# Phase I

# Management Audit

# of the

# Public Utilities Commission –

# Clean Water Enterprise Fund

**Prepared for the**
**Board of Supervisors**
**of the City & County of San Francisco**

**by the**

**San Francisco Budget Analyst**

**September 27, 2004**

CITY AND COUNTY OF SAN FRANCISCO

# BOARD OF SUPERVISORS

**BUDGET ANALYST**

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September 27, 2004

Honorable Chris Daly, Chair of the Finance and Audits Committee
And Members of the Board of Supervisors
City and County of San Francisco
Room 244, City Hall
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Dear Supervisor Daly and Members of the Board of Supervisors:

The Budget Analyst is pleased to submit this *Phase I Management Audit of the Public Utilities Commission, Clean Water Enterprise Fund.* On May 18, 2004, the Board of Supervisors adopted a motion directing the Budget Analyst to conduct a management audit of the San Francisco Public Utilities Commission, pursuant to its powers of inquiry defined in Charter Section 16.114 (Motion No. M04-57). Subsequently, on June 29, 2004, the Board of Supervisors adopted a motion directing the Budget Analyst to prioritize an analysis of sewer service charges, as part of the management audit of the Public Utilities Commission. The purpose of the management audit has been to (i) evaluate the economy, efficiency and effectiveness of the Public Utilities Commission's programs, activities, and functions and the Public Utilities Commission's compliance with applicable State and Federal laws, local ordinances, and City policies and procedures; and (ii) assess the appropriateness of established goals and objectives, strategies and plans to accomplish such goals and objectives, the degree to which such goals and objectives are being accomplished, and the appropriateness of controls established to provide reasonable assurance that such goals and objectives will be accomplished. The scope of the management audit includes all of the Public Utilities Commission's programs, activities, and functions.

The results of the management audit will be presented in four phases. Phase I is a review of the programs, activities, and functions of the Clean Water Enterprise program, including an evaluation of sewer service charges, budgetary controls, financial status, organizational structure,

maintenance management, interdepartmental relationship with the Department of Public Works, and the capital program planning process, including public outreach and participation. Phase II of the management audit will be a review of the programs, activities, and functions of the Hetch Hetchy Enterprise program and Phase III will be a review of the programs, activities, and functions of the Water Enterprise program. Phase IV will review all programs, activities, and functions that cross the Public Utilities Commission as a whole, including common functions of the three enterprises, such as maintenance and asset management practices, and administrative overhead functions.

The management audit is conducted in accordance with *Government Auditing Standards, 2003 Revision,* issued by the Comptroller General of the United States, U.S. General Accounting Office. As part of the management audit, the Budget Analyst interviewed the senior management and other Public Utilities Commission staff; representatives from other City and County departments; advisory committee and community organization representatives; and management staff from other clean water agencies and representative organizations, including the Association of Metropolitan Sewerage Agencies and the State Water Resources Control Board. Additionally, the management audit staff reviewed various State statutes and local codes; examined various documents, reports and work products prepared by the Public Utilities Commission; reviewed the Clean Water Enterprise Fund's audited financial statements and reports prepared by various consultants; obtained and analyzed various data and financial reports; and evaluated the effectiveness of the various tools used by Public Utilities Commission management to oversee the activities of the Clean Water Enterprise program.

This management audit report of the Clean Water Enterprise program includes 10 findings and 63 related recommendations prepared by the Budget Analyst, that encompass major areas of the Clean Water Enterprise program's operations. A list of the management audit recommendations are shown in the Attachment to this transmittal letter. Included are findings and recommendations related to the Clean Water Enterprise program's organization, strategic and capital planning, financial management, budgetary controls, internal controls over the Clean Water Enterprise program's processes, and management of the Clean Water Enterprise's maintenance activities. The management audit also reviewed and reported on the Clean Water Enterprise's financial condition, sewer service charges, and the capacity of sewer service charge revenues to meet the Clean Water Enterprise's operating, maintenance, and capital revenue requirements.

Implementation of the Budget Analyst's recommendations would result in savings of an estimated $1.1 million, resulting from savings in salaries and mandatory fringe benefits, administrative overhead, and power costs. The following sections summarize our findings and recommendations.

## Assessment of the Sewer Service Charges and Financial Needs of the Clean Water Enterprise

As noted above, the Board of Supervisors adopted a motion directing the Budget Analyst to analyze the sewer service charges approved by the Public Utilities Commission, which became effective July 15, 2005 (Motion No. M04-77). The Public Utilities Commission approved a sewer service charge increase in FY 2004-2005 to meet an 11 percent increase in FY 2004-2005 Clean Water Enterprise revenue requirements. As discussed in Section 6 of the management audit report, the Budget Analyst found that, even with the sewer service charge increase in FY 2004-2005 to meet an 11 percent increase in FY 2004-2005 Clean Water Enterprise revenue requirements, and with proposed sewer service charge increases in FY 2005-2006 and FY 2006-2007, the Clean Water Enterprise would have insufficient revenues to meet both its operating, maintenance, and capital requirements and the Public Utilities Commission's policy of maintaining operating reserves equal to 25 percent of operating and maintenance expenditures.

Due to Proposition H, approved by the voters in November of 1998, there were no increases in sewer service charges for the eight year period between FY 1996-1997 through FY 2003-2004. During that period and as discussed in Section 6 of this management audit report, the financial condition of the Clean Water Enterprise program deteriorated and two credit rating agencies, Standard and Poors and Moody's, issued a negative outlook for the Clean Water Enterprise Fund. After approval of Proposition E by the voters in November of 2002, the credit rating agencies changed their outlook from "negative" to "stable."

The Public Utilities Commission refunded Clean Water Enterprise Fund outstanding revenue bonds in January of 2003 and restructured the annual debt payments to reduce payments through FY 2005-2006. Consequently, the Clean Water Enterprise Fund will have a large increase in annual debt service payments in FY 2006-2007, as shown in Table 6.1 of Section 6. When the Public Utilities Commission Financial Services staff analyzed potential sewer service charge increases to meet revenue requirements, they evaluated the need for sewer service charge increases to meet FY 2006-2007 revenue requirements, when annual debt service payments increase from $37.3 million in FY 2005-2006 to $70.3 million in FY 2006-2007. After FY 2006-2007, annual debt service payments on existing debt will gradually decrease each year, as shown in Table 6.1 of Section 6.

The Public Utilities Commission has entered into a capital planning process to develop a Clean Water Master Plan. The Clean Water Master Plan is expected to be completed in the fall of 2007 and construction of Clean Water Master Plan projects is expected to begin in FY 2009-2010 at the earliest. Prior to construction of Clean Water Master Plan projects, the Clean Water Enterprise Fund has interim capital needs, estimated by the Clean Water Enterprise program to cost approximately $100 million to $150 million. The Clean Water Enterprise Fund may therefore need sewer service charge increases beyond the proposed sewer service charge

increases in FY 2005-2006 and FY 2006-2007 to fund interim capital needs prior to commencement of construction of Clean Water Master Plan projects.

The Budget Analyst has reviewed alternative sewer service charge rate structures that would provide stable revenues to the Clean Water Enterprise Fund, promote water conservation, and lessen the overall impact of the sewer service charge increases on the combined water and sewer service bill. Section 1 of the management audit report discusses these alternative sewer service charge rate structures. In Section 6 of the management audit report, the Budget Analyst has found that annual incremental sewer service charge increases compared to larger periodic sewer service charge increases could provide stable future revenues to the Clean Water Enterprise Fund while lessening the overall impact to the ratepayer. However, because of the eight year rate freeze from 1996 until 2004, the Clean Water Enterprise Fund will require sufficient increases in the sewer service charge in FY 2005-2006 and FY 2006-2007 to meet its operating, maintenance, and capital needs and to maintain an operating reserve equal to 25 percent of operating and maintenance expenditures.

## Section 1. Designing the Sewer Service Charge

The Public Utilities Commission adopted sewer service charge increases in FY 2004-2005 to meet an 11 percent increase in FY 2004-2005 Clean Water Enterprise Fund revenue requirements. The Public Utilities Commission will have to consider additional sewer service charge increases in the coming fiscal years to pay for projected increases in Clean Water Enterprise Fund operating and maintenance expenses, debt service payments, and interim capital needs.

In FY 2004-2005, the Rate Fairness Board and the Public Utilities Commission are considering both the need for sewer service charge increases to meet Clean Water Enterprise Fund revenue requirements in the coming fiscal years and alternative sewer service charge rate structures. The Rate Fairness Board is considering the elimination of the residential lifeline, or base, rate, which is applied to the first three units of service, because the lifeline rate neither recovers the costs of providing service nor meets the Rate Fairness Board's policy goal of providing income-based rates for low-income residential customers.

In considering alternative sewer service charge rate structures, the Rate Fairness Board and the Public Utilities Commission need to consider how the alternative rate structures impact the stable flow of revenues to the Clean Water Enterprise Fund, promote water conservation, and overall impact the combined water and sewer service bill of residential customers. Projected increases in both water and sewer service charges in the next few fiscal years to pay for necessary capital improvements to water and clean water facilities and increased revenue requirements will have a large impact on the combined monthly water and sewer bill for residential customers.

**Costs and Benefits**

The Budget Analyst's recommendations concerning these findings are attached to this transmittal letter. There would be no new direct costs associated with these recommendations, which can all be accomplished in-house without additional staff. The Public Utilities Commission Financial Services staff would continue to analyze and present sewer service charge alternatives and impacts to the Rate Fairness Board and the Public Utilities Commission. The Public Utilities Commission would continue to have necessary information to assess alternative sewer service charge rate structures that address the goals of (a) providing stable revenue to the Clean Water Enterprise Fund, (b) equitably distributing the costs of sewer services to the users of the system, and (c) promoting conservation.

## Section 2. Allocating Costs of Sewer Services to Customer Classes

Residential and nonresidential sewer service customers are billed based upon wastewater volume and the expected concentration (or strength) of pollutants in their wastewater discharge. All residential customers are billed for a standard domestic wastewater strength. Nonresidential customers are either billed (i) for their actual wastewater strength, if they discharge high volumes of wastewater or the wastewater discharge has high concentration of pollutants, or (ii) on the expected wastewater strength of their assigned Standard Industrial Classification code if they are minor industrial or commercial users.

According to the Wastewater Rate Study, the measured amount (or loadings) of wastewater pollutants at the wastewater treatment plants do not match the calculated wastewater loadings, based on customer service billing records. The Public Utilities Commission is currently implementing work plans to (i) sample and test wastewater loadings at the treatment plants and (ii) identify correct nonresidential property uses from Tax Collector and other documents to ensure that nonresidential properties are assigned the correct Standard Industrial Classification codes and wastewater strength in the Customer Services billing system.

