

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

Its Slow Pace for Assessing Weaknesses in Its Water Delivery System and for Completing Capital Projects Increases the Risk of Service Disruptions and Water Shortages

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Audit Highlights . . .

Our review of the San Francisco Public Utilities Commission (commission) disclosed:

- It has been slow to assess its water delivery system and has made little progress in completing capital projects.***
 - Since 1994 the commission has known that it needs to identify additional sources of water, yet it did not begin to develop a water supply plan until 1996.***
 - Several factors contribute to the commission's slow pace for completing capital projects.***
 - The success of the commission's capital improvement program is uncertain because it is still developing some plans while it has only recently implemented others.***
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The San Francisco Public Utilities Commission (commission) has been slow to assess and upgrade its water delivery system to survive catastrophic events such as earthquakes, fires, or floods. Some parts of the system, such as critical pipelines, are nearly 75 years old and are in dire need of repair or replacement. The commission has also been slow to estimate the amount of water that it will need to meet future demands and to seek additional sources of water. As a result, the nearly 2.4 million people in the city and county of San Francisco, and in the counties of Alameda, San Mateo, and Santa Clara who rely on the commission for their drinking water are at a greater risk of disruptions or water shortages if an emergency or drought occurs.

The commission's capital improvement plan lists about 200 projects requiring more than \$3 billion to complete. The commission plans to complete most of these projects over the next 15 years. In the past 10 years, however, the commission has completed only 54 projects at a cost of about \$270 million. Several factors contributed to the commission's inability to complete capital projects more quickly. Specifically, we found:

Finding #1: The commission needed to identify alternatives for managing its capital improvement program.

Recognizing that the water delivery system has significant weaknesses that will require large-scale improvements, the commission was seeking approval to contract for the services of a program management consultant. Basically, it was counting on the consultant to perform a major overhaul of the commission's engineering and construction operations so it could implement the capital improvements necessary to ensure system reliability. At the time

of our report, it was unclear whether the commissioners or San Francisco's board of supervisors would approve this contract. If they did not approve the contract, we believed that commission staff might be ill-equipped to handle such a large, complex capital improvement program.

We recommended that the commission be prepared to take alternative action if the commissioners or the board of supervisors decided to not approve the contract for its program management consultant.

Commission Action: None.

On August 28, 2000, San Francisco's board of supervisors approved a four-year contract to provide program management services for the commission's capital improvement program. A notice to proceed on the contract was issued on September 20, 2000.

Finding #2: The commission was slow to assess weaknesses in its water delivery system and to create a comprehensive water supply master plan.

The commission was slow to assess the ability of its water delivery system to survive catastrophic events. Since at least mid-1993, staff members had raised concerns about the ability of portions of the water delivery system to survive a major earthquake. However, despite starting a review of the system's reliability in 1994, the commission had completed only two of the three planned phases of the study by January 2000. The commission had also been slow in identifying additional sources of water. Droughts in the late 1970s and early 1990s indicated that the commission could not provide the amount of water it believed it could. Peak summer water demands and suburban population growth pointed to the need for additional water supplies. Having started a study to identify new water sources in 1996, the commission expected to complete a water supply master plan by early 2000. Delays in completing these studies contributed to delays in improving system reliability.

We recommended that the commission complete its facilities reliability study and the water supply master plan.

Commission Action: Partial corrective action taken.

The commission states that the third phase of the reliability study is now underway, using commission staff and the program management consultant. The commission also reports

that its water supply master plan was approved in May 2000 and that it is implementing projects in accordance with its capital improvement program plan and available funding.

Finding #3: Staff shortages contribute to project delays.

The commission's former general manager stated that a shortage of qualified personnel led to delays in project schedules. The commission took some measures to address its staff shortages such as increasing the number of personnel staff and providing them with training on San Francisco's personnel processes, suggesting improvements to the hiring procedures for engineers used by San Francisco's department of human resources, and obtaining approval for several contracts to supplement its engineering staff. Although the commission did not provide sufficient data to substantiate its staff shortages, we believed that the commission must ensure that it has sufficient staff to complete its capital projects.

We recommended that the commission continue pursuing ways to attract and retain qualified engineering staff.

Commission Action: Corrective action taken.

