Assessment of Utility Risk Management Procedures

OFFICE OF THE CITY AUDITOR

July, 2002
02-R-13
The Honorable City Council  
Attn: Finance Committee  
Palo Alto, California  

The de-regulated energy markets pose significant challenges for the City of Palo Alto’s Utilities Department (CPAU). As a consequence of these changes and the volatility of the markets, CPAU business risks are much different than under historical operations. As the governing body for the CPAU, the City Council will continue to face important decisions with serious consequences for its ratepayers.

The purchase and sale of commodities are a significant source of the current risk. CPAU has implemented risk management procedures and is focusing staff efforts on improving its evolving risk management program. The City Manager’s Risk Oversight Committee (ROC) plays an important role in monitoring gas and electric commodity issues.

The purpose of our review was to assess the adequacy of utility risk management procedures, the appropriateness of designated scopes of authority and levels of management oversight, and the adequacy of management reporting. A performance audit by nature focuses on areas of improvement. The results of our audit are summarized below.

**Consultant recommendations need to be fully addressed.** Prior to our review, Deloitte & Touche identified several areas for improvement and developed a suggested risk management program. We are recommending that CPAU establish target dates for implementing the consultant’s recommendations and provide written reports to the ROC detailing status and target dates.

**Oversight roles, responsibilities, and authorities need to be defined.** Clarifying the roles of the City Manager, ROC, Utilities Advisory Commission, and City Council would help staff, commissioners, and City Council members determine what information is needed at which oversight level.

**Commodity purchasing policies need to be improved and clarified.** Our recommendations in this area address several issues:

- **Signature authority.** Prior to our review, City staff operated under the assumption that they had implicit authority to purchase commodities so long as the purchase was to meet demand and was for less than three years. As a result, multi-million dollar purchases and sales of commodities have taken place without specific City Council approval. We recommend that the CPAU purchase all commodities using City Council approved contracts.

- **Competitive bidding.** The municipal code exempts CPAU from the formal bidding process, but does not release CPAU from open and competitive purchasing requirements. We are recommending that CPAU work with the City’s Purchasing Manager and the City Attorney to
establish and approve an RFP process for commodities that ensures greater competition for gas and electric commodities.

- **Anti-speculation.** The City anti-speculation policy prohibits speculative buying and selling of energy products and also prohibits buying for more than load. We recommend that the City establish parameters for before-the-month purchases and improve reporting of the commodity positions to ensure purchases do not exceed projected load.

- **Confidential data.** We recommend that the City Attorney clarify which information is confidential and advise CPAU in preparing policies and procedures for handling such information.

*Improvements in management reporting are needed.* We recommend staff prepare detailed financial and transaction reports that will improve the ability of the ROC and other oversight bodies to monitor the performance of individual commodity contracts and the commodity portfolio as a whole.

*A formal middle office function is needed.* Critical oversight functions for ensuring compliance with risk management policies and procedures, and monitoring the activities of traders are needed. Per best industry practices, we recommend the formation of an independent middle office to oversee front office trading activities. Best practices require separation of duties between the personnel who make transactions and the persons who confirm, monitor, or report on transactions. CPAU functions have not been fully separated because its staff is too small. We recommend commodity trading functions (front office) remain with CPAU’s Resource Management Division, that the independent risk oversight function (middle office) be established in the Administrative Services Department (ASD), and that accounting functions (back office) be segregated to the extent possible and strengthened with additional training. CPAU and ASD representatives plan to propose creation of a utilities risk management position in ASD to coordinate oversight and reporting functions. We support this recommendation.

*Management controls need to be improved.* As part of our review, we selected a sample of commodity transactions and tested compliance with existing CPAU procedures. CPAU staff complied with most of their procedures, however some important requirements were not followed. In addition, supervisory review of transactions was not documented. Improved enforcement, supervision, and additional written procedures are needed to protect the City’s financial interests and prevent unauthorized transactions.

*CPAU should involve the City Council in reassessing the performance of its energy portfolios.* Decision-makers at all levels must be aware of and involved in assessing the risks associated with their decision-making. For many years, Palo Alto ratepayers have had the benefit of low-cost federal power. By renegotiating the Western contract through the year 2024, CPAU advanced its goal of low and stable rates. However, the volatile energy markets of 2001 put significant pressure on the City’s finances when energy prices declined and commodity contracts lost significant value. We recommend that CPAU provide the City Council with periodic information about the performance of the energy procurement strategy and alternatives.

*Other issues.* A quality assurance program for the energy model and an official archive of final documents are needed to ensure that purchase and sales transactions are valid and based on accurate information.
Our report includes a total of 24 recommendations. The City Manager, Director of Utilities, City Attorney, and ASD reviewed the information in this report and concur with our recommendations. The City Manager’s response is attached.

I will present this report to the Utilities Advisory Commission on July 10th and to the Finance Committee on July 16th. If you need additional information in the interim, please let me know. We thank the staff in the Utilities and Administrative Services Departments and the City Manager’s and City Attorney’s Offices for their cooperation during our review.

Respectfully submitted,

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Introduction

In accordance with the 2001-02 Annual Audit Plan, the City Auditor’s Office has completed an assessment of Utility Risk Management Procedures. The purpose of our review was to determine (1) the adequacy of utility risk management procedures, (2) the appropriateness of designated scopes of authority and levels of management oversight, and (3) the adequacy of management reporting.

Our audit was conducted between November 2001 and June 2002 in accordance with generally accepted governmental auditing standards. The City Auditor’s Office would like to thank the Utilities and Administrative Services Departments and the City Manager’s and City Attorney’s Offices for their cooperation and assistance during our review.

Background

The City of Palo Alto (City) operates seven utilities including electricity and natural gas. The City of Palo Alto Utilities (CPAU) administers electric, gas, water, and wastewater operations. The mission of CPAU is:

To build value for our citizen owners, to provide dependable returns to the City and citizens of Palo Alto, and to be the preferred full service utility provider while sustaining the environment.

CPAU supplies electricity and natural gas to approximately 28,000 electric and 23,000 gas customers.

Exhibit 1: 2000-01 Operating Revenues and Commodity Transactions

<table>
<thead>
<tr>
<th></th>
<th>Operating Revenues (in millions)</th>
<th>Commodity Purchases (in millions)</th>
<th>Number of Transactions&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
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<tbody>
<tr>
<td>Electric</td>
<td>$131.5</td>
<td>$57.8</td>
<td>40</td>
</tr>
<tr>
<td>Gas</td>
<td>23.6</td>
<td>20.6</td>
<td>46</td>
</tr>
<tr>
<td>Total</td>
<td>$155.1</td>
<td>$78.4</td>
<td>86</td>
</tr>
</tbody>
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Electric Supply

Since 1964, the City has been the recipient of power furnished under a contract with the United States Department of Energy, Western Area Power Administration (Western) and its predecessor, the Department of the Interior. The City receives the Western power through the Pacific Gas and Electric Company (PG&E) transmission system. The original

<sup>1</sup> Transactions include commodity purchases, sales, and layoffs (agreements not to take contracted power).
Western contract expires in December 2004 and will be replaced with the new contract signed in 2000 that expires in 2024. Under the terms of the new contract, Western will provide less energy to the City and an electric supply deficit is expected starting in 2005. Staff estimates that this deficit will be about 25 percent of the forecasted load\textsuperscript{2} in the Spring months and over 75 percent in the Fall months.

In September 1996, the California State Legislature deregulated the electric generation industry under the authority of Assembly Bill 1890. The bill was intended to foster competition and lower electric prices. However, since the summer of 2000, the wholesale price of electricity increased 500 percent, PG&E and Enron filed for bankruptcy, and apparent power shortages caused rolling blackouts in California. The energy crisis in 2000 to 2001 resulted in volatile electric prices.

