of factors:

- Generator outages declined substantially.
- Natural gas prices decreased considerably.
- Demand declined significantly.
- New generation entered the market.
- Prices for No_X emission allowances declined.
- Reduced reliance on spot market purchases.
- FERC market mitigation order of June 2001.

Future Short-Term Expenditures Will Constitute Only a Fraction of Those for 2001 (Figure 17)

Spot market prices have declined significantly.

Fewer short-term purchases will be needed as deliveries from long-term contracts increase.

Net-short position will be smaller due to direct access increases.

DWR Has Resold Power Mostly To Balance Its Real-Time Transactions

First resale occurred in March and increased in July and August. (Figure 18)

High percentage of resales in August was in the real-time market.

Causes of real-time power sales appear to be result of several factors:

- Electricity demand and supply have routine variations.
- Inaccurate forecasts of demand and utility-retained generation.
- IOUs may be overestimating net-short position.

Division has not been able to assess causes of hourly imbalances because it does not have access to confidential market participant data (i.e., generator deviations, meter data, delivery path congestion).

Energy resales could increase substantially during next several years, particularly in Southern California during 4th quarter 2003 through 4th quarter 2005. Causes: Long-term contracts and declining net-short positions due to direct access.

More Systematic Analysis of Short-Term Transactions Is Needed

Net-short analysis will become more complex as dispatchable long-term contracts take effect.

- Long-term contracts for 2,900 megawatts of dispatchable energy will take effect in 2002.
- Flexibility will allow the DWR to take delivery of contract energy when spot market prices are higher and to purchase spot energy when it costs less.
- Meaningful portfolio management can reduce costs for consumers and its absence can unnecessarily increase costs.

Coordinated Dispatch of Utility Retained Generation Between the DWR and the Utilities Could Provide Savings

Minimize the cost of daily and hourly purchases by shaping schedule of hydro units.

Generate lower cost reserve using hydro units.

Reduce thermal unit production during periods of low energy market prices.

The utilities retail generation sales are tied directly to the amount of power they generate, meaning that reduced generation results in the utilities selling less energy.

THE FUTURE OF THE POWER-PURCHASING PROGRAM

Planning

A comprehensive strategic plan is needed for the power-purchasing program.

Strategic plan should consider these relevant factors:

- AB 1X, a short-term measure designed to address the immediate crisis must be replaced with a long-term strategic plan.
- The management of the existing long-term contracts cannot be easily transferred to other entities. ($42.6 billion contract portfolio)
- Key issues must be resolved: creditworthiness of IOUs, role of the Power Authority.
- Entity administering the program must have the ability to carry out the full functions of a program of this scale. (DWR is not yet well positioned to serve in this capacity.)
- If DWR is to continue to administer the program, it must improve its internal capabilities and operations.

Strategic plan should identify who will perform certain functions:

- It must consider the likelihood that the IOUs will not be able to purchase net-short.
- Whether to terminate DWR's role or transfer it to the Power Authority or to another entity.

Contract Management ($42.6 billion contract portfolio)

Contracts do not provide meaningful opportunities for the State to renegotiate or quit.

DWR has statutory right to petition FERC to void contracts to the extent rates are not "just and reasonable." However, in several contracts the DWR waives this right.

Even if the State fails to make payments under the contract, the decision to require performance (i.e. payment) versus to terminate the contract (and collect termination payments) is up to the seller.

Contracts offer little in the way of excuses for the State temporarily not performing. Excuse for not performing excludes adverse deviations in price as well as reduction in demand for power.

DWR can assign contracts to other governmental entities but assignment to IOUs requires sellers consent.

DWR should retain a "fresh set of legal eyes" to review contracts to help prioritize issues, strategize solutions, and then move ahead:

> **Example**: Williams contract has provision stating that if Williams incurs air emissions costs as a result of producing power for the DWR, the DWR must pay those costs. This exposes the DWR to $400 million to $688 million in potential costs over the life of the contract.

DWR needs to shield itself against potential events of default:

> **Example**: If the State repays the General Fund before it pays generators, the State's action could be an event of default resulting in termination of most contracts exposing the State to huge early termination payments.
>
> Many contracts contain provisions allowing the pass-through of certain costs (emissions credits, taxes, schedule imbalance penalties) from generators to the DWR. More than 15 large long-term contracts have clauses allowing the pass-through of governmental charges to the DWR.

Identify disadvantageous terms and use its strength to leverage a change in those terms.

Target contracts that are least desirable and have most dollar impact.

Opportunities for leverage include:

- Terms that establish performance minimums for generator.
- Terms that permit the DWR to monitor performance.
- Deadlines, such as commercial operation dates or other milestones.
- Items that require the DWR's consent.

DWR NEEDS TO IMPROVE ITS CAPABILITIES

Net-short Purchases

Continue to manage the net-short to reduce exposure to market risk in periods of high-demand and short supply. Net-short analysis will become more complex as dispatchable contracts take effect.

Servicing Agreements With IOUs

DWR must sell surplus power resulting from difference between estimated and actual customer usage.

DWR lacks processes to monitor IOUs performance in estimating customer needs. IOUs have no obligation to correct deviations.

DWR and IOUs have not agreed to sharing market data.

Servicing agreements provide auditing rights to the DWR and reporting responsibilities to the IOUs, but the DWR has not developed and implemented procedures or requirements for these.