The management audit review of Customer Services billing data found discrepancies between the Schedule of Sewer Service Charges and Customer Services billing records. For example, the Schedule of Sewer Service Charges lists 44 Standard Industrial Classification codes and the Customer Services billing system lists 83. Of the 44 Standard Industrial Classification codes listed in the Schedule of Sewer Service Charges, only 22 correspond with the Standard Industrial Classification codes listed in the Customer Services billing system. The Public Utilities Commission Business Services Division should streamline the list of Standard Industrial Classification codes and reconcile the Customer Services billing system with the Schedule of Sewer Service Charges.

**Costs and Benefits**

The Budget Analyst's recommendations concerning these findings are attached to this transmittal letter. There would be no new direct costs associated with these recommendations, which can all be accomplished in-house without additional staff. Implementation of these recommendations would allow the Public Utilities Commission to correctly identify and bill for residential and nonresidential customers wastewater strengths.

## Section 3. Opportunities to Improve Management Control of Clean Water Enterprise Fund Expenditures

The Clean Water Enterprise program's expenditures for providing sewer collection and wastewater treatment services have increased by approximately 18 percent between FY 1998-1999 and FY 2002-2003. The Clean Water Enterprise program's operating costs for chemicals and electricity have increased at a higher rate than other costs. Electricity costs have increased by approximately 44 percent and chemical costs have increased by 49.7 percent.

One of the main increases in expenditures has been administrative overhead. Budgeted overhead expenditures for Public Utilities Administration increased by 47.8 percent between FY 2001-2002 and FY 2004-2005.

The Public Utilities Commission Financial Services section, in conjunction with the Clean Water Enterprise program management, should implement budgetary benchmarks and performance matrices for administrative functions, and should assess potential cost savings for electricity and chemical purchases.

Developing performance standards for Administration functions are a concern for all three Public Utilities Commission enterprises. Administrative overhead costs, including implementation of service measures and cost controls, will be evaluated further in Phases II through IV of the management audit.

**Costs and Benefits**

The Budget Analyst's recommendations concerning these findings are attached to this transmittal letter. These recommendations are intended to increase the level of budgetary controls for Clean Water Enterprise Fund expenditures. Decreasing electricity costs by 1.0 percent would result in annual savings of $122,380 and decreasing administrative overhead by 5.0 percent would result in annual savings of $917,060, for total cost savings of $1,039,440.

## Section 4. Clean Water Capital Improvement Planning

There are a number of urgently required clean water capital improvement projects which are either on hold or proceeding incrementally through the insufficiently funded annual clean water repair and replacement program.

Since the 1990s, there has been extensive clean water capital planning, but the overall planning process has not been particularly coherent, particularly given the former General Manager's elimination in 2002 of clean water projects from the Department's long-term capital improvement program without consultation with the Water Pollution Control Division.

Based on comments from Department interviewees, the Budget Analyst concludes that the former General Manager severed clean water from the long-term capital improvement program due to her assessment that (a) the planning process had been inadequate, (b) opposition from the Southeast community and the Mayor's Public Utilities Infrastructure Task Force might undermine politician and voter support for the water system projects, (c) voters might not support the total cost, and (d) the proposed odor control plans for the Southeast Water Pollution Control Plant might not be effective. The former General Manager publicly stated that there was no clean water master plan and that the Department would start clean water planning from scratch using a community consultation process which examined all available options. The former General Manager's actions and statements were regarded by long-term clean water staff as dispiriting given the amount of clean water capital planning which had taken place since the 1990s, and the third party vetting of the long-term capital improvement program's proposed clean water projects and their funding.

Despite delays in moving the Clean Water Master Planning process forward, the process has now begun. The advantages of the master planning approach outweigh the disadvantages. This is primarily because the comprehensiveness of this type of planning process, and the level of stakeholder involvement woven into the entire process, will provide the public with a meaningful opportunity to provide input into policy and planning decisions and will protect the Department from future criticism that it did not consider all the options and work closely with affected communities. Nevertheless, the disadvantages are both real and serious, and need to be carefully managed.

An interim five year capital improvement program would usefully bridge the five to seven year gap before Clean Water Master Plan construction can commence.

**Costs and Benefits**

The Budget Analyst's recommendations concerning these findings are attached to this transmittal letter. As of the writing of this report, in order to develop a Clean Water Master Plan, the Department is planning to invest $15,750,000 in consultant services and internal City resources. The Budget Analyst considers that this will be a worthwhile investment if it completes a Clean

Water Master Plan with widespread stakeholder support that facilitates the financing and construction of necessary capital improvements in a timely fashion.

## Section 5. Public Participation in Clean Water Policy and Planning

The Public Utilities Commission failed to provide for public participation in clean water policy and planning and to conduct adequate public outreach prior to the introduction of the clean water projects in the proposed integrated long-term capital improvement program in 2002. As a result, the public received inconsistent and vague information, which fueled the public perception that Public Utilities Commission staff were not listening. It is unclear whether public concerns were consistently conveyed to decision-makers and whether the recommendations of established community and technical advisory groups influenced the selection of the 2002 clean water projects. The Department did not (a) utilize its internal Communications Department to do public outreach work, (b) evaluate or implement consultant recommendations to improve public outreach, (c) create a forum for public input into policy and planning, or (d) fully utilize established community and technical advisory groups.

The Public Utilities Commission staff's failure to provide for public participation in clean water policy and planning and to conduct adequate public outreach prior to the introduction of the integrated long-term capital improvement program in 2002 will result in delays to necessary capital improvements. The Clean Water Master Planning process should address a majority of the problems of the earlier process and give the public a meaningful opportunity to provide input into policy and planning decisions.

The incoming General Manager should ensure that a public participation program for the Clean Water Master Planning Process is carefully managed so that this effort provides the public with a meaningful opportunity to give input into policy and planning decisions and results in widespread stakeholder support of a clean water capital improvement program.

**Costs and Benefits**

The Budget Analyst's recommendations concerning these findings are attached to this transmittal letter. As of the writing of this report, in order to develop the proposed public participation component of the Clean Water Master Planning process, the Department is planning to invest $2,750,000, of which $750,000 will be for staff costs and $2,000,000 will be for consultant services. The Budget Analyst's recommendations could result in a larger share of resources for the internal Communications Division staff, and a reduction in the consultant contract, if the Department determines that such changes reflect the appropriate mix of internal and contractual resources for public outreach. The Budget Analyst considers that this public participation process will be a worthwhile investment if it provides the public with a meaningful opportunity to give input into policy and planning decisions and results in widespread stakeholder support of a clean water capital improvement program. Close management of this departmental contract is necessary to ensure that the problems of earlier outreach efforts are not repeated.

## Section 6. Managing Debt and Funding Future Capital Projects

According to the Public Utilities Commission's Financial Services 10-year financial projections, even with the sewer service charge increase to meet an 11 percent increase in FY 2004-2005 revenue requirements and the recommended sewer service charge increases in FY 2005-2006 and FY 2006-2007 to meet 11 percent increases in annual revenue requirements, projected Clean Water Enterprise Fund operating reserves in most years would still be less than the Public Utilities Commission's policy of maintaining a reserve equal to 25 percent of operating and maintenance costs. The Budget Analyst has reviewed these projections and finds them to be reasonable. The Clean Water Enterprise Fund may need sewer service charge increases beyond the proposed FY 2005-2006 and FY 2006-2007 sewer service charge increases to fund interim capital needs prior to commencement of construction of Clean Water Master Plan Capital Improvement Program projects in FY 2009-2010 at the earliest.

Both water and sewer service charges will need to increase to pay for Water and Clean Water Master Plan Capital Improvement Program projects over the coming fiscal years. Because construction of improvements to water and clean water infrastructure will impact all San Francisco rate payers, the Public Utilities Commission needs to assess the alternatives of annual incremental sewer service charge increases compared to larger periodic sewer service charge increases to meet ongoing operating and capital needs. The advantage of such an approach would be to reduce the risk of sudden large rate increases in future years and to meet current revenue needs. Annual incremental rate increases would stabilize revenues and better match operating revenues to meet operating needs.

The Budget Analyst's analysis suggests that annual incremental sewer service charge increases would yield the same total revenues to the Clean Water Enterprise over time as less frequent but larger periodic sewer service charge increases. The Clean Water Enterprise Fund would receive a stable increase in annual revenues to meet operating, maintenance, and ongoing capital needs, but the rate payer would not be confronted all at once with large increases in the monthly sewer service bill. For example, annual incremental sewer service charge increases of 1.25 percent annually from FY 1997-1998 through FY 2005-2006 would have yielded the same total revenues over ten years as sewer service charges with no increases from FY 1997-1999 through FY 2003-2004 and three annual increases of 11 percent from FY 2004-2005 through FY 2006-2007.

Implementing annual incremental sewer service charge increases results in lower cumulative sewer service charges for the rate payer also. If the sewer service charges increased incrementally by 1.25 percent annually over ten years, the cumulative sewer service charge increase to the rate payer over ten years would be 13.2 percent, but if sewer service charges did not increase for seven years and then increased by 11 percent annually for three years, the cumulative increase to the rate payer over ten years would be 36.9 percent. In comparing the two scenarios, rate payers who had received incremental rate increases of 1.25 percent between FY 1997-1998 and FY 2006-2007 would pay FY 2006-2007 rates that were 17.3 lower than the FY

2006-2007 rates of rate payers who had received three larger rate increases of 11 percent in FY 2004-2005 through FY 2006-2007.

Currently, Public Utilities Commission Financial Services staff prepare a long range financial plan, presenting ten-year financial projections that include estimates of operation and maintenance expenses, repair and replacement costs, debt costs and rate increase requirements to the Public Utilities Commission, pursuant to Proposition E. The General Manager of the Public Utilities Commission should present this annual report to the Board of Supervisors prior to May 31 each year, including (i) current Clean Water Enterprise program revenue and expenditure projections, (ii) the projected need for sewer service charge increases, the impact of smaller incremental sewer service charge increases compared to larger periodic increases, and the impact of combined water and sewer service charge increases, (iii) the status of implementation of the asset management program and an evaluation of the asset management program's effectiveness, and (iv) the status of the capital planning process and proposed funding for both interim capital projects and Clean Water Capital Improvement Program projects.

**Costs and Benefits**

The Budget Analyst's recommendations concerning these findings are attached to this transmittal letter. There would be no new direct costs associated with these recommendations, which can all be accomplished in-house without additional staff. The benefit of this recommendation is to provide the Public Utilities Commission with sufficient information to improve the Clean Water Enterprise Fund's financial condition, assess the Clean Water Enterprise Fund's interim capital needs, project ongoing revenue requirements, and analyze and recommend sewer service charges to meet the Clean Water Enterprise Fund's ongoing maintenance, operating, and capital needs, including maintaining an operating reserve fund equal to 25 percent of annual operating and maintenance expenditures.

## Section 7. Water Pollution Control Division's Personnel and Maintenance Management

The Water Pollution Control Division of the Public Utilities Commission Clean Water Enterprise program needs to better manage employee performance, update written policies and procedures, and improve accountability over tools and equipment.