In February 2001, CPAU staff proposed an electric supply plan to begin purchasing electricity to meet forecasted load after December 2004. The plan includes diversifying the supply portfolio by purchasing fixed-price energy over variable lengths of time ("laddering")\textsuperscript{3}, purchasing gas-fired generation power, pursuing opportunities in the market place, and hedging price risk. The City Council approved primary objectives for developing the long-term electric portfolio in October 2001 (CMR:389:01). The proposed post-2004 electric portfolio plan has not yet been finalized.

**Gas Supply**

Municipal ownership of the gas system began in October 1917. In October 1929, the City began purchasing gas from PG&E. In 1987, the City switched to alternative suppliers. From 1999 through June 2001, Texas Utilities (TXU) was the City's full-service supplier of gas.\textsuperscript{4}

Since 2000, changes have occurred in the gas arena. Natural gas prices increased to unprecedented levels during the energy crisis and became volatile. Beginning in 2001, CPAU staff negotiated fixed-price contracts with several gas suppliers including Pan Canadian, BP Energy Company, and Sempra Energy Trading, Inc. to replace the City's former full-service gas supplier, TXU. As commodity prices rose, CPAU was forced to raise retail rates paid by its customers.

\textsuperscript{2} Load is the amount of power delivered or required at any specific point or points on a system. The load of an electric utility system is affected by many factors and changes on a daily, seasonal, and annual basis.

\textsuperscript{3} Laddering is the advance purchase of segments of power for a defined time period at different times for different prices.

\textsuperscript{4} The TXU contract pricing was based on an index price known as the "bidweek index". Bidweek pricing changes monthly and is not certain until just before the month begins. CPAU also purchased fixed-price gas from TXU.
In April 2001, CPAU presented the City Council with a plan to stabilize gas prices for longer periods (CMR:196:01). The gas "laddering" strategy consisted of dividing the annual load into segments and purchasing each segment at different times at fixed prices. Under the plan, gas supply costs are fixed for 75 percent of the load for the next fiscal year, about 50 percent for the second fiscal year, and about 25 percent for the third fiscal year.

Resource Management Division

A staff of nine resource planners in the CPAU Resource Management Division (RMD) Supply Resources Group, under the supervision of the Assistant Director for Resource Management, is responsible for implementing the gas and electric strategies. The RMD currently performs all functions related to the purchases and sales of gas and electricity including negotiating and confirming transactions, documenting and recording deals, and accounting for and reconciling bills and payments.

Other RMD functions include administering and monitoring contracts, developing and maintaining forecast models, and preparing and issuing management reports. Plans for purchasing and selling energy, as well as claims for payments, are reviewed and approved by the Assistant Director for Resource Management and the Director of Utilities.

RMD staff was integral to developing and implementing the City's response to the energy crisis of 2000-01. RMD staff is actively working closely with other agencies on issues surrounding the PG&E and Enron bankruptcies, responding to Federal Energy Regulatory Commission (FERC) actions, and addressing other federal and state legislative initiatives. On an on-going basis, RMD staff is responsible for electric, gas, and water demand and load forecasts. The division is also responsible for developing the City's renewable energy portfolio and evaluating local generation alternatives. According to RMD staff, they also provide analytical support for other CPAU divisions including collecting and researching loads, compiling customer surveys and service evaluations, and tracking CPAU Strategic Plan implementation. In addition, RMD staff deals with the San Francisco Public Utilities Commission and is coordinating with the Bay Area Water Utility Users' Association to pursue seismic upgrades in the Hetch Hetchy water system.

Oversight Bodies

The Director of Utilities and his staff report to the City Manager and provide staff support for the Utilities Advisory Commission (UAC). The UAC consists of five community members who are appointed by the City Council. A City Council member serves as liaison to the UAC. The UAC provides advice to the City Council on a wide variety of utility issues.
In July 1998, the City Manager formed a Risk Oversight Committee (ROC) to provide oversight of gas and electric commodity issues. The formation of a ROC is in line with industry best practices and desirable in light of the magnitude of changes foreseen in the energy markets. The voting members of the ROC include the Director of Utilities, the Assistant City Manager, and the Director of Administrative Services (ASD). RMD staff, a Senior Assistant City Attorney, and representatives from the ASD provide staff support the ROC.

Risk Management Consultant

In April 1999, CPAU identified the need for consulting services to augment staff resources and to design, develop, and implement a framework for electricity and natural gas risk management (CMR:186:99). The City contracted with Deloitte & Touche LLP (Deloitte & Touche) to assist CPAU in the development and implementation of a comprehensive electric and gas risk management program. Between 1999 and 2001, Deloitte & Touche issued reports that recommended changes in the CPAU risk management and control infrastructure to bring its program in line with industry best practices. These reports addressed global energy markets, risk identification and assessment, energy transacting and risk management, and technology applications.

In April 2002, Deloitte & Touche returned to assist with the development and implementation of detailed risk management policies and procedures.5

Evolution of CPAU’s Risk Management Policies and Procedures

Utilities risk management is the control and limiting of risks faced by an organization due to its exposure to changes in market variables such as commodity availability and prices, and supplier (counterparty)6 creditworthiness.

In November 1999, the City Manager approved interim risk management policies and procedures. The interim policies and procedures included: 1) designated personnel with authority to approve transactions, 2) supply portfolio management strategies and procedures, 3) personnel authorized to make transactions, 4) functional responsibilities of personnel involved in managing the supply portfolios, and 5) procedures and forms used to track transactions.

The City Manager also approved an interim counterparty credit policy. This policy was designed to minimize counterparty credit risk by: 1) engaging only with counterparties deemed to be creditworthy, 2)

5 The April 1999 contract for $225,000 was amended to $440,000 to cover the current work. In June 2002, the City Council approved a second amendment to the contract bringing the total to $740,000.

6 Counterparty: one of the participants in a financial transaction.
diversifying counterparty credit risk\(^7\) through the use of multiple counterparties when appropriate, and 3) limiting the size and type of transactions allowed per counterparty.

In November 2000, the City Council approved in concept the mission statement, key objectives, and strategies of the Utilities Strategic Plan (CMR:418:00). The Plan identified commodity risk management as a key new initiative of CPAU.

In March 2001, the City Council approved risk management policies stipulating that, while certain risks are inherent in the de-regulated energy business, CPAU is expected to manage business risks at acceptable levels and avoid activities not related to the normal CPAU business activities that have the effect or potential of increasing risk. The basic premise is that “no activities related to energy purchase(s) and sales should unnecessarily expose the City to excessive risks or the possibility of large financial losses in relation to the size of the electricity and gas reserve funds.” (CMR:103:01)

CPAU is currently developing new energy risk management policies, guidelines, and procedures.

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**Audit Scope and Methodology**

To address the audit objectives, we examined CPAU policies, procedures, and practices; we reviewed the CPAU Risk Oversight Committee minutes and reports, and the Utilities Advisory Commission minutes. We reviewed City Council minutes and City Manager Reports (CMRs); Palo Alto Municipal Code, City ordinances and regulations; and State of California rules, regulations, and reports. We examined CPAU records, files, consultant reports, databases, contracts, and transactions. We compared CPAU operations and practices with the Northern California Power Agency (NCPA), the City of Santa Clara Silicon Valley Power, and the City of Roseville Electric operations and practices.

We tested compliance with CPAU risk management policies and procedures by performing detailed examinations of gas and electric transactions for June and December 2001 and December 2000. For each transaction, we checked the adequacy of internal controls for items such as separation of duties, proof of supervisory review and oversight, and documentation of actions taken. We also examined and tested the forecasting/planning models used by CPAU staff.

We interviewed staff in ASD, the City Attorney’s Office, the City Manager’s Office, as well as the Utility Department staff and supervisors. We interviewed staff from Deloitte & Touche, NCPA, Silicon Valley

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\(^7\) Counterparty credit risk: the possible loss associated with the chance that a financial counterparty will default on contractual obligations.
Power, and Roseville Electric. We retained the services of a professional utilities consultant.