Conflict of Interest

DWR needs to improve its efforts to prevent conflicts:

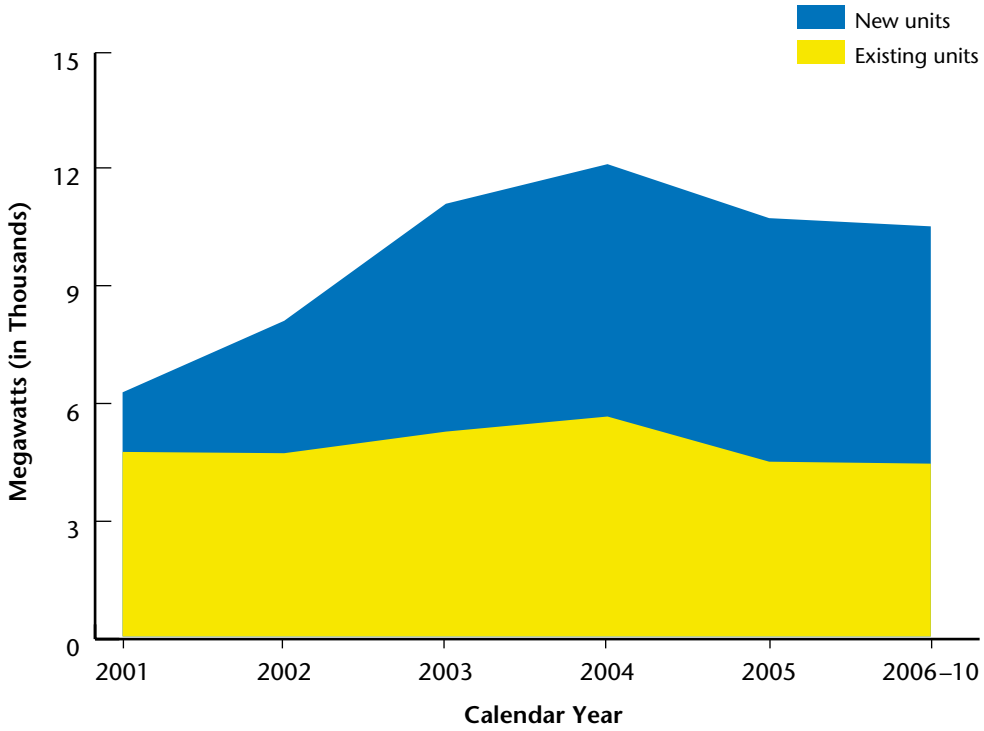
- We identified 15 individuals for whom DWR had no evidence of any effort to determine the need to file economic interest disclosure forms. In addition, an invoice for August 2001 listed 42 consultants, 22 were not in DWR's tracking system.

Internal Controls

DWR controls are not adequate to ensure all hours staff work are charged to the power-purchasing program. (14,300 staff hours not charged to the power-purchasing program)

FIGURE 1

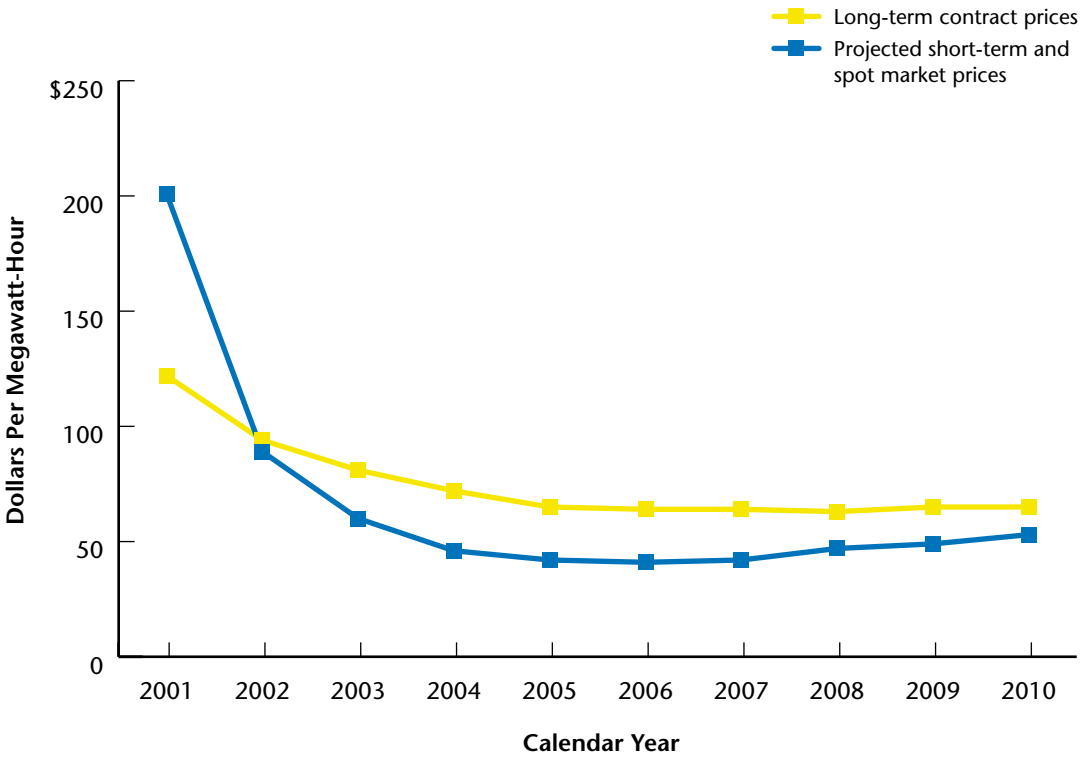
The Department of Water Resources' Contracts
New Units Versus Existing Capacity



Source: Analysis by LaCapra Associates using data from a July 25, 2001, draft report prepared by Navigant Consulting, a Department of Water Resources consultant.