The commission reports that it continues to hire staff to meet the needs of its divisions and that it will hire staff according to workload, availability of qualified candidates, budget authority, and funding. Since 1999 it has hired 65 new engineers and 12 new project managers. The budget for fiscal year 2000–01 contains funds for 20 new positions, including engineers. Also, the commission states that it is meeting on a regular basis with the staff of other city departments that have significant engineering staffs to identify potential resources for projects. Finally, the commission states that hiring in its engineering bureau has improved. In February 2001 it had only 60 vacancies (26 percent of 230 positions) while in 1999 it had 95 vacancies (48 percent of 200 positions).

Finding #4: The commission's contracting procedures are inconsistent.

As early as May 1997 a consultant reported that the commission's contracting process took twice as long as another city department, noting that the commission's decision-making process contributed to delays. We found that the commission had begun to address the consultant's concerns by establishing a policy that clarified the approval process for contracts, centralizing the contracting unit

within the commission's utilities engineering bureau, and submitting a budget proposal requesting the creation of a commission-wide contracting unit and the addition of more staff to expedite the internal handling of contracts. However, some commission staff members told us that the contracting process was still slow, adding unnecessarily to the time required to complete projects.

We recommended that the commission continue its efforts to improve its contracting procedures and to train new staff to understand the new procedures. We also recommended that the commission establish a commission-wide contracting unit.

Commission Action: Corrective action taken.

The commission states that it has streamlined contracting procedures and flowcharts, revised dispute-resolution procedures, developed a standard invoice, and conducted workshops on the various types of contracts used. It also reports that staff will continue to use these contracting procedures as well as conduct workshops for other operations. Further, the commission states that a commission-wide contracting unit began operating in April 2000.

Finding #5: Steps for completing projects lack uniformity.

The commission lacks current project operations procedures. Its written procedures for managing capital projects are outdated and many of its forms and templates are no longer used. Implementing common procedures will enhance the consistency, coordination, and effectiveness of the commission's operations. The commission was updating its project operations manual during our audit and expected a final version to be completed by June 2000.

We recommended that the commission continue updating the manual its staff members are supposed to use for guidance during planning, design, or construction of capital projects. We also recommended that the commission ensure that applicable employees receive training and understand the new procedures.

Commission Action: Corrective action taken.

The commission reports that its manual is complete and has been distributed to staff as of August 2000. It also states that project managers are being trained to use the manual as part of the project manager training program.

Finding #6: The commission does not have an effective tracking system to monitor preventive maintenance.

In 1994, San Francisco's budget analyst criticized one of the commission's divisions for performing practically no preventive maintenance on some facilities, stating that the primary reason was that staff members were not fully implementing the automated maintenance-management system. More than five years later, we found that division staff members still were not using the automated system's tracking component. Routine preventive maintenance is essential for ensuring that existing water delivery system components last as long as possible. During our audit, the commission was in the midst of implementing a new automated system. It expected the new system to be fully implemented at the three water-related divisions by March 2000.

We recommended that the commission complete the implementation of its new automated maintenance-management system at all three water-related divisions. We also recommended that the commission train its staff on the new system and ensure that they use it consistently and properly.

Commission Action: Partial corrective action taken.

The commission reports that the new automated maintenance-management system became operational in June 2000 and that training for staff in the operating divisions is complete. The commission did not address how it would ensure that its staff would use the new system consistently and properly.

Finding #7: Project managers receive little training.

Although project managers typically receive on-the-job training, the commission does not have a formal program to train them. In fact, it had not provided formal project management training in the last 10 years. Ongoing, formal training is crucial for ensuring that commission staff members develop and improve their technical proficiency and project leadership abilities.

We recommended that the commission develop and implement a formal training program for project managers and ensure that they receive adequate training while this program is under development.

Commission Action: Corrective action taken.

The commission reports that it prepared a project management curriculum and manual and developed a formal training program. The first classes were held during the summer and fall 2000. A second set of classes was held from March through June 2001. The commission plans to offer classes every year.

Finding #8: The commission's long-range financial planning is incomplete.

One of the commission's primary challenges is funding its large-scale capital improvement plans. A consultant developed a long-range financial report to assess financing options for capital projects for two of the commission's three water-related divisions. This report relied heavily on the commission's ability to obtain voter approval for revenue bonds without adequately addressing contingencies should voters reject future bond measures. This is important because, based on recent voter turnouts, fewer than 100,000 San Francisco voters could deny the commission's bond measures. Also, the projections used in the report were based on current interest rates; changes in these rates could affect the commission's ability to accomplish the plan. Finally, the long-range financial report for the third water-related division was still being developed. As a result, despite identifying many capital projects needed to upgrade its water delivery system, its plans remain incomplete regarding exactly how it will fund these projects.