The audit results are based only on current CPAU operations. We did not audit NCPA operations. We did not review the use of financial instruments because CPAU informed us it was not using these instruments and did not have formal approval to use such instruments.
Audit Results

Summary

Risk management is defined as the reducing of the prospect of losses by assessing and responding to all risks that affect the achievement of an organization's strategic and financial objectives. In our opinion, CPAU has made considerable progress in addressing risk management issues and improving its evolving risk management program. However, additional improvements are needed in the CPAU’s risk management procedures to protect the City's financial interests, to prevent unauthorized transactions, and to ensure low and stable electricity and gas rates. More specifically, recommendations from the recent risk management study need to be fully addressed; oversight roles, responsibilities and authorities need to be defined; and commodity purchasing policies need to be improved and clarified. In addition, improvements are needed in management reporting; a formal middle office function is needed to ensure management controls are enforced; management controls need to be improved; and CPAU should involve the City Council in reassessing the performance of its energy portfolios. Other issues include addressing the need for a quality assurance program for the energy model and an official archive of final documents.

Recommendations in the 2001 Risk Management Study Need to Be Fully Addressed

In April 1999, the City contracted with Deloitte & Touche for risk management consulting services. In the first two phases of the contract, the consultant reviewed the existing risk management materials and program, developed a suggested risk management plan, and provided training for senior management.

In its report, "Energy Risk Management Control Infrastructure Assessment, March 2001", Deloitte & Touche identified several gaps in the CPAU control infrastructure. The report made several recommendations for improving separation of duties, oversight, delegation of authorities, transaction approvals, risk limits, risk control responsibilities, management reporting, violation actions, roles and responsibilities, and other related areas.

Deloitte & Touche strongly recommended separating the front office functions from the middle office functions. The report also recommended

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8 Although Deloitte & Touche provided CPAU staff with the draft report in March 2001, the report was not finalized until August 2001.

9 Separation/segregation of duties: To ensure assets are safeguarded from fraud or misuse, key duties and responsibilities (such as authorizing, processing, recording and reviewing transactions) should be separated among individuals.
segregating the back office functions from the other functions (see Exhibit 2 below).

**Exhibit 2: Separation of Duties among Front, Middle, and Back Offices\(^{10}\)**

<table>
<thead>
<tr>
<th>Office</th>
<th>Definition</th>
</tr>
</thead>
</table>
| Front        | • Negotiating and executing transactions with approved counterparties within credit limits  
             | • Hedging market exposure                                                   |
| Middle       | • Monitoring trader activities                                             |
|              | • Confirming transactions                                                  |
|              | • Ensuring compliance with policies and procedures                         |
|              | • Ensuring proper recording of transaction details                          |
|              | • Verifying data                                                           |
|              | • Preparing and distributing management reports                            |
| Back         | • Tracking and processing transactions                                      |
|              | • Performing profit and loss reconciliations                                |
|              | • Preparing billings and requesting payments                               |
|              | • Settling transactions                                                    |
|              | • Documenting and recording deals                                           |
|              | • Accounting for and reconciling bills                                     |
|              | • Issuing payment and receipt instructions                                  |

The report contained at least 51 recommendations in 12 categories. These recommendations were designed to bring CPAU practices in line with industry best practices.

**Exhibit 3: Summary of Deloitte & Touche Recommendations**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Recommendations</th>
</tr>
</thead>
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<td>Priority</td>
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</tr>
<tr>
<td>Process and Control</td>
<td>5</td>
</tr>
<tr>
<td>Organization</td>
<td>4</td>
</tr>
<tr>
<td>City Council</td>
<td>4</td>
</tr>
<tr>
<td>Risk Oversight Committee (ROC)</td>
<td>10</td>
</tr>
<tr>
<td>Utilities Director</td>
<td>5</td>
</tr>
<tr>
<td>Trader</td>
<td>5</td>
</tr>
<tr>
<td>Middle Office</td>
<td>3</td>
</tr>
<tr>
<td>Back Office</td>
<td>3</td>
</tr>
<tr>
<td>Credit Manager</td>
<td>2</td>
</tr>
<tr>
<td>Internal Audit</td>
<td>3</td>
</tr>
<tr>
<td>Legal</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
</tr>
</tbody>
</table>

In response to the Deloitte & Touche report, CPAU staff began developing a credit risk management program, revised creditworthiness

\(^{10}\) Source: Deloitte & Touche report, "Energy Risk Management Control Infrastructure Assessment, March 2001", Appendix A. The CPAU used these reports internally; they were not reviewed by the UAC or the City Council.
guidelines, and revised procedures for natural gas and electricity transactions. Furthermore, in February 2001, CPAU staff proposed and City Council approved risk management policies and procedures. In addition, the RMD assigned the front, middle, and back office functions to different people within the same office.

However, the front, middle, and back office functions were not formally separated as recommended by Deloitte & Touche, and other recommendations were also not implemented. According to CPAU staff, there was not immediate concurrence with some of the Deloitte & Touche recommendations, and limited staffing and workload priorities during the energy crisis slowed the implementation of other recommendations.

In our opinion, because of the magnitude and quantity of the open recommendations and the amount of resources invested in the study, CPAU needs to address all of the Deloitte & Touche recommendations. 11

As a result of our audit, CPAU staff has compiled an initial report on the status of the Deloitte & Touche recommendations with proposed completion dates. CPAU staff anticipates that all of the recommendations will be implemented and plans to update the ROC in detailed monthly progress reports.

Recommendations

1. CPAU should continue to implement the Deloitte & Touche consultant recommendations and establish target dates for completing each recommendation.

2. CPAU should provide written justification and obtain approval from the ROC for any recommendations that are not implemented and provide written progress reports to the ROC and other oversight levels that detail the status and target date for implementing each Deloitte & Touche recommendation.

Oversight Roles, Responsibilities, and Authorities Need to Be Defined

City Council policy states that activities related to energy purchases and sales should not unnecessarily expose the City to excessive risks or the possibility of large financial losses. Council policy further states that maintaining the safety of the electric and gas reserve funds is a matter of high priority.

The ROC, Utilities Advisory Commission, and the City Council all have roles in oversight of these utility risks. The Deloitte & Touche report

11 According to the U.S. Office of Management and Budget, agency managers are responsible for taking timely and effective action to correct deficiencies. This is considered a priority and an integral part of management accountability.
recommended that the risk oversight roles, responsibilities, and authorities be clearly defined. However, we found that the interim risk management policies and procedures address internal procedures, but do not specify the oversight roles, responsibilities, and authorities of oversight bodies for risk management.

Furthermore, oversight procedures and practices are still evolving and need to be standardized and formalized. For example, CPAU management, the ROC, and the UAC typically review and approve plans, strategies, policies, and other related items before CPAU submits them to the City Council for approval. Clarifying roles, responsibilities, and authorities for each of the oversight groups would help staff to determine which issues and types of information belong at which level, and the level of detail required for each group.

CPAU is currently working with Deloitte & Touche to rewrite the Risk Management Policies and Procedures manual. Furthermore, in May 2002, the ROC held a retreat to discuss roles, responsibilities, information, and reporting flows for the oversight groups.

**Recommendation**

3. In conjunction with the ROC and the City Council, CPAU should (a) clearly define the roles, responsibilities, and scope of authorities for each oversight body in the risk management process including the ROC, the Utility Advisory Commission, and the City Council, and (b) establish formal policies and procedures commensurate with these oversight roles.

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**Commodity Purchasing Policies Need to Be Improved and Clarified**

The City has established rules in the Municipal Code for contract signature authority and for competitive bidding. The City Council has also established anti-speculation policies for the CPAU.

**Signature Authority and Transactions Using Authorized Agents**

The Palo Alto Municipal Code, Sections 2.30.070 and 2.30.100 limit the City Manager's authority for contracts to $65,000 per transaction. Contracts exceeding this amount must be awarded by the City Council and signed by the mayor or vice-mayor. However, between April 2000 and December 2001, CPAU staff entered into gas and electric purchases that exceeded the $65,000 limit prior to Council approval. These actions were taken because City staff believed the City Manager and his delegated representatives had the implicit authority to sign commodity contracts for any dollar amount so long as the purchase was to “meet load” and did not exceed three years.
For example, the City Council authorized CPAU to enter into an enabling agreement with Enron North America to purchase natural gas. The enabling agreement that the City Council authorized outlined basic terms for doing business. The authorizing CMR did not include a dollar value and stated that there were no financial implications. Nonetheless, staff initiated purchases valued at $2.7 million without obtaining City Council approval for the purchases.