FIGURE 2

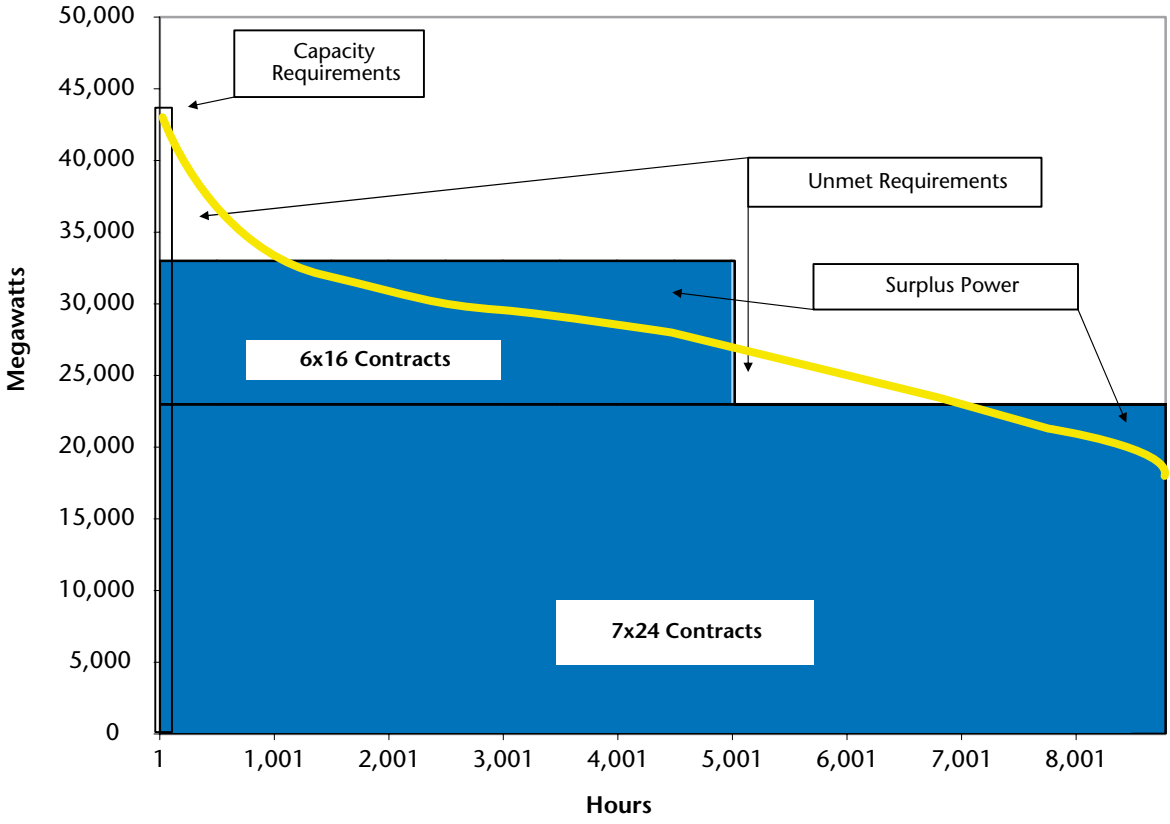
Projected Market Prices Are Lower Than the Department's Contract Prices (In Dollars per Megawatt-Hour)



Source: Data from Navigant Consulting, Inc., a Department of Water Resources consultant.

FIGURE 3

One Year's Representative Load Distribution by Hour



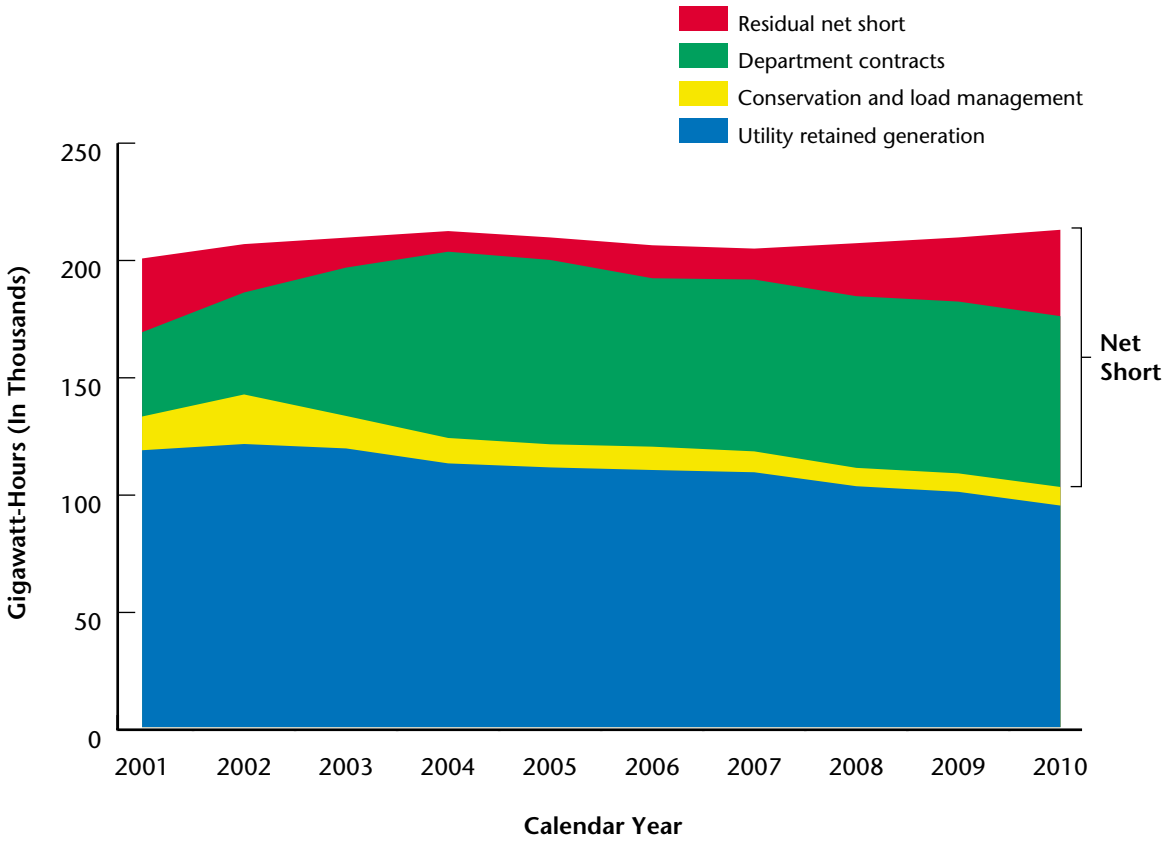
Footnotes:

The area under the line represents total electricity requirements, the shaded areas represent energy purchases, and the height of the column near hour 1 indicates the capacity requirement for the peak hour.

The purchase of 6x16 contracts involve agreements with sellers that produce energy 6 days a week, 16 hours per day. Similarly, the department has 7x24 contracts with sellers that generate energy 7 days a week, 24 hours per day.

FIGURE 4

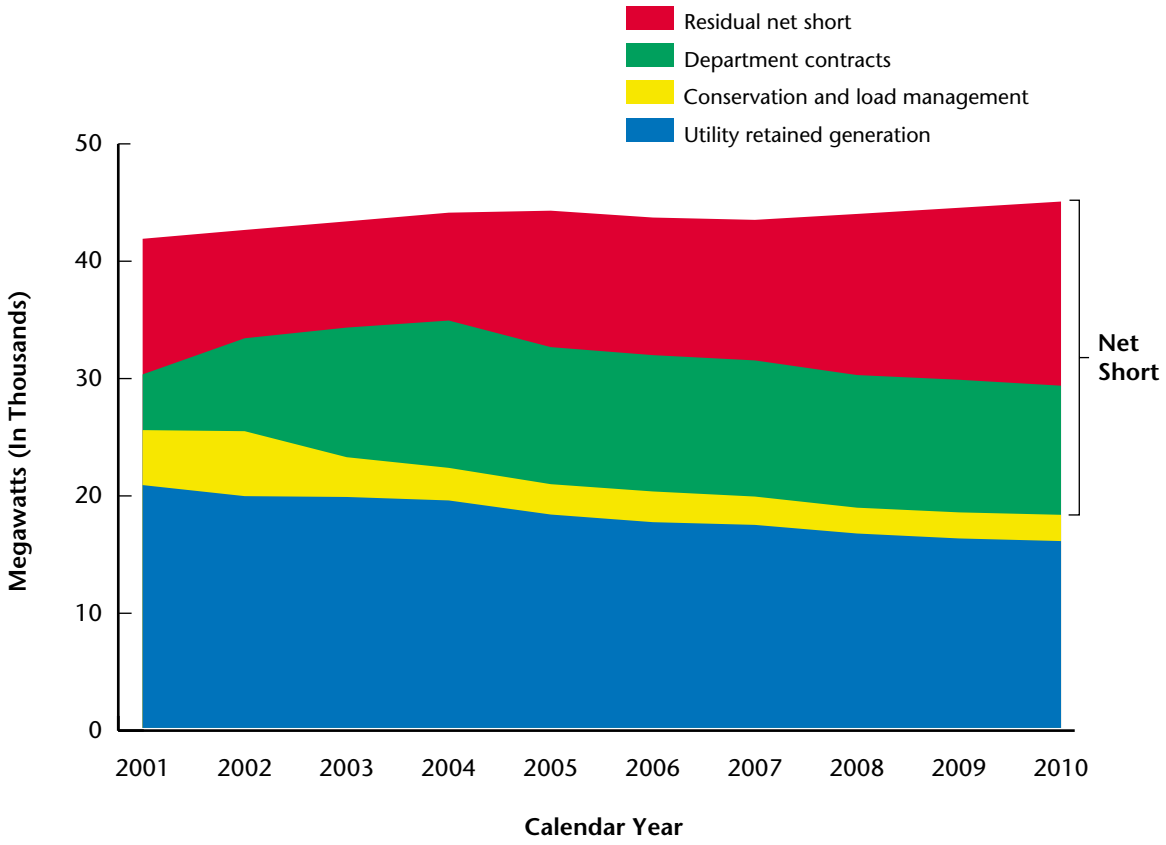
Forecasted Annual Net-Short Energy Position
2001 Through 2010



Source: Analysis by LaCapra Associates using data from a July 25, 2001, draft report prepared by Navigant Consulting, a Department of Water Resources consultant.