Although the Water Pollution Control Division was transferred from the Department of Public Works to the Public Utilities Commission in 1996, and the Division's Policies and Procedures Manual was last revised as recently as October of 2003, the manual continues to cite the Director of the Department of Public Works and the Department of Public Works Employee Reference Guide as policy authorities in several instances. Other Policies and Procedures Manuals, such as the Maintenance Management and Materials Management Manuals, which have been minimally revised since the Water Pollution Control Division's transfer to the Public Utilities Commission, also contain Department of Public Works references. It is clear, therefore, that critical

documents that are supposed to communicate policies and procedures from management to all employees have not been comprehensively reviewed or updated in at least eight years.

The Policies and Procedures Manual requires that Water Pollution Control Division employees receive an annual performance evaluation. Although Division management is currently making a significant effort to have all performance evaluations completed for the period ended June 30, 2004, our review of the performance evaluation files revealed that numerous Division employees did not receive an annual performance evaluation for previous periods.

The administrative Policies and Procedures Manual contains (a) an *Entrance – Exit Policy* that is designed to track and control equipment and tools assigned to employees, and to track and control information, such as computer access codes, provided during each employee's tenure, and (b) a provision requiring that the Water Pollution Control Division conduct an exit interview of employees who are separating from the Division and that an Exit Interview Form is completed. Although a total of 66 Water Pollution Control Division employees have separated from the Public Utilities Commission since January of 2003, the Bureau of Human Resources had received a total of only 19 Equipment Processing and Exit Interview Forms for all years.

The Water Pollution Control Division does not currently exclude pre-scheduled overtime hours from its calculation of overtime usage.

The Bureau of Human Resources processed a total of 40 Equal Employment Opportunity complaints from Water Pollution Control Division employees between February of 2000 and August of 2004. The results of the 40 complaint investigations are as follows: (1) 16 complaints were dismissed after an investigation showed insufficient evidence of discrimination; (2) seven complaints were closed after mediation or other mutual agreement among the parties; (3) eight complaints were closed after an investigation disclosed no factual evidence to identify a responsible person or other inconclusive outcome; (4) two complaints resulted in disciplinary actions; and (5) seven complaints were closed due to there not being sufficient evidence to support that the issue was concerned with equal employment opportunity.

The former General Manager of the Public Utilities Commission met with a group of approximately 20 African-American female employees of the Water Pollution Control Division in February of 2004 to hear complaints of alleged unfair treatment. According to reports from some of those in attendance at the meeting, follow up actions have not been taken.

According to the Section Chief who has been assigned responsibility for maintaining tools and equipment not issued to individual crews, there has not been an inventory of the tools and equipment in the tool rooms or storage containers since sometime in 2001. Using an inventory list provided by the Section Chief, we located some of the tools and equipment in the tool rooms but could not locate many other of the items. Tool and equipment accountability is weak within the Maintenance Division.

**Costs and Benefits**

The Budget Analyst's recommendations concerning these findings are attached to this transmittal letter. The Water Pollution Control Division could achieve approximately $100,000 in cost savings from obtaining more economical call-taking services for Sewer Operations. The Budget Analyst's other recommendations can be accomplished with existing staff in-house. The benefits of the recommendations would include a more efficient water pollution control operation, with personnel better supported by the administrative staff, and the Operations Division better supported by the Maintenance Division.

## Section 8. Managing the Interface Between the Public Utilities Commission and the Department of Public Works

Both Public Utilities Commission staff and Red Oak Consulting have identified deficiencies in the management information provided to the Public Utilities Commission by the Department of Public Works. However, the Budget Analyst notes that considerable amounts of data are already gathered by the Department of Public Works and the Public Utilities Commission through a number of protocols, regular reports and meetings, and databases. This data should be shared more effectively between the two departments to improve reporting on the actual work performed.

Useful management information would also be provided by (a) a comparative analysis of the cost of sewer repair services provided by the Bureau of Street and Sewer Repair and third party contractors, and (b) a joint space needs analysis of the City and County of San Francisco Yard and adjacent Public Utilities Commission space to ensure the two departments' optimal usage of those sites, and to clarify property ownership issues within the City and County of San Francisco Yard.

**Costs and Benefits**

The Budget Analyst's recommendations concerning these findings are attached to this transmittal letter. There may be information technology costs associated with the recommended reporting enhancements between the Public Utilities Commission and the Department of Public Works, but they cannot be estimated until the scope of required work between the two departments has been defined. In both departments, however, the base software is already in place. The most important benefit of the recommended reporting enhancements would be the improved reporting on the actual work performed by the Department of Public Works for the Public Utilities Commission, and that work's actual cost.

## Section 9. The Clean Water Enterprise's Organizational Structure

The structural disaggregation of clean water functions creates a number of deficiencies, most notably a lack of a unified business identity, inadequate advocacy at the executive management team, dispersal of functional responsibilities, and inadequate integration into the Public Utilities Commission as a whole.

Approximately 90 percent of the workload of the Department of Public Works' Hydraulic Section is related to Public Utilities Commission clean water work orders. Its current location within the Department of Public Works is a legacy of a former organizational structure.

Consolidation of the Water Pollution Control Division, the Pretreatment, Pollution Prevention and Storm Water Program, clean water planning staff, and the Department of Public Works' Hydraulic Section, and potentially the Southeast and Oceanside Water Pollution Control Plant Laboratories (subject to further review in Phase III of the management audit), could address these deficiencies.

The Public Utilities Commission and the Department of Public Works will always have to manage the problematic interface between the needs of the sewer system, with its average 80 year life span, and the street system's 25 year repaving cycle. Given this disparity in the life spans of the two systems, managing the interface poses challenges. Due to the shorter life span of roadways in comparison with sewers, and the pronounced public interest in the physically more obvious benefits of roadway maintenance and repair, there is a strong argument for the performance of sewer repair and replacement work impacting the right-of-way to remain within the purview of the Department of Public Works. However, the Budget Analyst will comment on this more definitively once Phase III of the management audit has reviewed the interface between the Public Utilities Commission and the Bureau of Street and Sewer Repair in relation to water main repair and replacement within the right-of-way, and the possibility of greater coordination of the sewer and water main repair and replacement programs.

Care will need to be taken to ensure that a new Clean Water Enterprise does not operate as a stand-alone entity when, in fact, it needs to be coordinating with the Department's other enterprises and its central policy and planning coordination function.

**Costs and Benefits**

The Budget Analyst's recommendations concerning these findings are attached to this transmittal letter. The transfer of the Department of Public Works' Hydraulic Section to the Public Utilities Commission would incur the following costs or cost shifts:

- A transfer of $2,330,641 in Hydraulic Section staff salaries and operating costs from the Department of Public Works to the Public Utilities Commission.

- Due to the loss of direct labor, the overhead rate for the Department of Public Works' Bureaus of Architecture, Engineering, and Construction Management would increase by an estimated 5 percent, from 168 percent to 173 percent. Redistribution of the Department of Public Works' overhead expenditures would increase the burden to the General Fund by an estimated $98,900. These full cost impacts would occur only if the Department of Public Works makes no reductions to its administrative overhead expenses. However, this reduction in administrative overhead should be made to correspond with the transfer of operating responsibilities.

- Relocation costs if the Hydraulic Section staff were physically moved, or a shift in the lease costs between the two departments if the Hydraulic Section remained in its current accommodation.

All the other staffing changes would result in cost neutral transfers of salary dollars within the Public Utilities Commission's existing clean water personnel budget.

Elimination of the vacant Classification 5620 Regulatory Specialist, Clean Water Regulatory Compliance, position in the Planning Bureau would save between $66,920 and $81,354, plus mandatory fringe benefits, for a total savings of up to $101,286 annually. Further salary savings may accrue from rationalizing administrative support positions.

Consolidation of clean water functions would foster a unified business identity for clean water staff characterized by shared goals, shared long-term planning capacity, functional coordination, and efficiency. It will improve decision-making among staff working on clean water issues, and ensure clear accountability lines. Therefore, the proposed structural changes would facilitate important cultural changes.

## Section 10. Assistant General Manager, Clean Water

There is inadequate clean water representation at the executive management team because no one executive management team member has a holistic view of clean water or has responsibility for all clean water operations, planning, and financial management.

As explained in Section 9, the consolidation of clean water functions would result in a new Clean Water Enterprise of up to 507.51 FTE positions and an annual operating budget of up to $154,126,839. An organization of this scope would justify management by a Classification 5166 Assistant General Manager, PUC position. This position should ultimately be a direct report to the General Manager.

An Assistant General Manager, Clean Water should be an highly qualified industry specialist with a high level of policy, regulatory, financial, and management skills.

The Budget Analyst is cognizant that the Public Utilities Commission's recently appointed General Manager is actively looking at reorganizing the Department, with the ultimate goal of reorganizing the Department into its three business enterprises. To achieve that, the General Manager has appointed new senior personnel, including a Deputy General Manager, to assist her to coordinate across the existing divisions on key issues. During this transition period, the General Manager does not support the flat organizational structure being recommended by the Budget Analyst, whereby an Assistant General Manager, Clean Water would report directly to the General Manager. However, the General Manager has indicated that she is prepared to examine a flatter management structure in the medium term. Therefore, if the Board of Supervisors approves the Budget Analyst's recommendations, the Budget Analyst would assess, in the medium term, the Department's progress towards the recommended organizational structure. While the Budget Analyst acknowledges that, in the short-term, the Department's budget will be accommodating senior personnel to manage the transition period, the Budget Analyst will be reviewing their justification in the medium term.

**Costs and Benefits**

The Budget Analyst's recommendations concerning these findings are attached to this transmittal letter. The costs of these recommendations include (a) the annual salary for the new Classification 5166 Assistant General Manager, PUC position for the Assistant General Manager, Clean Water of between $121,678 and $147,909, plus mandatory fringe benefits, for a total cost of up to $184,147 annually, and (b) the estimated one-time cost of up to $50,000 for an extensive internal and external recruitment process.

The benefits of implementing these recommendations include improved clean water representation at the executive management team and an appropriate level of top management for the new Clean Water Enterprise.

## Department's Response

The Public Utilities Commission General Manager's response to this management audit report was delivered to the Budget Analyst on September 23, 2004, and is included in this management audit report, beginning on page 128. The Public Utilities Commission's written response agrees with 50, or approximately 79.4 percent, of our 63 specific recommendations, and is actively considering ten recommendations. The Public Utilities Commission disagrees with three of the four specific recommendations in Section 3 of the management audit report to improve management control of Clean Water Enterprise Fund Expenditures.

- Recommendation 3.2 recommends that the Director of Financial Services in conjunction with the Water Pollution Control Division Manager, assess the options for reducing or limiting increases in chemical costs, such as revised vendor contracts, prior to the Public Utilities Commission's FY 2005-2006 budget preparation and review.