In another case, CPAU staff negotiated and executed four gas purchases totaling $7.5 million from Pan Canadian. CPAU resold the gas back to the supplier for $3.2 million. These transactions represented a $4.3 million value loss to the City. CPAU used an authorized agent (NCPA) to transact the purchases and sales. Although these transactions were reported to the ROC, they were neither approved by nor reported to the City Council.

In our opinion, only the City Council should authorize agreements of this magnitude. As a result of concerns expressed by the City Auditor's Office, City Attorney's Office, and ASD, the RMD formed a working group to address these and other related issues and to propose a process for ensuring open competition for energy contracts. The Request for Proposal (RFP) process would result in the award of several base contracts by the City Council. These base contracts would function like blanket purchase orders, enabling staff to competitively price individual gas and electric transactions, and helping to ensure that the City receives the best price from responsible bidders. This should provide the RMD the ability and flexibility to execute transactions quickly to hold pricing for commodities.

**Recommendations**

4. In lieu of allowing CPAU unspecified dollar authority, the City Council should award base contracts that: (a) specify not-to-exceed dollar amounts, duration, and volumes for electric and gas commodity transactions; and (b) clarify what types of business CPAU staff is allowed to transact under authority of each contract.

5. The City Council should delegate authority and clarify CPAU purchasing and sales authority under pooling agreements with NCPA and other agents.

**Competitive Bidding**

The Palo Alto Municipal Code Section 2.30.140 exempts the purchase of utility commodities for resale from the formal competitive bidding process outlined in Section 2.30.130. However, this exemption does not release CPAU from open and competitive purchasing requirements for commodity purchases under applicable state law.
Municipal Code Section 2.30.150 requires CPAU to select the lowest responsible bidder that can perform the contract and provide the commodities required. Furthermore, CPAU procedures require electric traders to:

- Obtain at least three quotes from a list of approved counterparties; and
- Consummate the transactions with approved counterparties that provide the best offer.

According to CPAU staff, because of long-standing practice in the Utilities Department, commodity transactions had previously been treated as exempt from formal competitive bidding requirements. Thus, CPAU solicited quotes and prepared to negotiate enabling agreements with selected electric suppliers without opening the competition to all potential suppliers. CPAU also purchased both electricity and gas from other suppliers without obtaining three competitive proposals. One of these transactions exceeded $4 million.

As stated above, the RMD has formed a working group to propose a process for ensuring more robust competition for energy contracts. The proposed process would solicit potential suppliers through a request for information (RFI) and RFP process. The RFP would result in the award of several base contracts. These base contracts should help to ensure that the City receives the best price from responsible bidders.

**Recommendation**

6. The Administrative Services Department Purchasing Manager, in conjunction with CPAU and the City Attorney, should establish and approve an RFP process for commodities that ensures greater competition for gas and electric commodities, and ensures the City receives the best price from responsible bidders.

**Anti-Speculation Policy**

In March 2001, the City Council approved Risk Management Policies and Procedures that prohibited speculative buying and selling of energy products and defined speculation as “buying energy not needed for meeting load or selling energy that is not owned”.

Strictly interpreted, the current policy does not allow for purchasing any surplus energy. However, CPAU records show instances of sales of both electricity and gas. In practice, before-the-month purchases are based

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12 RMD traders purchase before-the-month supplies. CPAU contracts with NCPA for in-the-month electric scheduling and supply, with IGS for in-the-month gas operations, and previously contracted with Enron for in-the-month residual gas supply.
on estimates of demand during a future time period and CPAU needs sufficient resources on hand to meet demand by its customers.

To comply with the existing policy, we recommend that the City establish parameters for before-the-month purchases. For example, the City may want to limit before-the-month purchases to a percentage of forecasted load (e.g. 85 percent), allowing the full-service supplier to purchase the remainder on the spot market to meet actual demand. Alternatively, the City could establish an allowable tolerance (e.g. plus or minus 5 percent) outside of which purchases and/or sales would be considered a violation of the anti-speculation policy and would be reported to the ROC.

Recommendation

7. The City Council should clarify its policy on “buying for load” to allow for purchases to meet reasonable contingencies while retaining the prohibition on speculative purchases.

Improvements are also needed in reporting purchases and sales of energy commodities to provide oversight groups with assurance that purchases do not exceed load. These reports should list contracted commodity purchases and sales amounts by month. They should also list agreements to “lay-off” (i.e. not take) supplies to which the City is contractually entitled. In response to our requests for information, CPAU staff prepared preliminary reports showing purchase transaction details versus projected load.

CPAU has a requirement for producing exception reports to notify management of any instance of non-compliance with adopted policies, but the process for reporting to oversight groups is not formalized. Formal exception reporting and regular reporting of commodity positions compared to load will provide additional assurance of compliance with the City’s anti-speculation policy.

Recommendations

8. CPAU should provide the ROC with detailed transaction reports that provide assurance that commodity purchases are not in excess of forecasted demand.

9. The ROC should establish a formal exception reporting system.

13 For example, in April 2000, the City Manager signed an agreement to lay off 13 MW of electric power from Western between July 2000 and June 2001 in return for estimated revenues and savings of $2 million.
Improvements in Management Reporting Are Needed.

The RMD prepares and issues several reports to the ROC. These risk management reports for gas and electricity show a plethora of actual and projected technical data such as fixed price purchases for the procurement program, counterparty credit risk exposure, budget forecast versus forward purchases, and wholesale and market prices. ¹⁴

However, these reports do not provide line-item detail about all commodity transactions. In our opinion, the ROC needs detailed financial data related to each transaction, as well as the summary data, to perform their oversight functions. ¹⁵ For example, ASD prepares quarterly investment activity reports to the City Council that list all of the City’s financial instruments. For each position held during the period (open and closed positions), CPAU reports should detail the purchase price and date, outstanding balance, current market value, and dollar gain or loss. Currently, reports do not identify all individual commodity transactions and how they are affecting CPAU commodity costs.

Neither do CPAU reports include financial statements or financial analysis data like those normally prepared by other financial entities. In our opinion, interim financial statements and financial analysis reports would enable the ROC to better assess the risks to CPAU and the City. For example, interim financial reports would help show the effect of commodity costs on the utility reserve funds. CPAU should also prepare portfolio reports that show allocation by asset class (i.e. short versus long term versus spot market, and fixed versus variable price contracts), variance from target allocation, expenses by asset class, and portfolio performance by asset class.

Furthermore, the reports to the UAC and City Council should also be customized to contain data relevant to the oversight functions for each of these entities. The Deloitte & Touche report reaffirmed this need by recommending that management reporting be delineated into two types – senior management and operational staff reports.

In preliminary discussions with the RMD, we expressed concern about the workload impact, resources, and skill sets needed to prepare the financial statements, accounting data, and analyses that we are proposing. CPAU and ASD representatives stated that they would

¹⁴ Other reports show supply cost risk, supply net revenue risk, commodity cost versus budget, portfolio performance actual and projected, and sources of energy. Additional reports provide summary totals for portfolio performance, purchase costs, wholesale sales, net revenue, and cumulative costs or profits. Copies of the confidential reports are not sent to the UAC or the City Council.

¹⁵ According to the United States Office of Management and Budget, management controls should ensure that reliable and timely information is used for decision-making and to provide reasonable assurance that assets are safeguarded against waste, loss, unauthorized use, and misappropriation.
recommend to the City Council that a Risk Manager position be created to prepare this information. We support this recommendation. It should be noted that financial valuation functions could be outsourced, if necessary.

Recommendations

10. CPAU should prepare detailed financial and portfolio reports that show the financial results and performance of each transaction, as well as the summary results of all positions in the energy portfolio.