FIGURE 5

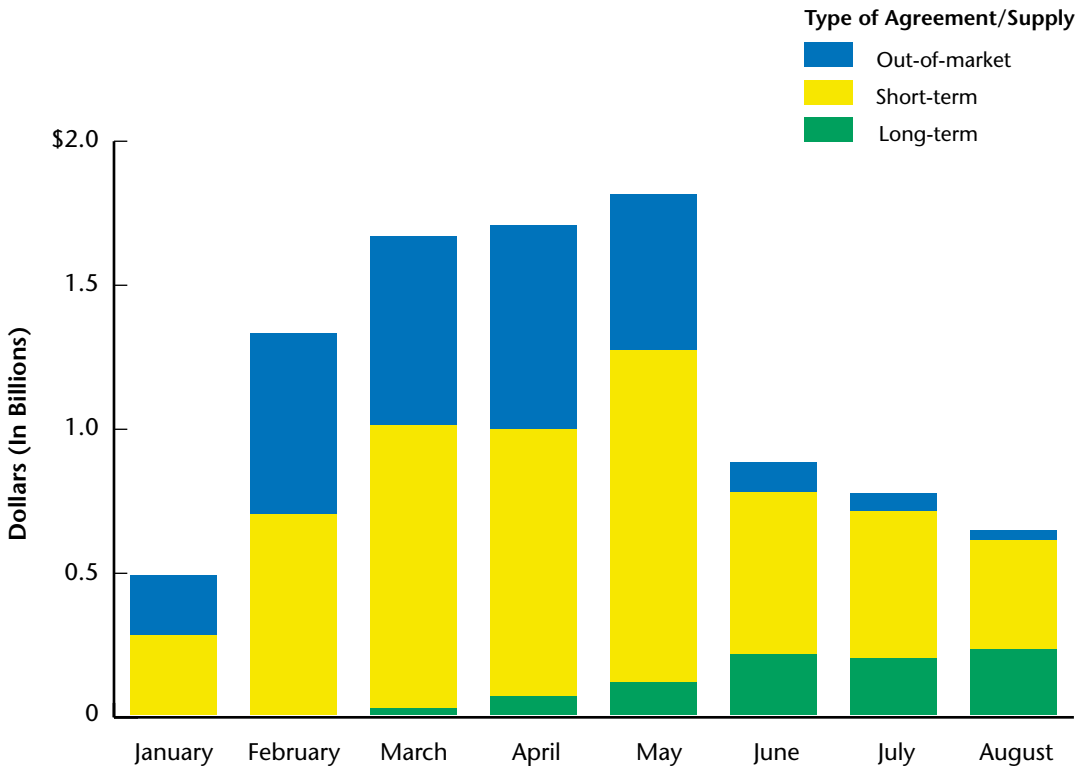
Forecasted Annual Net-Short Capacity
2001 Through 2010



Source: Analysis by LaCapra Associates using data from a July 25, 2001, draft report prepared by Navigant Consulting, a Department of Water Resources consultant.

FIGURE 13

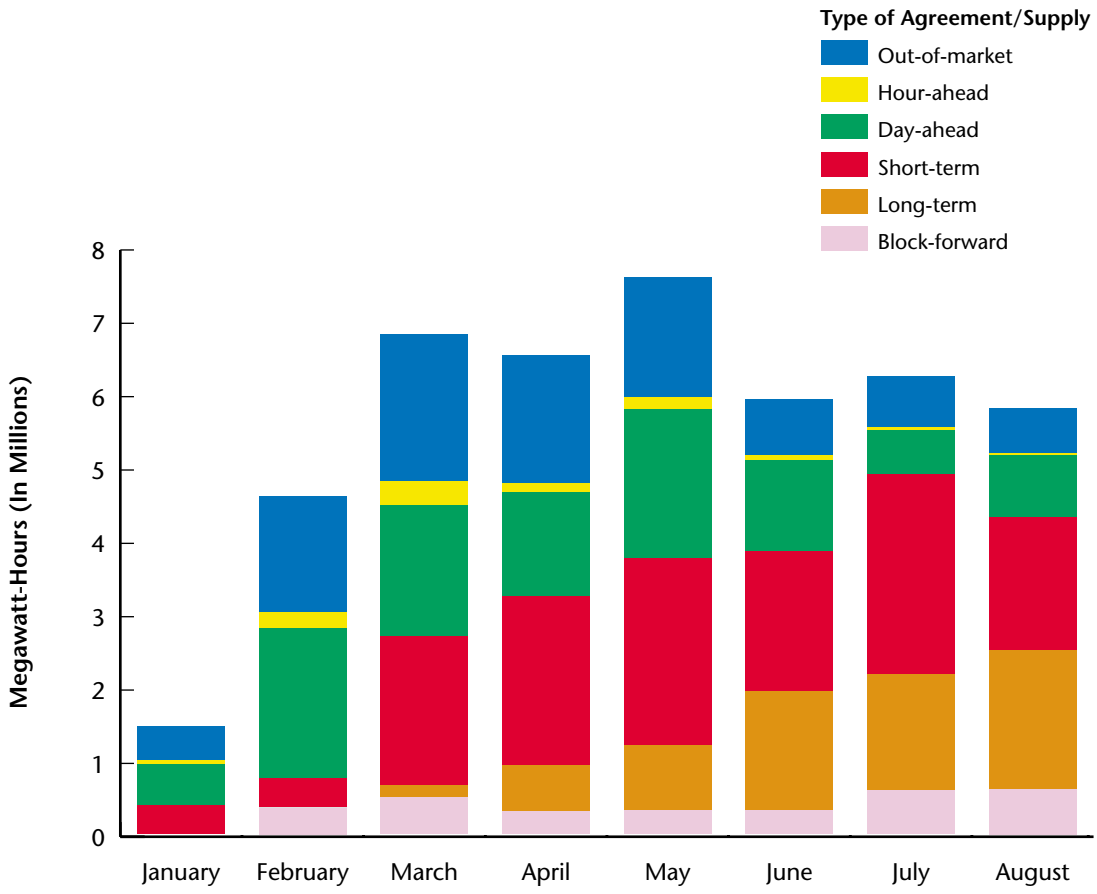
The Division's Gross Expenditures
January Through August 2001