  The Public Utilities Commission General Manager's response states on page 132 of the management audit report states that "we are deeply committed to odor control and that is the primary reason for budget increases" in chemical costs. The Budget Analyst acknowledges in the management audit report that the Clean Water Enterprise program's increases in chemical costs resulted from both operational needs and industry increases in chemical costs. The Budget Analyst's recommendation is to assess options for reducing or limiting increases in chemical costs by assessing options such as revised vendor contracts. Although the General Manager stated in the response that, "We monitor chemical expenses closely and have been very aggressive on this issue over the years, finding creative ways to reduce annual expenses", discussions with Public Utilities Commission staff suggest further opportunities for cost savings, such as entering into group purchasing agreements to increase the power of the purchaser in negotiating vendor contracts.

- Recommendation 3.3 recommends that the Director of Financial Services, in conjunction with the Water Pollution Control Division Manager, evaluate the feasibility of operating the treatment plants during off-peak hours, which includes an assessment of storage capacity and odor control at different levels of storage and off-peak operations and the potential associated cost savings. This analysis should be part of the FY 2005-2006 budget preparation and review.

  As noted in the Public Utilities Commission General Manager's response, on page 132 of the management audit report, the "shutdown of these facilities could not be done daily without increasing odors in the collection system". However, according to Water Pollution Control Division staff, the Southeast Water Pollution Control Plant periodically operates during off-peak hours to achieve power savings. The Budget Analyst's recommendation is intended to analyze the feasibility of cost savings of scheduling treatment plant operations during off-peak hours, especially during dry weather when the system does not contain storm water,

while maintaining the Water Pollution Control Division's standards for odor control. Further, although the Water Pollution Control Division would pay a peak demand charge if the Southeast Water Pollution Control Plant operated during peak hours on any day of the month, there could still be some cost savings in actual off peak energy use because the energy charges during off peak hours are less than during on peak hours. Potentially, the savings in off peak energy charges could exceed the cost of the peak demand charge.

- Recommendation 3.4 recommends that the Director of Financial Services, in conjunction with the Water Pollution Control Division Manager, the Pretreatment, Pollution Prevention, and Storm Water Manager, and the Water Quality Bureau Laboratories Manager, develop budgetary benchmarks for the Clean Water Enterprise Fund. According to the Public Utilities Commission General Manager's response on page 133 of the management audit report, "performance measures are submitted to the Controller's Office as part of the annual efficiency plan and budget process". The Budget Analyst's recommendation would establish budgetary benchmarks commonly used by clean water agencies. These benchmarks compare the costs of sewer services to the millions of gallons discharge annually, allowing the Clean Water Enterprise programs to evaluate the costs of providing service per gallon of discharge. These are internal benchmarks, providing a year-to-year comparison of the Clean Water Enterprise program's budgetary performance. The Budget Analyst will assess the Public Utilities Commission's performance measures submitted annually to the Controller's Office during Phase IV of the management audit.

Finally, on page 136 of the Public Utilities Commission's General Manager's response to the management audit, the General Manager states, "While we do not disagree with the idea of small, regular increases, the audit implies that such increases are a possibility right now, which they are not. Eleven percent increases will not bring the department to proper reserve levels, and we may need more funds for maintenance and capital projects".

The management audit does not imply that such increases are a possibility right now. In Section 6, page ____, of the management audit report, the Budget Analyst states, "Even with the sewer service charge increase to meet an 11 percent increase in FY 2004-2005 revenue requirements and the recommended sewer service charge increases in FY 2005-2006 and FY 2006-2007 to meet 11 percent increases in annual revenue requirements, projected Clean Water Enterprise Fund operating reserves in most years would still be less than the Public Utilities Commission's policy of maintaining a reserve equal to 25 percent of operating and maintenance costs. The Clean Water Enterprise Fund may need sewer service charge increases beyond the proposed FY 2005-2006 and FY 2006-2007 sewer service charge increases to fund interim capital needs prior to commencement of construction of Clean Water Master Plan Capital Improvement Program projects in FY 2009-2010 at the earliest." The Budget Analyst's analysis of annual incremental sewer service charge increases is intended to provide direction to the Public Utilities Commission going forward in setting annual sewer service charges to meet operating, maintenance, and capital requirements with the lowest impact to the rate payer.

We would like to thank the General Manager of the Public Utilities Commission, her staff and various representatives from City departments for their cooperation and assistance throughout this management audit.

Respectfully submitted,

Harvey M. Rose
Budget Analyst

Cc: President Gonzalez
Supervisor Alioto-Pier
Supervisor Ammiano
Supervisor Daley
Supervisor Dufty
Supervisor Elsbernd
Supervisor Ma
Supervisor Maxwell
Supervisor McGoldrick
Supervisor Peskin
Supervisor Sandoval
Mayor Newsom
Clerk of the Board
General Manager of the Public Utilities Commission
Edward Harrington, Controller
Katie Petrucione
Cheryl Adams
Ted Lakey

## Section 1. Designing the Sewer Service Charge

The Director of Financial Services should:

1.1 Continue to analyze and present information to the Rate Fairness Board on the impact of alternative sewer service rate designs on residential sewer service customers, sewer service charge revenues, and water conservation, including:

(i) the relative advantages and disadvantages of fixed rates based on equivalent dwelling units that incorporate different consumption blocks, volume-based uniform rates, and volume-based inclining rates in providing stable revenues and promoting conservation, and

(ii) the relative impact, including projected combined monthly water and sewer service bill increases, of fixed rates based on equivalent dwelling units that incorporate different consumption blocks, volume-based uniform rates, and volume-based inclining rates on sewer service customers.

1.2 Continue to evaluate and present to the Rate Fairness Board alternative scenarios for phasing-in new rate structures to mitigate the impact of future combined water and sewer service charges.

1.3 Continue to assess and present to the Rate Fairness Board the option of reclassifying the Single Residence Occupancy hotels as residential customers during the FY 2004-2005 Rate Fairness Board discussions of alternative sewer service rate structures.

1.4 Continue to assess and present to the Rate Fairness Board alternative structures for storm water charges, including the relative advantages and disadvantages (i) of the current storm water structure and of dis-aggregating storm water and sewer system charges, and (ii) of including storm water charges on the sewer service bill or the property tax bill, including the impact of shifting the frequency of charges from bimonthly sewer service bills to annual property tax bills and shifting charges from sewer service customers to property owners, to the extent that the two are not the same.

## Section 2. Allocating Costs of Sewer Services to Customer Classes

The Public Utilities Commission General Manager should:

2.1 Adopt a formal, written policy to sample wastewater strength for residential and nonresidential customer classes every ten years and assign new wastewater strength as appropriate.

2.2 Direct the Business Services Division to reconcile Customer Services billing system data for nonresidential customers with the Schedule of Sewer Service Charges, including:

(a) Clearly defining the categories of nonresidential customers who are sampled for purposes of setting sewer service charges under Schedule B;

(b) Clearly defining criteria for assigning nonresidential customers to Standard Industrial Classification codes under Schedule C; and

(c) Reviewing all existing Standard Industrial Classification codes in the Customer Services billing system, to determine which Standard Industrial Classification codes correspond to nonresidential property uses in San Francisco, eliminate unneeded Standard Industrial Classification codes, and reconcile Standard Industrial Classification codes in Schedule C of the Schedule of Sewer Service Charges and in the Customer Services billing system.

2.3 Continue implementation of the proposed work plan to sample the wastewater strengths of residential and nonresidential customers to determine the source of the discrepancy between expected and actual wastewater strength.

2.4 Continue implementation of the proposed work plan to test existing customer accounts against Tax Collector and Assessor records to verify the correct use of properties.

2.5 Establish a protocol to (a) identify which commercial and industrial property uses are high risk for discharging pollutants into the sewer system, and (b) establish a periodic review of Tax Collector and other documents to identify high risk commercial and industrial users who do not have customer accounts.

2.6 Direct the Business Services Division, in conjunction with the Bureau of Environmental and Regulatory Management, to develop formal, written policies defining the role of Customer Services in identifying the property use of new accounts and notifying the Pretreatment, Pollution Prevention, and Storm Water Program of new accounts.

2.7 Direct the Bureau of Environmental and Regulatory Management to develop formal, written policies regarding identification and inspection of properties with new sewer service accounts or changes in use for existing accounts.

## Section 3. Opportunities to Improve Management Control of Clean Water Enterprise Fund Expenditures

The Public Utilities Commission General Manager should:

3.1 Direct the development of service measures for each of the Administration functions in conjunction with the three enterprises, which determine (a) the level of services provided by the Administration functions and (b) the funding levels. Service measures should include deliverables and performance evaluations. Preparation of each year's budget for Administration functions should include an assessment of the current year's deliverables and performance.

The Director of Financial Services should:

3.2 In conjunction with the Water Pollution Control Division Manager, assess the options for reducing or limiting increases in chemical costs, such as revised vendor contracts, prior to the Public Utilities Commission's FY 2005-2006 budget preparation and review.

3.3 In conjunction with Financial Services, evaluate the feasibility of operating the treatment plants during off-peak hours, which includes an assessment of storage capacity and odor control at different levels of storage and off-peak operations and the potential associated cost savings. This analysis should be part of the FY 2005-2006 budget preparation and review.

3.4 In conjunction with the Water Pollution Control Division Manager, the Pretreatment, Pollution Prevention, and Storm Water Manager, and the Water Quality Bureau Laboratories Manager, develop budgetary benchmarks for the Clean Water Enterprise Fund.

## Section 4. Clean Water Capital Improvement Planning

The Public Utilities Commission General Manager should:

4.1 Hold Department staff and third party contractors accountable for meeting critical path milestones in the Clean Water Master Planning process.

4.2 Consider a five year interim capital improvement program for immediately needed projects which would not jeopardize the Clean Water Master Planning process or result in investing in facilities which would be quickly redundant.

In Section 9, the Budget Analyst recommends that the staff managing the Clean Water Master Planning process should be part of the new Clean Water Enterprise. It is important that (a) Clean Water Master Planning be a core responsibility of the new Assistant General Manager, Clean Water position recommended by the Budget Analyst in Section 10, and (b) clean water staff with operational expertise are an integral part of the Clean Water Master Planning process.

## Section 5. Public Participation in Clean Water Policy and Planning

The Public Utilities Commission General Manager should:

5.1 Ensure that the Department utilizes established community and technical advisory groups in policy and planning decisions.

5.2 Direct the Project Manager of the Clean Water Master Planning process to establish a system of documentation in which the planning and engineering program and the environmental review program clearly record how recommendations from established community and technical advisory groups influence technical decisions.

5.3 Ensure that the internal Communications Division staff is fully utilized to do public outreach work, and that expenditures for the proposed public participation program reflect the appropriate mix of internal and contractual resources.