11. CPAU should restructure standard reports so as to provide each risk oversight body with data that is relevant to its roles, responsibilities, and authorities.

Confidentiality

As the risk management program continues to evolve, the City will need to decide what information should be treated as confidential. For example, the City Attorney advises that price quotations prior to finalization of a contract should be considered confidential. Other information may be considered proprietary. The confidentiality decisions will determine the type of information forwarded to the various oversight bodies.

CPAU staff indicated they plan to discuss the issue with the City Attorney's Office and the results will be incorporated in the revised guidelines and procedures manual they are developing.

Recommendation

12. The City Attorney should clarify which information should be held confidential, and advise CPAU in preparing policies and procedures for handling confidential information.

A Formal Middle Office Function Is Needed

In follow-up discussions, Deloitte & Touche reaffirmed that industry best practices require separation of the front, middle, and back offices. This separation of duties is necessary to preserve the integrity of the market transaction process and to ensure that personnel who make transactions are not the same persons who confirm, monitor, or report on transactions.

Middle office functions should include critical management oversight functions such as ensuring compliance with risk management policies and procedures, verifying counterparty creditworthiness and limits, and monitoring the activities of CPAU traders. Other functions may include
measuring risk, verifying transactions, reviewing trades, reporting on trades and risks, confirming deals, recording transactions, and scheduling and tracking deals.

Currently, CPAU does not have a formal middle office. ASD performs creditworthiness evaluations of potential counterparties. Other middle office functions are divided among (1) traders performing front office functions, (2) staff performing back office business administration functions, and (3) a senior resource planner who performs some middle office check and balance functions.

The City Council approved risk management guidelines stipulate that the person who makes an approved transaction must not be (1) the same person who confirms the transaction, or (2) the same person who monitors and reports on the performance of that transaction. By allowing resource planners (traders) to perform front, middle, and some back office functions, CPAU operations do not conform to these requirements.

CPAU reports that the middle office functions were not fully segregated because its staff is too small to allow formal segregation of the front, middle, and back office functions. However, the commingling of functions such as authorizing, processing, recording, and reviewing transactions, creates an environment where unauthorized transactions could occur. If unauthorized transactions were to occur, the transactions might not be detected in a timely manner and could result in significant risk to the City.

In our opinion, alternative arrangements are possible. We discussed at least two possible configurations of the middle office with CPAU staff. For example, Silicon Valley Power has established a formal middle office separated from their front office, and have contracted-out their back office functions. On the other hand, both NCPA and Roseville Electric have established internal risk oversight committees with cross-departmental disciplines to perform the middle office functions.

Some back office bookkeeping and accounting functions are currently located in ASD. In addition, RMD performs other back office functions such as bill reconciliation, tracking and processing transactions, and documenting and recording deals. As the risk management program evolves, the ROC should consider how to strengthen and segregate back office functions. To the extent possible, back office functions should be separated from the front office. Although an entirely separate back office may not be cost-effective, additional training would help to strengthen current back office functions already located in ASD.

After discussions with CPAU and Deloitte & Touche, we recommend that the front office function remain with the CPAU Resource Management Division reporting to the Director of Utilities, and the middle office function report to the Director of ASD. In the interim, CPAU and ASD have established an internal risk oversight committee using ASD and RMD staff, advised by an outside professional consultant, to ensure that the middle office function is adequately separated and oversight is provided.
Recommendations

13. The ROC and CPAU should segregate and clearly detail the roles, responsibilities and authorities for the front, middle, and back office personnel.

14. The City should go forward with establishing a formal middle office function. The middle office, once established, should report to the Director of Administrative Services.

15. The back office bookkeeping and accounting functions should be segregated from the front office to the extent possible and, where feasible, report to the Administrative Services Department.

16. CPAU should provide additional training in accounting for energy transactions to staff performing middle and back office functions.

Management Controls Need to Be Improved

The United States Office of Management and Budget requires that management internal controls provide reasonable assurance and safeguards that assets are protected against waste, loss, unauthorized use, and misappropriation. Appropriate controls include proper delegation of authority, separation of duties and supervision, recording and documentation, and resolution of deficiencies. These types of controls are used to ensure transactions are promptly recorded, properly classified, and provide reliable data.

We selected and tested 28 transactions (18 gas and 10 electric transactions) to determine if CPAU staff was complying with CPAU written procedures for ensuring transactions are properly authorized, processed, recorded, and reviewed. We also tested for other generally accepted management controls. These transactions ranged in size from $58,100 to $4.3 million.

Compliance with Existing Procedures

CPAU risk management policies and procedures require traders to execute trades only with approved counterparties and to prepare deal sheets before the end of the day in which the deal was made. The procedures also specify that CPAU prepare monthly information reports for the ASD that outline the performance of each transaction executed for the month. Although CPAU staff complied with most of their procedures, the sample results below show these important requirements were not followed.
Exhibit 4: Sample Results – Test for Compliance with CPAU Procedures (exceptions only)

<table>
<thead>
<tr>
<th>Sample size (number of transactions)</th>
<th>Gas</th>
<th>Electric</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>10</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value of each transaction</th>
<th>$58,100 to $4.3 million</th>
<th>$109,800 to $1.7 million</th>
<th>$58,100 to $4.3 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deals executed before supplier approved as creditworthy counterparty</td>
<td>5</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>Credit limit exceeded&lt;sup&gt;16&lt;/sup&gt;</td>
<td>-</td>
<td>1&lt;sup&gt;17&lt;/sup&gt;</td>
<td>1</td>
</tr>
<tr>
<td>Transaction tracking sheet not timely</td>
<td>4&lt;sup&gt;18&lt;/sup&gt;</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Individual deal status and performance reports not issued to ASD&lt;sup&gt;19&lt;/sup&gt;</td>
<td>18</td>
<td>10</td>
<td>28</td>
</tr>
</tbody>
</table>

Source: Sample data for December 2000, June 2001, and December 2001

The transaction testing results show the need for enforcing CPAU risk management procedures, the need for supervisory oversight, and the importance of enforcing basic internal controls in the Resource Management Division.

Compliance with Other Standard Management Controls

Other standard management controls include (1) adequate supervisory oversight and (2) written procedures for ensuring that transactions are properly classified, authorized and executed. The RMD needs to improve its procedures to ensure compliance with these basic management controls.

First, RMD procedures should clarify who is authorized to execute agreements on behalf of the City. Our sample of transactions included a contract that was signed and three deals that were executed before the contract was approved by the City Council.

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<sup>16</sup> The CPAU Counterparty Credit Policy states that CPAU will attempt to minimize counterparty credit risk by limiting the type and size of transactions per counterparty.

<sup>17</sup> NCPA executed a $1 million deal with PacifiCorp on behalf of CPAU. The electric transaction exceeded the $500,000 credit limit imposed by NCPA and was not detected by CPAU.

<sup>18</sup> According to the CPAU staff, these were emergency transactions related to the Enron bankruptcy.

<sup>19</sup> The interim risk management policies and procedures for gas and electric portfolio performance require monthly information reports for ASD that "outline the performance of each transaction that was executed for the month."
Second, RMD procedures should be strengthened to ensure that transactions are authorized and appropriate. Supervisory review was not documented on any of the 28 deal sheets in our sample. Before executing the deals, RMD traders prepared and obtained approval for purchase plans that outlined the type of product to be purchased. These plans did not specify either the vendor or purchase price. RMD traders then selected vendors, negotiated, confirmed, and recorded deals without documenting supervisory oversight of the vendor selected or the transaction pricing (the transactions in our sample were valued at $58,100 to $4.3 million). Although supervisors reported they were aware of the transactions, supervisory review of completed transactions and pricing was not documented.

Third, three entries in our sample were filed as purchase transactions when they were actually part of a Load Management Excess Capacity (LMEC) arrangement to reduce (layoff) energy surpluses. Risk management procedures should be written to delineate transaction types and procedures for handling different types of transactions.