Source: Data provided by the Department of Water Resources.

FIGURE 14

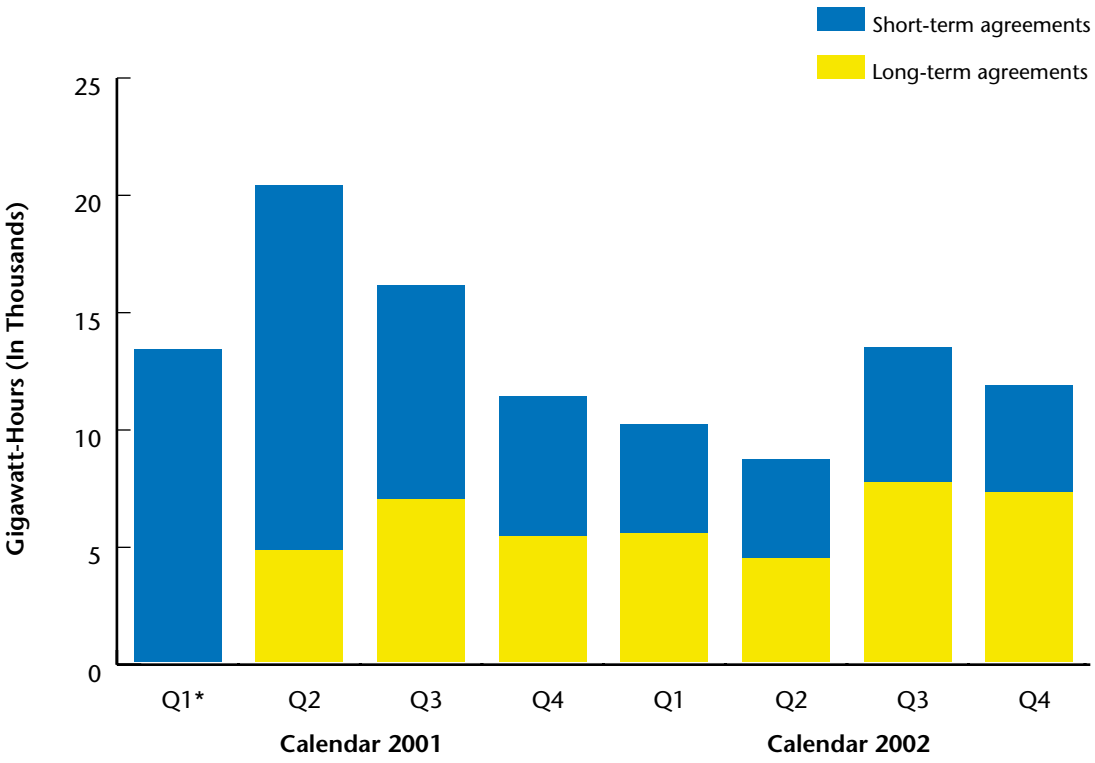
Total Division Energy Purchases
January Through August 2001



Source: Data provided by the Department of Water Resources.