5.4 Direct the Communications Division to develop a detailed plan for the proposed public participation program following the policy guidance of the Citizens' Advisory Committee.

5.5 Ensure that the Communications Division does not "reinvent the wheel". Instead, the Communications Division should further the development of the existing consultant stakeholder lists, evaluations, and recommendations from the earlier process.

5.6 Ensure that the detailed plan for proposed public participation includes (1) the identification of who is representative of a cross section of the community, (2) an ongoing forum for public input to policy and planning, (3) a method to incorporate community input into the Clean Water Master Plan and new Clean Water Capital Improvement Program, and (4) a plan for community outreach.

5.7 Ensure consistent and appropriate staff representation in the community planning process.

The Public Utilities Commission should:

5.8 Review and approve a plan for public participation.

5.9 Require the General Manager to report the status of the public participation program quarterly.

5.10 Ensure that the Public Utilities Citizens' Advisory Committee is fully utilized in policy and planning.

## Section 6. Managing Debt and Funding Future Capital Projects

The Public Utilities Commission General Manager should:

6.1 Present the annual report, prepared by the Public Utilities Commission Financial Services staff pursuant to Proposition E, to the Board of Supervisors prior to May 31 each year, that includes (i) current Clean Water Enterprise program revenue and expenditure projections, (ii) the projected need for sewer service charge increases, the impact of smaller incremental sewer service charge increases compared to larger periodic increases, and the impact of combined water and sewer service charge increases, (iii) the status of implementation of the asset management program and an evaluation of the asset management program's effectiveness, and (iv) the status of the capital planning process and proposed funding for both interim capital projects and Clean Water Capital Improvement Program projects.

## Section 7. Water Pollution Control Division's Personnel and Maintenance Management

The Public Utilities Commission General Manager should:

7.1 Assess the February of 2004 concerns of Water Pollution Control Division employees regarding unfair treatment, including disparate treatment in promotional opportunities and the administration of discipline, and propose appropriate follow-up actions as needed.

7.2 Direct the Director of Financial Services to evaluate the availability and the cost effectiveness of alternative providers for the after-hour, call-taking service required for Sewer Operations services.

The Water Pollution Control Division Manager should:

7.3 Revise the administrative Policies and Procedures Manual to include all current Public Utilities Commission policies as a priority.

7.4 Revise the Materials Management Policies and Procedures Manual to include all current Public Utilities Commission policies as a priority.

7.5 Revise the Maintenance Management Policies and Procedures Manuals as necessary to include all current Public Utilities Commission policies and to reflect current Maintenance Division practices.

7.6 Require compliance with the Maintenance Management Policies and Procedures including:

(a) Developing and implementing the "Weekly Work Schedule";

(b) Investigating the feasibility of implementing "job cards" or other bar chart procedures in Maximo, Microsoft Project, or other systems;

(c) Implementing the "warranty" module in Maximo, including a system to track preventive maintenance on equipment under warranty.

7.7 Require all Water Pollution Control Division managers and supervisors to complete performance evaluations for all staff annually.

7.8 Include completion of staff performance evaluations annually as a goal and objective in the Water Pollution Control Division managers' and supervisors' performance evaluations.

7.9 Establish policies and practices, in conjunction with the Director of Human Resources, to improve morale within the Maintenance Division, including setting acceptable work standards, recognizing good work performance, and taking appropriate action when performance standards are not met.

7.10 Establish procedures for and monitor compliance with the "Entrance-Exit Form", including ensuring the correct use of the form and forwarding the forms to the Bureau of Human Resources.

7.11 Comply with Policy 3.9 of the Water Pollution Control Division's Policies and Procedures Manual, which requires that annually no Water Pollution Control Division employee may work overtime hours in excess of 16 percent of his or her regularly scheduled hours without the prior approval of the Appointing Officer, or obtain a waiver from the Appointing Officer excluding pre-scheduled overtime hours from the 16 percent hurdle calculation.

7.12 Direct the Maintenance Manager to continue developing the "Management by Objectives" report as a management tool to monitor the performance of the maintenance crews.

7.13 Direct the Maintenance Manager and Materials Coordinator to inventory all items in Lot B, assess the usefulness of each item, bring the items selected for retention under inventory control, and dispose of surplus items in accordance with Public Utilities Commission policy.

7.14 Direct the Maintenance Manager to establish procedures to inventory all tools and equipment in the Southeast Water Pollution Control Plant tool room annually and to ensure that all items are marked.

7.15 Direct the Maintenance Manager to establish written policies and procedures regarding inventory and accountability of all tools and equipment, including identification of staff members responsible for location of tools and equipment at all times and sign-out procedures for tools and equipment.

7.16 Develop performance objectives that are stated in measurable terms for each of the Division's Key Results Areas.

## Section 8. Managing the Interface Between the Public Utilities Commission and the Department of Public Works

The Public Utilities Commission General Manager and the Director of Public Works should jointly:

8.1 Determine if there is additional cost and schedule information which needs to be electronically shared between the parties.

8.2 Ensure that all reporting systems permit appropriate information exchange and results verification.

8.3 Determine how data protocols can be structured so that personnel in both departments can view the management reporting databases operated by the Department of Public Works.

8.4 Ensure that all field operations information is stored electronically, rather than having some information held in paper-based document form.

8.5 Ensure accurate data exchange between Department of Public Works databases and the FPS payroll and FAMIS financial management systems to capture all project expenditures.

8.6 Ensure, to the degree possible, that all data exchange is in the form of user-friendly information.

8.7 Commission a comparative analysis of the cost of sewer repair services provided by the Bureau of Street and Sewer Repair and third party contractors.

8.8 Conduct a joint space needs analysis of the City and County of San Francisco Yard and adjacent Public Utilities Commission space to ensure the two departments' optimal usage of those sites, and to clarify property ownership issues within the City and County of San Francisco Yard.

## Section 9. The Clean Water Enterprise's Organizational Structure

The Public Utilities Commission General Manager should:

9.1 Reassign management responsibility for the Water Pollution Control Division from the Assistant General Manager, Operations to the new Assistant General Manager, Clean Water position.

9.2 Reassign management responsibility for the Pretreatment, Pollution Prevention and Storm Water Program from the Manager, Bureau of Environmental Regulation and Management, to the new Assistant General Manager, Clean Water position.

9.3 Reassign management responsibility for the Clean Water Master Plan from the General Manager's Office and the Infrastructure Division to the new Assistant General Manager, Clean Water position.

9.4 Transfer the Classification 0932 Manager IV, Clean Water Regulatory Compliance position from the Planning Bureau to the new Clean Water Enterprise.

9.5 Eliminate the vacant Classification 5620 Regulatory Specialist, Clean Water Regulatory Compliance position in the Planning Bureau.

9.6 Assign management responsibility for the incoming Hydraulic Section to the Principal Engineer of the Water Pollution Control Division.

9.7 Direct the Assistant General Manager, Clean Water, as recommended in Section 10, to develop an optimal organizational structure to integrate like functions, create appropriate spans of management control, rationalize the administrative support positions, and manage the risks associated with the consolidation.

9.8 Direct the executive management team to develop intradepartmental protocols that ensure that the executive management team is not the sole policy and planning coordination point in the Department.

The Public Utilities Commission General Manager and the Director of Public Works should:

9.9 Negotiate the specific Hydraulic Section resources to be transferred to the Public Utilities Commission.

## Section 10. Assistant General Manager, Clean Water

The Public Utilities Commission General Manager should:

10.1 Establish a new Classification 5166 Assistant General Manager, PUC position for the new Assistant General Manager, Clean Water. This position should be a direct report to the General Manager.

10.2 Conduct an extensive internal and external recruitment process for the new Assistant General Manager, Clean Water position to ensure the selection of a highly qualified industry specialist with the necessary level of management experience.

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# Introduction

On May 18, 2004, the Board of Supervisors adopted a motion directing the Budget Analyst to perform a management audit of the Public Utilities Commission (Motion No. M04-57), and on June 29, 2004, the Board of Supervisors adopted a motion directing the Budget Analyst to prioritize an analysis of sewer service charges, which were scheduled to take effect July 1, 2004, as part of the management audit of the Public Utilities Commission (Motion No. M04-77).

## Purpose and Scope

The purpose of this management audit is to evaluate the economy, efficiency, and effectiveness of the Public Utilities Commission's programs, activities, and functions, and the Public Utilities Commission's compliance with applicable State and Federal laws, local ordinances, and City policies and procedures. The management audit will also assess (i) the appropriateness of established goals and objectives, (ii) strategies and plans to accomplish such goals and objectives, (iii) the degree to which such goals and objectives are being accomplished, and (iv) the appropriateness of controls established to provide reasonable assurance that such goals and objectives will be accomplished. The management audit includes a review of all of the divisions within the Public Utilities Commission.

The management audit will be conducted in four phases:

- Phase I is a review of the Clean Water Enterprise Fund's programs, activities, and functions, including a review of the sewer service charges.

- Phase II is a review of the Hetch Hetchy Enterprise Fund's programs, activities, and functions, including water and power operations, and power policy.

- Phase III is a review of the Water Enterprise Fund's programs, activities, and functions, including water supply, treatment, and distribution for regional and City customers.

- Phase IV is a review of the programs, activities, and functions of the Public Utilities Commission as a whole, including the Capital Improvement Program, administrative functions, and enterprise functions, such as asset management, that affect all three enterprise funds.

This report is Phase I of the management audit, which is a review of the Clean Water Enterprise Fund's programs, activities, and functions. The Phase I report includes a review of:

- Sewer service charges and the financial condition of the Clean Water Enterprise Fund.

- Clean Water Enterprise Fund budgetary and financial planning.
- Clean Water capital planning and the related public participation process.
- The Water Pollution Control Division's personnel administration and maintenance management.
- The interface between the Department of Public Works and the Clean Water Enterprise Fund's programs.
- The structural organization of Clean Water Enterprise Fund activities, divisions, and programs.

## Audit Methodology

The management audit was conducted in accordance with *Governmental Auditing Standards, 2003 Revision,* issued by the Comptroller General of the United States, U.S. General Accounting Office. In accordance with these requirements and standard management audit practices, we performed the following management audit procedures:

- An entrance conference was held with the Acting General Manager and key members of the Public Utilities Commission management staff to present the audit work plan, discuss audit procedures and protocol, request certain background information, and respond to questions.
- A pre-audit survey was conducted to familiarize the management audit staff with the operations and records maintained by the Public Utilities Commission's various departments and divisions and to identify areas requiring additional review. As part of the survey phase, the management audit staff conducted interviews with executive and management staff throughout the organization.
- The management audit staff conducted field work to develop a more detailed understanding of selected departmental operations. Field work activities included additional interviews with selected managers, supervisor and line staff, representatives from other City and County departments, and members of community organizations and advisory committees. Additionally, the management audit staff reviewed (i) Federal, State, and local codes, laws, and regulations governing the functions and practices of the Clean Water Enterprise Fund; (ii) examined various documents, reports and work products prepared by the Public Utilities Commission; (iii) reviewed the Clean Water Enterprise Fund's audited financial statements; (iv) reviewed studies, reports, and assessments prepared by other consultants; (v) obtained and analyzed various data and financial reports, contracts, and agreements; and (vi) evaluated the effectiveness of the various tools used by the Public Utilities Commission management to oversee the activities of the organization.
- The management audit staff presented a draft report to the Public Utilities Commission management on September 10, 2004. This draft report analyzed the

information and data gathered during Phase I of the management audit and contained our initial findings, conclusions, and recommendations.