Clarifying roles and expectations and preparing written procedures will address these issues. These shortcomings were undetected in part because the City does not have a strong, independent middle office to ensure compliance with management controls and to perform other middle office functions. In our opinion, as the CPAU risk management program evolves, the importance of an independent middle office to enforce management controls, establish internal controls, and manage risks will become more critical. Proper enforcement of controls will help ensure that if unauthorized or inappropriate transactions were to occur, they would be detected in time to prevent losses to CPAU.

According to CPAU staff, the audit recommendations will be incorporated into their revised guidelines and procedures manual.

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20 A total of four employees are currently authorized by the Director of Utilities to purchase and sell natural gas and electricity.
Recommendations

17. Written risk management procedures should clarify who is authorized to execute agreements on behalf of the City, require supervisory review of all transactions, and clarify procedures for handling different types of transactions.

18. The middle office, under the Director of Administrative Services, should be responsible for ensuring and enforcing compliance with CPAU risk management policies and procedures, ensuring supervisory reviews and oversight actions are documented; and making sure internal controls are observed.

19. The middle office should also monitor trader activities, perform detailed reviews of all transactions, establish approval limits and authorities for transactions for each oversight level, and designate responsibilities for verifying that transactions are properly and correctly executed.

CPAU Should Involve the City Council in Reassessing the Performance of its Energy Portfolios

The CPAU strategic plan was initiated in late 1999 with the goal of ensuring CPAU could be flexible and responsive in the face of market forces which had been unleashed in California through deregulation. The strategic plan included the following objectives:

- Providing superior financial performance to the City and competitive rates to customers; and
- Identifying and maintaining the unique advantages of municipal ownership.

Electric Portfolio Strategy

Having navigated the 2000-01 energy crisis, CPAU faces additional uncertainty in the future. CPAU is proposing an electric portfolio strategy with four primary objectives:

- Ensure low and stable electric supply retail rates for customers;
- Provide superior financial performance to customers and the City by maintaining (1) a supply portfolio cost advantage compared to market cost and (2) the retail supply rate advantage compared to PG&E;
- Enhance supply reliability to meet City and customer needs by pursuing opportunities, including transmission system upgrades and local generation; and
- Balance environment, local reliability, rates and cost impacts when considering renewable resource & energy efficiency investments.

Staff is also proposing portfolio planning guidelines to help balance these sometimes competing and, at times, conflicting objectives.

Implementation of the portfolio plan will include purchases of electricity by contracts. These contracts will come to the City Council for approval with varying suppliers, durations, pricing terms, and fuel sources.

As the governing body of CPAU, the City Council will be faced with assessing the risk versus benefit of these contracts. For example, in retrospect, the cost of “buying long” at fixed prices when market prices fall becomes clear. In May 2001, with the approval of the City Council and the UAC, CPAU purchased 25 megawatts of power at a fixed price of $95 per megawatt hour from Enron Corporation as an insurance policy against anticipated PG&E actions. CPAU reported that the City could gain $38 million if electric prices went up or lose $29 million if prices declined. Subsequently, the market price of power began what was to become a steep decline as shown in Exhibit 5.

**Exhibit 5: Illustration of Electric Annual Forward On-Peak Market Prices for Calendar Year 2002 (Northern California)**

The power was not needed and was re-sold during a period when market prices declined to as low as $39 per megawatt hour. CPAU subsequently sold the power at a net loss of almost $3.8 million prior to canceling the contract in November 2001. Although this contract was purchased as insurance against a potentially detrimental regulatory ruling, it
demonstrates that the risks of fixed-price contracts, as CPAU had warned, can be realized.\textsuperscript{21}

CPAU is proposing a diversified portfolio strategy to limit future market risk. Although past performance is no indicator of future performance, recent experience indicates continued caution when entering into long-term fixed price contracts.

**Gas Portfolio Strategy**

The current gas portfolio strategy centers on laddering fixed price contracts. As with the electric portfolio, the City Council will continue to be asked to make decisions that will have long-term consequences for Palo Alto ratepayers.

CPAU warned the City Council that although the fixed-price, laddering strategy provided price and supply stability, it involved financial risks. CPAU warned the City Council of the possibility that, having purchased gas at fixed prices, the locked-in gas costs would be lower than market prices if market prices rose, and higher than market prices if market prices declined. Throughout 2001-02, CPAU continued to purchase gas at fixed prices for periods as long as 24 months in accordance with the approved gas purchasing strategy. The market gas prices did decline as illustrated in Exhibit 6, and CPAU gas prices, which were previously below market prices, are currently higher than market prices.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Exhibit6.png}
\caption{Exhibit 6: CPAU Gas Cost and Market Bidweek Price Index at Citygate}
\end{figure}

\textsuperscript{21} It also demonstrates the effect on the City’s financial statements. As of June 30, 2001, the estimated value loss associated with the 25 megawatt, 3.5 year contract was estimated at approximately $35 million.
Furthermore, market movement in the price of gas can have significant impacts on the value of fixed price gas contracts. In one set of purchases (previously discussed on page 11 of this report), CPAU purchased natural gas from Pan Canadian for $7.10 to $8.32 per MMBTU. At the time of the purchases, the bidweek price for gas was $14.64. Over the next 10 months, the bidweek price of gas declined to $1.80 per MMBTU. As a result, the contracts lost $4.3 million in value.

In hindsight, strategic alternatives were available. For example, in a declining market, it may have been to the City’s advantage to allow staff to deviate from the volume-driven\(^\text{22}\), fixed-price laddering strategy to take advantage of opportunities that could lower CPAU commodity costs. Under some circumstances, other strategies such as variable price contracts or dollar-cost-averaging might work better than the volume-based fixed-price strategy to reduce the cost of gas.

**Reserves**

Reserves are another key piece of the CPAU energy portfolio strategy. The City Council has approved utility rate stabilization reserves and established policy guidelines. Exhibit 7 shows the projected ending balances in the Electric and Gas Rate Stabilization Reserves.

**Exhibit 7: Proposed 2002-2003 Electric and Gas Supply Rate Stabilization Reserves and Purchases (in millions)**

<table>
<thead>
<tr>
<th></th>
<th>Electric Fund</th>
<th>Gas Fund</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility Purchases</td>
<td>$52.7</td>
<td>$16.7</td>
</tr>
<tr>
<td>(proposed budget)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Rate Stabilization Reserve</td>
<td>$23.7</td>
<td>$5.0</td>
</tr>
<tr>
<td>(projected ending balance)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reserve Guideline Range</td>
<td>$20.2 to $40.4</td>
<td>$3.1 to $6.3</td>
</tr>
</tbody>
</table>

Source: Proposed Budget 2002-2003

CPAU has reserves to mitigate its electric and gas market price exposure and cushion the impact of volatile commodity costs for CPAU customers. The City's utility risk profile will affect the reserves and determine how much variability in commodity pricing CPAU can reasonably assume on behalf of its ratepayers.

**City Council Involvement**

Ownership of a utility conveys significant benefits to Palo Alto residents. It also changes the City’s risk profile. As shown above, the risk of a purchasing strategy changes depending on market conditions. In our opinion, CPAU should continue to periodically involve the City Council and other oversight bodies in careful consideration of the financial

\(^{22}\) The laddering strategy addresses anticipated energy deficits, the volume needed to fill the deficits, and anticipates purchasing commodities at fixed prices.
ramifications of existing and alternative purchasing strategies in light of current market conditions.

With ROC concurrence, the front and middle office staff will propose purchases, and reassess and propose adjustments to the portfolio. The proposed front, middle, and back offices will each have key roles in day-to-day reporting and monitoring of the electric and gas supply portfolios.

In our opinion, decision-makers at all levels must be aware of the various risks related to these portfolio decisions. What once may have seemed like a relatively simple decision to purchase power has become a complex financial transaction. Staff will need to present material to the City Council, UAC, and ROC that carefully explains the City’s risk exposure. It is incumbent on these oversight bodies to carefully weigh the implications of the risk exposures.

Other Municipalities

Since 1964, Palo Alto’s ratepayers have benefited from the low cost of electricity delivered through contracts with the Western Area Power Administration – a federal agency. For many years, Palo Alto has received over 70 percent of its power through Western at rates that have been substantially below market. By renegotiating that contract through the year 2024, CPAU has significantly advanced its goal of ensuring low and stable rates.