FIGURE 16

The Division's Projected Purchases 2001 and 2002

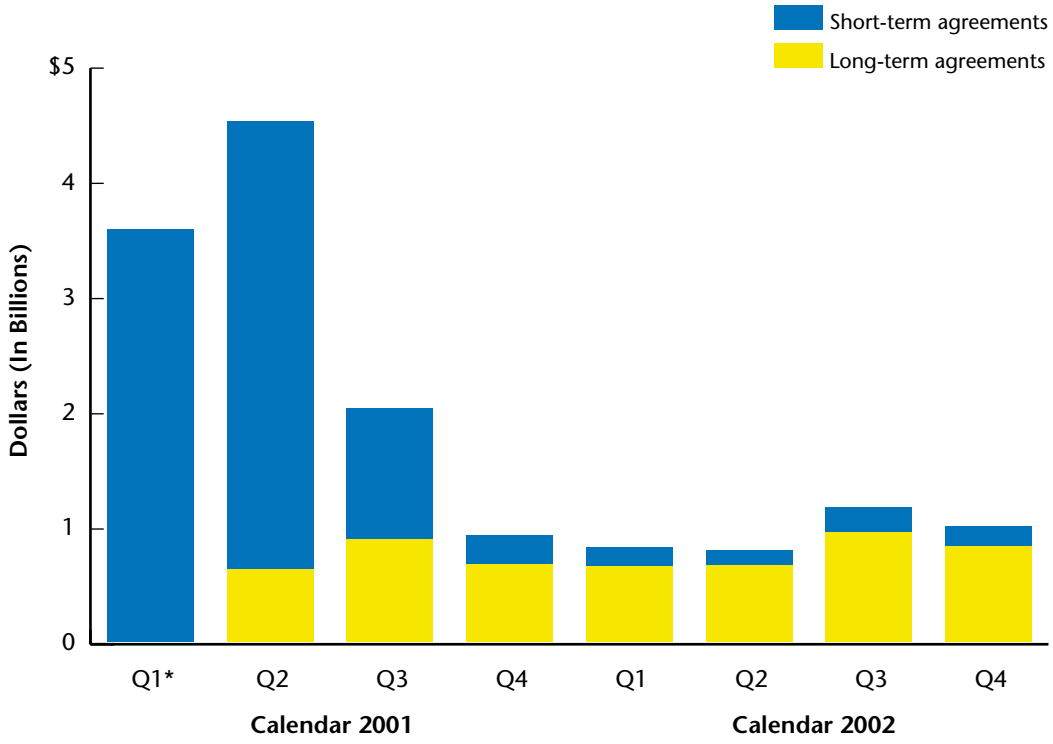


Source: The Department of Water Resources' November 5, 2001, Revenue Requirement Filing.

* Q = quarter

FIGURE 17

The Division's Projected Expenditures 2001 Through 2002

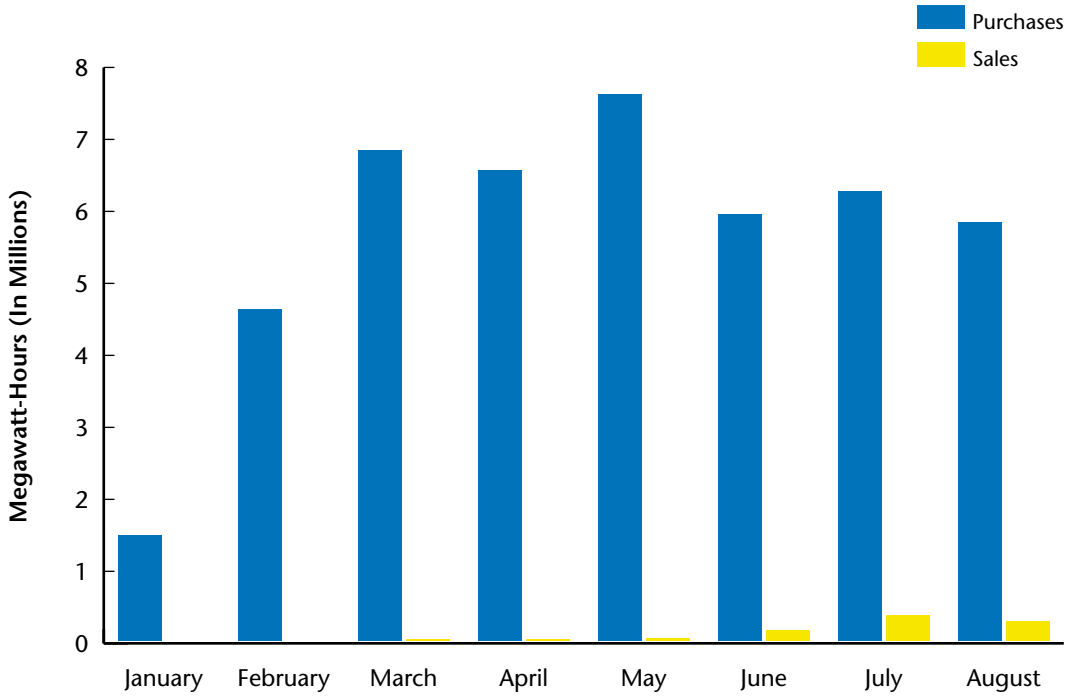


Source: The Department of Water Resources' November 5, 2001, Revenue Requirement Filing.

* Q = quarter

FIGURE 18

Division Energy Sales Compared to Purchases
January Through August 2001



Source: Data provided by the Department of Water Resources.

TABLE 8

Summary of Report Cards for Contracts Executed by the Department

Contracts Executed by March 2, 2001

						Reliability			Price Risk		Flexibility to Renegotiate		Assignment
Contract Number	Supplier	Start Date	Term (Years)	Product (i)	Ten-Year Energy Purchases (Gigawatt-Hours)	Delivery	Availability	New Generation	Uncertainty	Tolling	Constraints	Government Relief	
11	**Calpine**	7/1/01	10.5	Base	70,115	-3	-3	-3	-1	N/A	-2	0	-1
12	**Calpine**	8/1/01	20.0	Peak	7,958	-3	-3	-3	-1	N/A	-1	0	-1
13	**Calpine**	10/1/01	10.33	Base	64,596	-3	N/A	N/A	-1	N/A	-1	0	-1
6	**Dynegy**	3/6/01	0.83	Peak	4,094	-1	-2	N/A	-2	-1	-2	0	2
7	**Dynegy**	3/1/01	0.09	Off-peak	482	-1	-2	N/A	-2	-1	-2	0	2
14	**Dynegy**	1/1/02	3.0	Base	5,261	-1	N/A	N/A	-2	-1	-2	0	2
15	**Dynegy**	1/1/02	3.0	Peak	8,986	-1	N/A	N/A	-2	-1	-2	0	2
16	**Dynegy**	1/1/02	3.0	Peak	14,851	-1	-2	N/A	-2	-1	-2	0	2
17	**Dynegy**	1/1/02	3.0	Off-peak	1,747	-1	-2	N/A	-2	-1	-2	0	2
8	Williams	4/1/01	10.0	Peak	10,006	-2	1	N/A	-2	N/A	-3	0	0
9	Williams	6/1/01	4.5	Peak	4,578	-2	1	N/A	-2	N/A	-3	0	0
10	Williams	6/1/01	9.5	Base	21,983	-2	1	N/A	-2	N/A	-3	0	0
18	Williams	1/1/03	8.0	Peak	19,968	-2	1	N/A	-2	N/A	-3	0	0
		Total gigawatt-hours:			**234,625**								
		Average scores:				**-1.77**	**-1.00**	**-3.00**	**-1.77**	**-1.00**	**-2.15**	**0.00**	**0.69**