- The management audit staff held an exit conference with the General Manager and key members of the Public Utilities Commission's management staff on September 17, 2004, to discuss the draft report. During the period between delivery of the draft report and the exit conference, the Public Utilities Commission was able to request clarification of the findings and recommendations, and provided additional information related to the findings. Based on the additional information provided, the management audit staff prepared a final report. The Public Utilities Commission has provided a written response to the Budget Analyst's Phase I Clean Water Enterprise Fund management audit report, which is appended to this report.

# Overview of the Clean Water Enterprise Fund

The Clean Water Enterprise Fund is responsible for collecting and treating waste water. In San Francisco, clean water functions include both sewer collection and wastewater treatment. Additionally, the storm water system is combined with the sewer system, so that storm water flows into the sewer through street drains and is treated in the wastewater treatment plants.

The sewer service charge, paid by the City's residents and businesses, provides revenues for the operation and maintenance of the City's sewer system and wastewater treatment plants. The Clean Water Enterprise Fund also receives some revenues from charges for services to special districts, property rentals, recoveries from other City agencies, interest earned on cash accounts, and other miscellaneous sources.

Most of the Clean Water Enterprise Fund functions, programs, and activities were transferred from the Department of Public Works to the Public Utilities Commission between 1996 and 1997. The Public Utilities Commission assumed ownership and management of clean water system facilities, including the sewer system and the wastewater treatment plants. The Public Utilities Commission also assumed responsibility for (i) the industrial waste program, which became the Pretreatment, Pollution Prevention, and Storm Water Program of the Bureau of Environmental and Regulatory Management, (ii) clean water planning functions, and (iii) the wastewater laboratories.

## Organization of the Clean Water Enterprise Fund Within the Public Utilities Commission

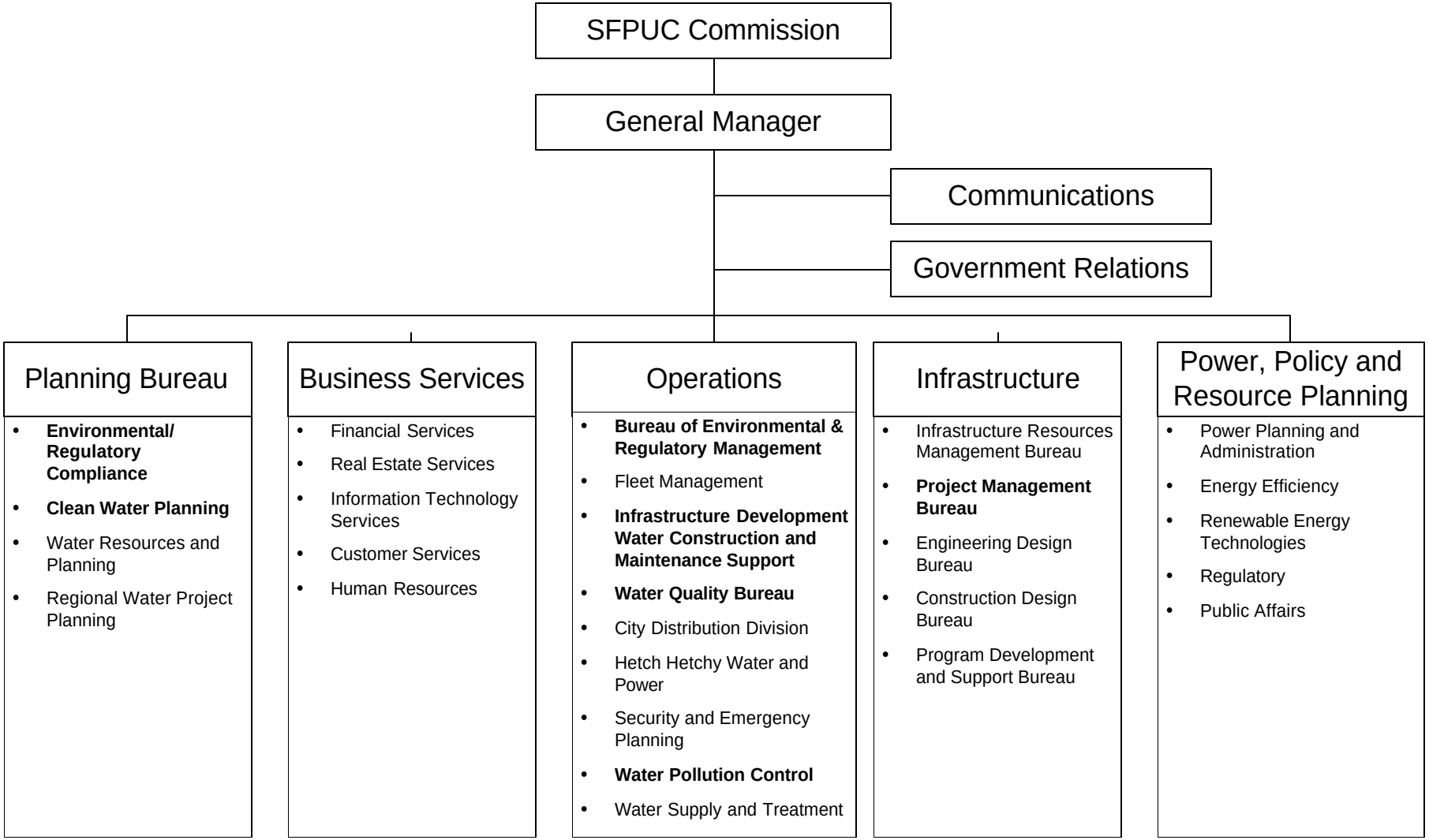
Currently, clean water functions, programs, and activities are not consolidated into one division within the Public Utilities Commission. The Assistant General Manager for Operations is responsible for (i) the sewer operations and wastewater treatment plant maintenance and operations, under the Water Pollution Control Division, (ii) the Bureau of Environmental and Regulatory Management's Pretreatment, Pollution Prevention, and Storm Water Program, and (iii) the Water Quality Bureau's Southeast and Oceanside

Water Pollution Control Plant Laboratories. The Infrastructure Development, Water Construction, and Maintenance Support function and the Infrastructure Project Management Bureau have some engineering staff with responsibility for clean water programs and the Planning Bureau has staff responsible for some clean water planning and environmental and regulatory compliance activities.

The Department of Public Works has continued to be responsible for hydraulic engineering functions for the Clean Water Enterprise Fund, and for street and sewer repairs.

Exhibit I on the following page is the Public Utilities Commission organization chart, as of August 17, 2004. The recently appointed General Manager has appointed new senior personnel, including a Deputy General Manager, to assist her in coordinating activities across the existing divisions on key issues. The public announcement of a new management structure for the Department is imminent.

# SAN FRANCISCO PUBLIC UTILITIES COMMISSION
## General Managers Organization Chart



## Clean Water Enterprise Fund Revenues and Expenditures

In FY 2004-2005, the Clean Water Enterprise Fund operating budget is $141,094,980 and total budget, including capital projects is $190,379,812. The FY 2004-2005 Clean Water Enterprise Fund operating budget is shown in Table 1.

### Table 1

### FY 2004-2005 Clean Water Enterprise Fund Operating Budget

| **FY 2004-2005 Clean Water Enterprise Fund** | |
|---|---|
| **Clean Water Enterprise Fund Revenues** | |
| San Francisco sewer service charges | $141,564,420 |
| Special district sewer charges | 4,000,000 |
| Interest earned | 2,876,179 |
| Property rentals | 427,000 |
| Bond proceeds | 33,870,250 |
| Interdepartmental recoveries | 4,995,300 |
| Unallocated expenditure recoveries | 89,000 |
| Use of fund balance | 2,361,381 |
| General fund | 196,282 |
| **Total Clean Water Enterprise Fund Revenues** | **$190,379,812** |
| **Expenditures** | |
| Salaries and mandatory fringe benefits | $37,091,663 |
| Citywide overhead | 2,093,863 |
| Non personal services | 8,828,659 |
| Materials and supplies | 8,626,131 |
| Equipment | 735,741 |
| Debt service | 37,351,062 |
| Services of other departments | 43,724,861 |
| Annual Projects | 672,000 |
| Continuing Projects | 1,971,000 |
| **Subtotal, operating expenditures** | **$141,094,980** |
| SE Community | 196,282 |
| Repair & replacement | 15,218,300 |
| Capital | 33,870,250 |
| **Total Clean Water Enterprise Fund Expenditures** | **$190,379,812** |

Source: FY 2004-2005 Annual Appropriation Ordinance

## Proposition E and Sewer Service Charge Increases

In FY 2004-2005, the Public Utilities Commission adopted new sewer service charges, resulting in an 11 percent increase in revenues. The FY 2004-2005 sewer service charge increase was the first increase since FY 1996-97. In November of 1998, San Francisco voters approved Proposition H, which prohibited sewer service charge increases until July 1, 2006. In November of 2002, San Francisco voters approved Proposition E, which authorized the Public Utilities Commission to increase sewer service charges, subject to approval or disapproval by the Board of Supervisors within 30 days of submission. Pursuant to Proposition E, if the Board of Supervisors fails to approve or disapprove proposed increases to the sewer service charges, the sewer service charge becomes effective without further Board of Supervisors action. The Board of Supervisors did not act on the proposed FY 2004-2005 sewer service charge increase, and therefore, the sewer service charge increase became effective without Board of Supervisors action on July 15, 2004.

Proposition E established a Rate Fairness Board to oversee the sewer service charges and required the Public Utilities Commission to retain an outside consultant every five years to assist the Public Utilities Commission with setting rates.

Proposition E also authorized the Public Utilities Commission to issue revenue bonds to fund capital improvements to clean water facilities and services, upon a two-thirds vote of the Board of Supervisors. The Public Utilities Commission has implemented a planning process to develop a Clean Water Master Plan. The Clean Water Enterprise Fund has significant capital needs. The Clean Water Master Plan is expected to be completed in the fall of 2007 with construction of clean water capital improvement projects to begin sometime between 2009 and 2011. The resulting clean water capital improvement program could cost between $1 billion and $2 billion. Department staff have identified approximately $100 million to $150 million in interim capital improvement projects that will be required prior to construction of the Clean Water Master Plan projects.