We urge CPAU to continue to take advantage of public partnerships to share risk and pool resources. Current CPAU partnerships include a variety of joint ventures through NCPA. Staff is also monitoring Western initiatives and new products. The City may be able to further broaden those partnerships during the RFI/RFP process by soliciting bids from other municipalities and tax-exempt entities to take advantage of their desire to sell to another tax-exempt entity.

Peer Review

CPAU staff regularly communicates with peers in other agencies and jurisdictions. As the City Council moves forward with long-range planning for the post-deregulation environment, comparative information will continue to be valuable. We recommend that CPAU conduct a peer review – a study of commodity supply strategies used by other municipal utilities. The review could help the City Council compare how other jurisdictions are addressing the issues of acceptable risk; fixed price versus indexed price contracts; alternative strategies for dealing with uncertainty; go-it-alone strategies; and coordinating with Western and NCPA strategies and operations. This would help the City Council members determine if CPAU is ahead, in the middle, or behind other municipal utilities in mitigating its commodity price risk. In our opinion, this type of review would provide valuable context and information to the City Council and staff.
Recommendations

20. CPAU should continue to regularly and actively (a) review the performance of the energy procurement strategy, (b) quantify the risk and cost consequences of alternatives, and (c) communicate the risks and costs of recommended revisions to the City Council.

21. The ROC and CPAU should include in their analysis the financial risks of using fixed price contracts to implement the laddering strategy and identify alternatives to take advantage of market trends.

22. CPAU should conduct a peer study to provide the City Council with background information comparing CPAU commodity supply strategies with other municipal utilities.

A Quality Assurance Program for the Energy Model Is Needed

The RMD uses a set of computer models to optimize energy resources, generate portfolio forecasts and financial valuations, execute and confirm transactions, settle invoices for payment, reconcile billings with deal confirmations, and generate management reports which compare actual revenues, supply costs, and budget estimates.

The computer models for gas and electric commodities are CPAU developed Microsoft Excel based spreadsheets. The model includes at least eight different sets of spreadsheets including as many as 27 linked spreadsheets.

CPAU needs accurate data to properly assess its market risk. Although the current CPAU technology needs are limited because it has low transaction volumes and deals only in physical contracts, Deloitte & Touche recommended that a third party independently test, review, and validate the CPAU spreadsheets and models.

We used source documents provided by CPAU to check the accuracy of the data in its Master database. Our test indicated that pricing data for the Western Central Valley Project had not been updated. We observed that this change could impact the proposed take from the Western Central Valley Project.

Recommendation

23. CPAU should develop a quality assurance program for testing, reviewing, and verifying the accuracy of data used in its energy models.
An Official Archive of Final Documents Is Needed

Official records document that actions taken are authorized and approved by the appropriate officials. Reports of meetings typically include reports and data discussed, motions made, and voting results. In addition, archives record policies, procedures, and other important actions taken by an entity.

The RMD retains electronic copies of working documents, drafts and final documents on a shared drive in the City's local area network. The documents, such as meeting minutes and reports to the ROC were marked as drafts, had not been finalized, and electronic files were incomplete. Without these documents, we had difficulty confirming what information was conveyed and discussed during meetings, what decisions were made, or the rationale for decisions.

In response to our recommendations, CPAU staff is establishing an archive of official documents. CPAU staff plans to revise the procedures manual to map the location of electronic files and expects to complete the archive by September 2002.

Recommendation

24. CPAU should establish a formal archive (electronic and/or paper) that contains final, official records of minutes, reports, data, policies, procedures, practices, and other actions taken. The archive should document the options considered; the reason for specific actions; the motions made; the voting results; and whether actions taken are authorized and approved by appropriate officials.

Conclusion

The City has made considerable progress in addressing Utilities Department risk management issues. However, improvements are needed to protect the City's financial interests. We believe CPAU staff is striving to improve their evolving risk management program and that these recommendations, particularly for establishing a formal middle office function under the Director of Administrative Services, will reduce the potential risks to the City. We thank the City staff for their support and cooperation during this audit.
I concur with the recommendations provided in the City Auditor's "Assessment of Utility Risk Management Procedures" (Audit Report). The thorough and rigorous audit process has proven valuable in identifying opportunities to further strengthen the City of Palo Alto Utilities (CPAU) Energy Risk Management Program. This audit has enhanced the quality, focus, and direction of the Energy Risk Management Program development plan. In addition to the noted areas for improvement, City staff appreciates that the City Auditor specifically recognizes that, "CPAU has made considerable progress in addressing risk management issues and improving its evolving risk management program."

CPAU initiated the process of evaluating potential financial risks related to the new deregulated energy markets in 1996, and put in place its initial risk management process in early 1997. Since then, the CPAU risk management program has evolved, and continues to evolve, amidst dramatic changes, through the efforts of City staff and assistance from outside experts on board since 1997. City Council has been engaged in this evolution as well, having approved several contracts and policies related to CPAU’s Energy Risk Management Program over the last several years. The Risk Oversight Committee (ROC), formed in July 1998, now meets twice per month to oversee CPAU risk management activities.

The primary business objective of the Energy Risk Management Program is to benefit Palo Alto’s retail customers. CPAU balances the competing objectives of low rates and stable rates through a combination of utilizing financial reserves, portfolio diversification, and risk management procedures and controls. The current portfolio purchasing strategy of diversifying purchases over time and over multiple suppliers is in accordance with CPAU staff understanding of City Council and customer preferences on the stability-cost tradeoff.

The Audit Report has identified opportunities to improve some traditional practices and has contributed creative ideas for implementing the Audit Report recommendations. City staff is actively undertaking the process of changing these practices. For example, CPAU, ASD, the City Attorney’s Office, and the City Auditor’s Office have been working together for several months to improve the traditional procedures for procuring energy supplies in order to simultaneously (1) increase the degree of competition, (2) establish multiple counterparties for diversifying credit risk, and (3) improve the transparency of the process for the City Council and the public.
A comprehensive Energy Risk Management Program development plan schedule was provided to the ROC and City Auditor in June 2002. The audit process has contributed important new elements to the Energy Risk Management Program plan that will help to achieve the CPAU goal of a best-practice program appropriate for Palo Alto. City staff has continuously improved the Energy Risk Management Program since its inception, and welcomes the City Auditor’s assessment to provide independent ideas to help shape these ongoing efforts.

The tasks identified in the schedule address or will address all of the Audit Report and remaining outside consultant recommendations. The status and goals associated with each Audit Report recommendation are identified in Table 1. Successful response to all of the recommendations will be verified by the ROC, the City Auditor’s Office, and reported to the City Council. Some milestones depend heavily on approvals from the ROC, Utilities Advisory Commission, Finance Committee, and City Council, such as the revised Energy Risk Management Policies. City staff feels that the schedule is aggressive, but achievable.

Revised Policies, Guidelines, and Procedures serve as cornerstones for implementing the Auditor and consultant recommendations. Many of the recommendations have been addressed in the draft revised Energy Risk Management Policies (ERM Policies) already approved by the ROC for recommendation to the UAC, Finance Committee, and the City Council. Most of the other recommendations will be fully addressed upon completion of the Energy Risk Management Guidelines (ERM Guidelines) and/or the Energy Risk Management Procedures Manual (ERM Procedures Manual), which are currently in early draft form and being reviewed and revised by City staff and the ROC to replace the risk management policies and procedures manual adopted and evolving since 1999.