continued on next page

Agreement in Principle by March 2, 2001; Contract Executed After March 2, 2001

						Reliability			Price Risk		Flexibility to Renegotiate		Assignment
Contract Number	Supplier	Start Date	Term (Years)	Product (i)	Ten-Year Energy Purchases (Gigawatt-Hours)	Delivery	Availability	New Generation	Uncertainty	Tolling	Constraints	Government Relief	
19	High Desert	7/1/03	8.25	Base	51,896	-2	-3	2	1	N/A	-2	2	0
20	Constellation	4/1/01	2.25	Peak	2,246	-1	N/A	N/A	1	N/A	-2	2	2
27	**Allegheny**	1/1/03	1.0	Peak	749	-1	N/A	N/A	1	N/A	-2	0	2
21	**Allegheny**	3/23/01	0.58	Peak	1,270	-1	-1	N/A	1	N/A	-2	0	2
22	**Allegheny**	10/1/01	10.25	Base	61,880	-1	-1	N/A	1	N/A	-2	0	2
28	**Sempra**	6/1/01	10.3	Peak	22,339	-2	-2	-3	0	1	-1	0	2
29	**Sempra**	4/1/02	9.5	Base	70,986	-2	-2	-3	0	1	-1	0	2
43	Cal Peak (ii)	10/15/01	10.0	Super Summer Peak	2,154	2	3	2	0	2	2	1	0
44	Cal Peak (ii)	10/15/01	10.0	Super Summer Peak	2,873	2	3	2	0	2	2	1	0
45	Cal Peak (ii)	11/1/01	10.0	Peak	0	2	3	2	0	2	2	1	0
	Cal Peak (ii)	11/1/01	10.0	Peak	0	2	3	2	0	2	2	1	0
40	Sunrise	8/1/01	1.42	Super Summer Peak	447	3	2	1	0	1	0	2	0
41	Sunrise	3/1/03	8.58	Base	38,441	3	2	1	0	1	0	2	0
		Total gigawatt-hours:			**255,281**								
		Average scores:				**0.31**	**0.64**	**0.67**	**0.38**	**1.50**	**-0.31**	**0.92**	**0.92**

Both Agreement in Principle and Actual Agreement Executed After March 2, 2001

						Reliability			Price Risk		Flexibility to Renegotiate		Assignment
Contract Number	Supplier	Start Date	Term (Years)	Product (i)	Ten-Year Energy Purchases (Gigawatt-Hours)	Delivery	Availability	New Generation	Uncertainty	Tolling	Constraints	Government Relief	
31	GWF	9/1/01	11.33	Summer Peak	23,713	3	3	1	-2	2	2	0	0
32	Mirant	6/1/01	1.5	Peak	3,952	-3	N/A	N/A	1	N/A	-1	0	0
33	**Coral**	5/24/01	11.25	Peak	13,520	1	4	3	1	1	2	0	0
34	**Coral**	7/1/03	11.25	Peak	5,049	1	4	3	1	1	2	0	0
35	**Coral**	7/1/02	10.0	Base	5,729	1	4	3	1	1	2	0	0
36	**Coral**	7/1/04	10.0	Peak	4,378	1	4	3	1	1	2	0	0
39	Pacificorp	7/1/01	10.0	Base	21,900	3	3	N/A	0	1	1	1	2
48	**Calpine SJ**	5/1/02	3.0	Peak	3,024	1	2	0	1	1	2	0	-1
			Total gigawatt-hours:		**81,265**								
			Average scores:			**1.00**	**3.43**	**2.17**	**0.50**	**1.14**	**1.50**	**0.13**	**0.13**

Grade summary

Average scores per period:	Delivery	Availability	New Generation	Uncertainty	Tolling	Constraints	Government Relief	Assignment
Contract by March 2	**-1.77**	**-1.00**	**-3.00**	**-1.77**	**-1.00**	**-2.15**	**0.00**	**0.69**
Agreement in principle by March 2	**0.31**	**0.64**	**0.67**	**0.38**	**1.50**	**-0.31**	**0.92**	**0.92**
Contract or agreement in principle after March 2	**1.00**	**3.43**	**2.17**	**0.50**	**1.14**	**1.50**	**0.13**	**0.13**

Notes:

The grades shown here correspond to the overall grade for each category shown in Appendix C. Refer to Table 11 in Appendix C for the more detailed ratings of each contract.

N/A Attribute is not applicable.

(i) The product codes are explained in Appendix A.

(ii) Because the department separates the power from the Cal Peak contracts between parts of the year, it treats Cal Peak as four contracts. We show all four contracts here since our consultant evaluated the legal terms of each contract individually. Elsewhere in the report, we treat the transactions as two contracts.

Supplier names in bold indicate that they were reviewed in detail by our consultant.