Sewer service charges, Clean Water Enterprise Fund debt management and financial planning, and planning for clean water capital needs are discussed in detail in this management audit report.

# Key Issues Not Addressed in Phase I of the Management Audit

## Issues that Cross the Public Utilities Commission as a Whole

In the management audit review of the Clean Water Enterprise Fund, we identified several issues that will be addressed in detail in later phases of the management audit.

Centralization or Decentralization of Planning and Business Services

Currently, the planning and business services support for the Clean Water, Hetch Hetchy, and the Water Enterprise Funds are centralized within the Public Utilities Commission Administration. Costs for planning and business services support are allocated to the three enterprise funds through an annual cost allocation plan. The management audit will evaluate the effectiveness and efficiency of continuing to provide planning and business services support centrally or decentralizing some of these functions to the business enterprises. Centralization and decentralization of planning and business services will be discussed in the Phase IV management audit report.

Charging for Services Between Divisions Within the Public Utilities Commission

During Phase I, the management audit staff noted deficiencies in the tracking of costs between divisions within the Public Utilities Commission. For example, the Water Quality Bureau's Southeast and Oceanside Water Pollution Control Plant Laboratories provide services to the Bureau of Environmental and Regulatory Management's Pretreatment, Pollution Control, and Storm Water Program, but do not track the costs of providing such services and do not charge for such services. Because the divisions within the Public Utilities Commission do not consistently charge for services provided to other divisions, the costs for these services are hidden, weakening control over expenditures. The management audit staff will assess tracking of costs, charging for services, and expenditure controls between Public Utilities Commission divisions during the management audit, and will discuss these issues in the Phase IV management audit report.

Maintenance Practices and Management of Assets

Currently, the programs funded by the Clean Water, Hetch Hetchy, and Water Enterprise Funds have separate maintenance policies and procedures and maintenance management practices specific to each program. The Public Utilities Commission has not implemented standard policies and procedures and maintenance management practices across the three programs to ensure consistent quality and effectiveness in facility maintenance.

Also, the Public Utilities Commission Administration has recently initiated a planning process across the three business enterprise funds to develop and implement a department-wide asset management program, identifying historic and future costs of physical assets and the risk from asset failure. Although each of the three business enterprise funds uses the computer maintenance management system, Maximo, each enterprise fund has employed different levels of functionality for Maximo.

This management audit report addresses the maintenance policies and procedures and maintenance management practices of the Clean Water Enterprise Fund's Water Pollution Control Division in Section 7 of this Phase I report. The management audit will assess the Hetch Hetchy and Water Enterprise Funds' maintenance policies and

procedures and maintenance management practices in Phases II and III of the management audit, and will assess and discuss maintenance practices and asset management across the Public Utilities Commission as a whole in Phase IV of the management audit.

Security Assessment and Planning

The Water Pollution Control Division's security arrangements for the Southeast and Oceanside Water Pollution Control Plants include monitoring cameras, perimeter fencing at the Southeast Water Pollution Control Plant[1], and an electronic access system to enter the premises. The Water Pollution Control Division has (a) developed a security contingency plan, using a security planning and assessment tool approved by the Federal Environmental Protection Agency, and (b) hired the services of an outside consultant, the C.H. Guernsey Company, to conduct a security walk through and prepare a draft report regarding the Water Pollution Control Division's security needs. The Water Pollution Control Division's security committee, which consists of maintenance and operations supervisors and staff, is currently reviewing the consultant's draft report, and will develop proposals regarding the Water Pollution Control Division's security needs for the FY 2005-2006 budget.

The Budget Analyst will review the Public Utilities Commission's security assessment and security plans during Phase IV of the management audit.

Southeast Community Childcare Facilities

The Department provides property management services for four city-owned childcare facilities: the E.P. Mills Facility, California Association for Health, Education, Employment, and Dignity, Inc. (CAHEED), Martin Luther King Childcare, and Sojourner Truth Childcare Center. A review of these facilities is out of the scope of this audit. However, based on observation, these four facilities appear to have deferred maintenance issues. Department staff indicated that the Department's annual budget only includes funds for general maintenance of these facilities and that it is the tenants' responsibility to secure funding for major improvements. However, the Budget Analyst questions whether the tenants have sufficient ability to secure funding for major improvements and notes the potential liability for the City. The Budget Analyst recommends that the Public Utilities Commission further explore this issue.

# Clean Water Enterprise Fund Accomplishments

The management audit team invited the Public Utilities Commission to submit written statements of the Clean Water Enterprise Fund accomplishments that it perceives have occurred in recent years. The accomplishments provided are as follows:

[1] Because of the location and design of the Oceanside Water Pollution Control Plant, perimeter fencing is not necessary.

- Mercury Permit Program: San Francisco is the first large California municipality to implement a permit program that involves the installation of amalgam separators in dental offices to remove mercury from the City's sewer system. The Department identified wastewater from dental offices as a significant source of mercury into the City's wastewater treatment system. In just eight months since the beginning of the permit program, 98 percent of all dental offices in the City have installed separator equipment to keep mercury out of the City's sewer system. The program has drawn positive media attention and placed the Department in a utility leadership position.

- Water Pollution Control Division Awards: The Water Pollution Control Division has won a number of awards, including those awarded by the California Association of Sanitation Agencies (2004 Special Merit Award for Regional Cooperation), the Federal Environmental Protection Agency (2004 National Operations and Maintenance Excellence Award), California Water Environment Association (2003 Large Treatment Plant of the Year Award), Association of Metropolitan Sewerage Agencies (Peak Performance Awards between 1999 and 2003), and the American Public Works Association (2001 Award of Merit).

## Acknowledgements

We would like to thank the management and staff of the Public Utilities Commission for their cooperation during Phase I of this management audit. We hope the findings contained in this report provide a useful tool for the new General Manager as she improves the operations of the Clean Water Enterprise Fund during her tenure.

# 1. Designing the Sewer Service Charge

- **The Public Utilities Commission adopted sewer service charge increases in FY 2004-2005 to meet an 11 percent increase in FY 2004-2005 Clean Water Enterprise Fund revenue requirements. The Public Utilities Commission will have to consider additional sewer service charge increases in the coming fiscal years to pay for projected increases in Clean Water Enterprise Fund operating and maintenance expenses, debt service payments, and interim capital needs.**

- **In FY 2004-2005, the Rate Fairness Board and the Public Utilities Commission are considering both the need for sewer service charge increases to meet Clean Water Enterprise Fund revenue requirements in the coming fiscal years and alternative sewer service charge rate structures. The Rate Fairness Board is considering the elimination of the residential lifeline, or base, rate, which is applied to the first three units of service, because the lifeline rate neither recovers the costs of providing service nor meets the Rate Fairness Board's policy goal of providing an income-based rates for low-income residential customers.**

- **In considering alternative sewer service charge rate structures, the Rate Fairness Board and the Public Utilities Commission need to consider how the alternative rate structures impact the stable flow of revenues to the Clean Water Enterprise Fund, promote water conservation, and overall impact the combined water and sewer service bill of residential customers. Projected increases in both water and sewer service charges in the next few fiscal years to pay for necessary capital improvements to water and clean water facilities and increased revenue requirements will have a large impact on the combined monthly water and sewer bill for residential customers.**

- **The Public Utilities Commission Financial Services staff should continue to evaluate and present information to the Rate Fairness Board on the impact of alternative rate designs on residential sewer service customers. The analysis should include how alternative rate structures affect water conservation, ensure stable revenues to the Clean Water Enterprise Fund, and minimize the impact to customers of combined increases in the water and sewer service charges over the next few fiscal years.**

# Implementation of New Sewer Service Charges

The Public Utilities Commission Clean Water Enterprise program provides sewer collection and wastewater treatment services for the City of San Francisco and some non-City customers. The operating costs of sewer and wastewater treatment services and debt service costs for capital improvements are paid almost entirely by sewer service charge revenues. The Public Utilities Commission implemented new sewer service charges on July 15, 2004, after eight years without a rate increase.

When the San Francisco voters approved Proposition H in June of 1998, which froze the sewer service charges, sewer service charges had not been increased since 1996. In November of 2002, the voters of San Francisco approved Proposition E[1], which authorized the Public Utilities Commission:

- To set sewer service charges sufficient to meet and maintain the operation, maintenance, and financial needs of the wastewater collection and treatment system. Under Proposition E, the sewer service charges set by the Public Utilities Commission are subject to rejection within 30 days of submission by resolution of the Board of Supervisors. If the Board of Supervisors fails to act on proposed increases to the sewer service charges, the sewer service charges take effect.

- To issue revenue bonds to fund capital improvements to clean water facilities and services, upon a two-thirds vote of the Board of Supervisors.

Proposition E also established a Rate Fairness Board to oversee the sewer service charges and water rates and required the Public Utilities Commission to retain an outside consultant to assist the Public Utilities Commission with setting rates for sewer services every five years.

The Public Utilities Commission approved an increase in the FY 2004-2005 sewer service charge to meet an 11 percent increase in Clean Water Enterprise Fund revenue requirements. The Board of Supervisors did not act on the proposed FY 2004-2005 sewer service charge increase, and therefore, the sewer service charge increase became effective without Board of Supervisors action.

## The Wastewater Rate Study and the Rate Fairness Board

Prior to implementing the new sewer service charges on July 15, 2004, an independent consultant, Black and Veatch, submitted their *San Francisco PUC Clean Water Enterprise Wastewater Rate Study* ("Wastewater Rate Study") to the Public Utilities Commission. The Wastewater Rate Study recommended an immediate 30 percent increase in sewer service rates to cover the operating, maintenance, capital and other

[1] Proposition E includes both sewer service charges and water rates. The impact of Proposition E on water rates will be discussed in Phase III of the management audit.

costs of providing sewer and wastewater treatment services, based on the projected FY 2004-2005 costs of sewer and wastewater treatment services.

The Public Utilities Commission Financial Services staff presented an alternative proposal to the Rate Fairness Board, which recommended three incremental sewer service charge increases to meet 11 percent increases in revenue requirements annually from FY 2004-2005 through FY 2006-2007, resulting in a cumulative increase over a three year period of 36.8 percent. According to the February 23, 2004 *Preliminary Report on Sewer Rates Fiscal Year 2005*, prepared by Public Utilities Commission Financial Services staff, the staff proposed to increase rates by an average of 11 percent in each fiscal year from FY 2004-2005 through FY 2006-2007 to fund operations and provide appropriate debt service coverage.

The Rate Fairness Board agreed with the Financial Services staff recommendation to increase sewer service charges to meet an 11 percent increase in revenue requirements in FY 2004-2005, but recommended postponement of further rate increases until the Rate Fairness Board had the opportunity to analyze and discuss alternative rate structures and rate components. The Public Utilities Commission adopted the sewer service charge increase to meet the 11 percent increase in FY 2004-2005 revenue requirement.