Table 1. Audit Recommendations Summary Table

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<th>City Auditor’s Recommendation</th>
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| 1. CPAU should continue to implement the Deloitte & Touche consultant recommendations and establish target dates for completing each recommendation. | Agree. | • Most consultant recommendations to be completed by end of 2002.  
• Some longer-term tasks to be completed by end of Spring 2003 and some are ongoing. |
| 2. CPAU should provide written justification and obtain approval from the ROC for any recommendations that are not implemented and provide written progress reports to the ROC and other oversight levels that detail the status and target date for implementing each Deloitte & Touche recommendation. | Agree. | • Comprehensive work plan schedule was submitted to the ROC in June 2002.  
• Monthly progress reporting begins July 2002. |
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| 3. In conjunction with the ROC and the City Council, CPAU should (a) clearly define the roles, responsibilities, and scope of authorities for each oversight body in the risk management process including the ROC, the Utility Advisory Commission, and the City Council, and (b) establish formal policies and procedures commensurate with these oversight roles. | Agree. | • Roles, responsibilities and scope for oversight bodies are included in draft ERM Policies.  
• Council to approve ERM Policies by year end 2002.  
• Some procedures already revised.  
Oversight procedural improvements to be incorporated in ERM Guidelines and ERM Procedures Manual.  
• Revised ERM Guidelines to be approved by ROC by end of 2002.  
| 4. In lieu of allowing CPAU unspecified dollar authority, the City Council should award base contracts that: (a) specify not-to-exceed dollar amounts, duration and volumes for electric and gas commodity transactions; and (b) clarify what types of business CPAU staff is allowed to transact under authority of these contracts. | Agree. | • Revised draft RFI/RFP procurement process is under development with CPAU, ASD, and City Attorney, which proposes Council Approval of Master Agreements with pre-specified limits.  
• Transactions and Authorities are clarified in ERM Policies.  
• Detailed authorities to be spelled out in ERM Guidelines and ERM Procedures Manual.  
• ERM Guidelines to be approved by ROC by end of 2002. |
| 5. The City Council should delegate authority and clarify CPAU purchasing and sales authority under pooling agreements with NCPA and other agents. | Agree. | • Risk implications of agency scheduling contracts to be reviewed by the ROC by end of 2002. |
| 6. The Administrative Services Department Purchasing Manager, in conjunction with CPAU and the City Attorney, should establish and approve an RFP process for commodities that ensures greater competition for gas and electric commodities, and ensures the City receives the best price from responsible bidders. | Agree. | • Finalize improved RFI/RFP process during summer 2002.  
• ROC to approve first Master Agreements in Winter 2002.  
• Council to approve by Spring 2003. |
| 7. The City Council should clarify its policy on “buying for load” to allow for purchases to meet reasonable contingencies while retaining the prohibition on speculative purchases. | Agree. | • Detailed risk limits and reporting to be key elements of revised ERM Guidelines.  
• ROC approval of ERM Guidelines approved by ROC by end of 2002. |
| 8. CPAU should provide the ROC with detailed transaction reports that provide assurance that commodity purchases are not in excess of forecasted demand. | Agree. | • Compliance reporting is summarized in ERM Policies, and will be included in ERM Guidelines and Procedures Manual.  
• Regular transaction-level reporting to ROC by Fall 2002. |
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| 9. The ROC should establish a formal exception reporting system. | Agree. | • Will be included in ERM Guidelines.  
• ERM Guidelines approved by ROC by end of 2002. |
| 10. CPAU should prepare detailed financial and portfolio reports that show the financial results and performance of each transaction, as well as, the summary results of all positions in the energy portfolio. | Agree. | • Same timeline as recommendation 8 (Fall 2002). |
| 11. CPAU should restructure standard reports so as to provide each risk oversight body with data that is relevant to its roles, responsibilities, and authorities. | Agree. | • Described broadly in ERM Policies and will be detailed in ERM Guidelines and Procedures Manual.  
• Initial UAC review in Fall 2002.  
• Council review by Winter 2003. |
| 12. The City Attorney should clarify which information should be held confidential, and advise the CPAU in preparing policies and procedures for handling confidential information. | Agree. | • Task Request to be submitted in July 2002. |
| 13. The ROC and CPAU should segregate and clearly detail the roles, responsibilities and authorities for the front, middle, and back office personnel. | Agree. | • Oversight roles described in ERM Policies and roles, responsibilities and authorities will be detailed in ERM Guidelines and Procedures Manual.  
• ERM Guidelines to be approved by ROC by end of 2002.  
| 14. The City should go forward with establishing a formal middle office function. The middle office, once established, should report to the Director of Administrative Services. | Agree. | • ASD and CPAU are working to develop this function, currently conducted by joint ASD/CPAU Internal Risk Oversight Committee.  
• Risk Manager position in place by January 2003.  
• Linked to recommendations 18, 19. |
| 15. The back office bookkeeping and accounting functions should be segregated from the front office to the extent possible and, where feasible, report to the Administrative Services Department. | Agree. | • Included in response to recommendation 14. |
| 16. CPAU should provide additional training in accounting for energy transactions to staff performing middle and back office functions. | Agree. | • Staff is developing a comprehensive education and training plan.  
• Training plan in place by end of Summer 2002.  
• First round of training complete by end of Fall 2002.  
• Training is ongoing. |
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<td>17. Written risk management procedures should clarify who is authorized to execute agreements on behalf of the City, require supervisory review of all transactions, and clarify procedures for handling different types of transactions.</td>
<td>Agree.</td>
<td>• Authorities are clarified in ERM Policies and will be detailed in ERM Guidelines. • Supervisory review documentation already incorporated in transaction execution process. • Revised Procedures Manual shall conform to authorities as reflected in ERM Policies and ERM Guidelines, and shall clarify review and tracking of different types of transactions. • Complete ERM Procedures Manual approved by Middle Office by Spring 2003.</td>
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<td>18. The middle office, under the Director of Administrative Services, should be responsible for ensuring and enforcing compliance with CPAU risk management policies and procedures, ensuring supervisory reviews and oversight actions are documented; and making sure internal controls are observed.</td>
<td>Agree.</td>
<td>• Middle Office oversight functions are described in ERM Policies and will be detailed in ERM Guidelines. • See recommendation 14. • Linked to recommendations 14, 19.</td>
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<td>19. The middle office should also monitor trader activities, perform detailed reviews of all transactions, establish approval limits and authorities for transactions for each oversight level, and designate responsibilities for verifying that transactions are properly and correctly executed.</td>
<td>Agree.</td>
<td>• See recommendations 14, 18.</td>
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<td>20. CPAU should continue to regularly and actively (a) review the performance of the energy procurement strategy, (b) quantify the risk and cost consequences of alternatives, and (c) communicate the risks and costs of recommended revisions to the City Council.</td>
<td>Agree.</td>
<td>• Strategy review is already part of the long-term planning process underway and ongoing. • Current strategy and alternatives to be reviewed by staff and reported to the ROC by Winter 2002. • Reports to Council will provide enhanced discussion of risks for alternatives.</td>
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<td>21. The ROC and CPAU should include in their analysis the financial risks of using fixed price contracts to implement the laddering strategy and identify alternatives to take advantage of market trends.</td>
<td>Agree.</td>
<td>• Risks and opportunities of alternatives shall continue to be evaluated. • Included in goals for recommendation 20 (Winter 2002).</td>
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<td>22. CPAU should conduct a peer study to provide the City Council with background information comparing CPAU commodity supply strategies with other municipal utilities.</td>
<td>Agree.</td>
<td>• Supports recommendations 20, 21. • Included in goals plan for recommendation 20 (Winter 2002).</td>
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| 23. CPAU should develop a quality assurance program for testing, reviewing, and verifying the accuracy of data used in its energy models. | Agree. | • Part of systems/planning models enhancements work plan and Middle Office procedure development.  
• Complete ERM Procedures Manual approved by Middle Office by Spring 2003.  
• Complete systems modifications by Summer 2003.  
• Quality assurance and systems improvements are ongoing. |
| 24. CPAU should establish a formal archive (electronic and/or paper) that contains final, official records of minutes, reports, data, policies, procedures, practices, and other actions taken. The archive should document the options considered; the reason for specific actions; the motions made; the voting results; and whether actions taken are authorized and approved by appropriate officials. | Agree. | • Included in Middle Office roles and responsibilities, and to be included in ERM Procedures Manual.  
• Establish archive by Spring 2003. |