We recommended that the commission complete and adopt a long-range financial plan for the three water-related divisions. We also recommended that the commission continue to monitor and adjust this plan as necessary. The plan should include more detailed descriptions of the steps the commission should take if San Francisco's voters fail to approve the bonds or if economic conditions change.

Commission Action: Partial corrective action taken.

The commission stated that it presented a draft long-range financial plan to the commissioners in late February 2001. It also held four workshops with the commissioners and the public. The commission stated that it will integrate the plan with its capital improvement program and planned to present the final package to the commissioners for a decision on July 10, 2001. The commissioners began their review on July 24, 2001.

Finding #9: The commission’s capital improvement plans are not complete.

The commission’s staff and its consultant have developed capital improvement plans for each of its water-related divisions. However, the commissioners have not adopted these plans. Further, the commission has not integrated these plans to obtain an accurate picture of the entire system’s needs. Finally, the capital improvement plan for the Hetch Hetchy Water and Power Division was incomplete because it lacked cost estimates for some of its water-related projects. This is significant because this division supplies about 85 percent of the commission’s water. Without formal adoption and integration of these plans, we were concerned that other issues could divert the commission’s attention from its goal of improving the reliability of the water delivery system by focusing on the most critical projects.

We recommended that the commission complete the missing cost and schedule estimates for the Hetch Hetchy Water and Power Division’s capital improvement plan. We also recommended that the commission integrate its capital improvement plans for the three water-related divisions into one cohesive plan and seek formal approval from the commissioners.

Commission Action: Pending.

The commission planned to submit its capital improvement plan (including the cost schedules and estimates for the Hetch Hetchy facilities), integrated with its long-range financial plan, to the commissioners for review in July 2001.

Finding #10: Most of the commission’s plans are still in development, while others were only recently completed.

To improve its water delivery system, the commission was still developing many plans while it had only recently completed others when we issued our audit report. These plans included the reliability study, the water supply master plan, the capital improvement plan, and the long-range financial plan. Because of the critical nature of all these plans, we were concerned that delays in completing or implementing any of the plans would jeopardize the commission’s ability to upgrade its water delivery system.

To ensure that the commission followed through on plans that it was developing or that it had recently developed, we recommended that the commission report annually to the Legislature and to the Bay Area Water Users Association (BAWUA) for the next five years.

We also recommended that these reports include descriptions of the progress the commission has made in implementing its plans and the accomplishments it has achieved.

Commission Action: Pending.

The commission stated that it will submit an annual report to the Legislature and to the BAWUA after commissioners have approved the long-range financial plan and the capital improvement program.

Finding #11: Executive vacancies and turnover present the commission with a unique opportunity.

The commission recently experienced turnover among some of its executive positions. For instance, from December 1995 through December 1998, the position of manager of the utilities engineering bureau was filled by three different people and was vacant for a total of 13 months. This position leads more than 100 employees responsible for implementing the commission's capital improvement projects. A vacancy in this position contributed to the nearly 3-year gap between the end of the first phase and the beginning of the second phase of the facilities reliability study. Further, at the time of our report, the current manager of the utilities engineering bureau had been on board only 14 months. Other vacancies included the recent retirements of the commission's general manager and assistant general manager for operations. According to the commission's former general manager, it can take 6 months to 12 months to fill these positions.

The commission faces significant challenges in the near future, including the need to implement a huge capital improvement program and to obtain additional water supplies. Without strong, consistent, and effective leadership, the chances that the commission will meet those challenges diminish greatly.

We recommended that the commission appoint to leadership positions individuals who have effectively implemented large-scale capital improvement programs. We also recommended that the commission take measures to ensure it fills available positions promptly.

Commission Action: Partial corrective action taken.

The commission reports that its recruitment efforts continue for the general manager and assistant general manager for operations; a director of finance began work in November 2000. It stated that the appointment of a general manager is continuing (it gave no completion date). The appointment for the assistant general manager for operations will be made after the new general manager is appointed.