## San Francisco Sewer Service Customers

The Water Pollution Control Division provides sewer collection and wastewater treatment services to residential, commercial, industrial, and municipal customers. Both single family residence and multiple family residence customers are charged the residential rate. Commercial, industrial, and municipal customers are charged the commercial and industrial rate. Residential customers make up 87.2 percent of all sewer service customers. Commercial and municipal customers make up 12.7 percent, and industrial customers make up 0.1 percent.

### Table 1.1

### The Number of Sewer Service Customers and Annual Payments by Type as of June 30, 2004

| Customer Type | Number of Accounts | Percent of Total Accounts | Total FY 2003-2004 Sewer Service Charge Payments | Percent of All Payments |
|---|---|---|---|---|
| Commercial | 20,931 | 12.40% | $48,533,304 | 37.60% |
| Industrial | 108 | 0.10% | 681,401 | 0.50% |
| Municipal | 1,690 | 0.30% | 5,868,597 | 1.10% |
| Multiple family residential | 38,477 | 22.70% | 44,762,841 | 34.60% |
| Single family residential | 109,121 | 64.50% | 33,836,080 | 26.20% |
| **Total** | **170,327** | **100%** | **$133,682,223** | **100%** |

Source: Public Utilities Commission Customer Services Division

# Components of the Sewer Service Charge

In San Francisco, sewer service charges are based upon the volume of water used by the customer and the amount of pollutants in the wastewater.

## Volume Flow Factor and Discharge of Pollutants

Volume Flow Factor

Because not all water that is used by the customer is discharged to the sewer system, the sewer service charges are based on an estimated percentage of the metered water volume that is returned to the sewer, or "flow factor". The sewer service charge per unit of service[2] for residential and nonresidential customers includes the flow factor. For example, under the Schedule of Sewer Service Charges adopted by the Public Utilities Commission on June 15, 2004, the sewer service charge for nonresidential customers is $4.42 per 100 cubic feet, or one unit of service. This sewer service charge of $4.42 per 100 cubic feet assumes that for every unit of water that is used by the nonresidential customer, 90 percent of the water is returned to the sewer.

Discharge of Pollutants or Wastewater "Strength"

Sewer service charges are also based on the concentration of pollutants, or "strength", of the wastewater discharged into the sewer system, which includes oil and grease, suspended solids, and oxygen demand from the break down of biologic material. The costs of wastewater treatment for residential and nonresidential customers vary by the concentration of oil and grease, suspended solids, and biologic oxygen demand in the wastewater discharge. In setting sewer service charges, the same wastewater strength, or concentration of pollutants, is assigned to all single family and multiple family residential customers. Nonresidential customers are assigned wastewater strength, based on property use, as discussed below.

The sewer service charge per unit of service equals the volume charge per unit of service plus the strength charge per unit of service.

The sewer service bill equals the total number of units of service times the sewer service charge per unit of service. Components of Single Family Residence Customers' Sewer Service Charges.

Single family residential customers pay sewer service charges based on (i) a 90 percent flow factor, which assumes that 90 percent of the water used by the customer is discharged to the sewer, plus (ii) the estimated wastewater strength, or concentration of oil and grease, suspended solids, and biologic oxygen demand, in domestic wastewater discharge. If a larger percentage of the customer's water use does not discharge to the sewer, such as water used for irrigation of lawns and gardens, then the customer may request a flow factor of less than 90 percent

[2] A unit of service equals one hundred cubic feet or approximately 748 gallons.

Components of Multiple Family Residence Customers' Sewer Service Charges

Multiple family residential customers pay sewer service charges based on (i) a 95 percent flow factor, plus (ii) the estimated wastewater strength in domestic wastewater discharge. Prior to the implementation of the new sewer service charges, multiple family residential customers had a 90 percent flow factor. The Wastewater Rate Study report, presented by Black and Veatch, found that multiple family residential customers discharged most of their wastewater to the sewer system. The Public Utilities Commission approved an increase in the flow factor to 95 percent for multiple family residential customers.

Components of Commercial and Industrial Customers' Sewer Service Charges

Commercial, including municipal, and industrial customers pay sewer service charges based on both the flow factor and the amount of pollutants in the wastewater. The default flow factor for commercial and industrial customers is 90 percent, although this can be adjusted based on the actual percentage of wastewater discharged to the sewer system.

*Classifying Wastewater Strength for Commercial and Industrial Customers*

Commercial and industrial customers are grouped into classes, or Standard Industrial Classification codes, based on the commercial or industrial use of the property. Because different property uses result in different wastewater strength, the sewer service charge is based on the wastewater strength for the specific Standard Industrial Classification code. For example, restaurants discharge a high volume of oil and grease and the sewer service charge is based on a higher strength of oil and grease than other commercial uses. Many commercial and industrial users are charged for sewer services based on the standard strength for their Standard Industrial Classification code.

Industrial customers that discharge high volumes of wastewater or high concentrations of pollutants are charged for sewer services based on the actual amount of pollutants that they discharge into the sewer system. The Pretreatment, Pollution Prevention, and Storm Water Program of the Bureau of Environmental and Regulatory Management classifies industrial users into (i) federal categorical industrial users, (ii) significant industrial users, and (iii) minor industrial users.

The Pretreatment, Pollution Prevention, and Storm Water Program regularly inspects federal categorical and significant industrial users, samples the wastewater discharge, and assigns wastewater strength based on the specific strength of their wastewater discharge. In calendar year 2003, the Pretreatment, Pollution Prevention, and Storm Water Program identified 593 minor industrial users, which includes veterinary hospitals, wholesale bakeries, commercial printing, and other miscellaneous industrial uses. Of these minor industrial users, only a small number are sampled during the course of the year.

## Volume-based Sewer Service Charges vs. Fixed Charges

In San Francisco the costs of providing sewer services are distributed across residential and nonresidential sewer system users. As noted above, San Francisco sewer system customers pay for sewer services based on their metered water volume times a flow factor, plus the wastewater strength, or concentration of pollutants, in their wastewater discharge.

Most California agencies charge fixed rates for sewer and wastewater treatment services for residential customers instead of rates based on the volume of water used and a flow factor. According to the California Water Resources Control Board, more than 77 percent of California agencies charge fixed rates for sewer services to residential customers. However, city systems that serve large populations tend to charge sewer service rates based on volume. Of the six largest California jurisdictions, the cities of Sacramento and San Jose charge a fixed rate but the cities of Los Angeles, San Diego, San Francisco, and Oakland base their sewer service charges on volume.

Historically, utilities began charging for services without the benefit of metering water volume, and therefore, utilities charged a fixed rate or fee for water and sewer services. Agencies which do not provide both water and sewer services do not have direct access to water volume data and can more easily charge fixed rates for sewer services than volume-based rates.

Fixed rates and volume-based rates each have advantages and disadvantages, and different rate structures achieve different goals. Fixed rates based on equivalent dwelling units, as discussed below, are simple in design, and generate more stable revenues. Because revenues are based on the number of dwelling units (i.e., single family residences) rather than volume, reductions in volume resulting from water conservation or other causes do not result in revenue reductions.

On the other hand, volume-based rates can contribute to the sewer service customer's decision to reduce water use. Although decisions to reduce water consumption are based primarily on the individual's water use, the sewer service charge in San Francisco is the larger component of the combined monthly water and sewer service bill. If sewer service charges are volume-based, increases in the volume of water consumption lead to corresponding increases in volume-based sewer service charges and, in the combined water and sewer bill, provide a cost incentive to customers to reduce water consumption.

Because the Public Utilities Commission is a combined water and wastewater utility, it has direct access to meter reading and water volume data. While many wastewater agencies adopt fixed rates because they do not have easy access to meter reading and water volume data, the Public Utilities Commission has meter reading and water volume data in the billing system, simplifying the billing for sewer services based on volume.

## The Clean Water Enterprise Program's Fixed and Variable Operating Expenses

Sewer service system costs are largely fixed in the short term. Labor and fringe benefit costs, which comprise the largest share of the Clean Water Enterprise's operating and maintenance expenditures, are fixed in the short term. In FY 2002-2003, salary and fringe benefit costs comprised approximately 45.1 percent of the Clean Water Enterprise program's operating expenditures.[3]

In San Francisco, the major short-term variable costs for changes in wastewater flow are electricity, chemicals, and contractual costs for sludge removal. In FY 2002-2003, the Clean Water Enterprise program spent $2.7 million for the sludge hauling contract, $3.9 million for chemicals, and $9.3 million for electricity costs. Electricity, chemicals, and sludge hauling comprised approximately 24.3 percent of the FY 2002-2003 Clean Water Enterprise program operating expenditures.

Because sewer service system costs are largely fixed in the short term, reductions in wastewater volume do not result in corresponding reductions in costs. Also, because the San Francisco sewer service system includes storm water as well as wastewater, reductions in water consumption affect wastewater flow but not storm water flow. For example, in FY 2001-2002, Clean Water Enterprise Fund revenues declined due to a 3 percent decline in water consumption.[4] Although sewer service charge revenues declined from $136.8 million in FY 2000-2001 to $129.9 million in FY 2001-2002, operating expenditures increased from $59.9 million in FY 2000-2001 to $62.9 million in FY 2001-2002.[5]

## Fixed Rates Based on Equivalent Dwelling Units

During FY 2004-2005, the Rate Fairness Board will consider alternatives to the current structure of San Francisco's sewer service charges. Many California agencies base the sewer service charges on the expected amount of wastewater flow for a single family dwelling. This base amount is considered the "equivalent dwelling unit". The amount of wastewater flow for the single family residence is often based on water consumption during the winter months, when residents do not irrigate gardens, and therefore, most water is returned to the sewers. Sewer system customers that discharge larger volumes of wastewater or higher levels of pollutants, or "strength", may be billed for sewer services based on a multiplier of the equivalent dwelling unit. In many agencies, residential

[3] According to the Public Utilities Commission Financial Services staff, salary and fringe benefit expenditures were $29.6 million of total Clean Water Enterprise program operating expenditures of $65.5 million. These expenditures do not include Public Utilities Administration overhead expenditures allocated to the Clean Water Enterprise Fund, debt service payments, revenue-funded capital expenditures.

[4] FY 2001-2002 Clean Water Enterprise Fund audited financial statement.

[5] Revenue and expenditure data was provided by the Public Utilities Commission Financial Services. Operating expenditures include all Clean Water Enterprise program operating expenditures, but exclude Public Utilities Commission Administrative overhead allocated to the Clean Water Enterprise Fund, debt service payments, and revenue-funded capital expenditures.

customers are billed based upon the equivalent dwelling unit but commercial and industrial customers are metered and billed accordingly..

Equivalent dwelling unit rates are based on the costs of service and the estimated average flow per equivalent dwelling unit. According to Black and Veatch, the typical design flow for a single family residence is approximately 240 gallons per day, which is equivalent to 10 one hundred cubic feet per month or 10 units per month. However, the Public Utilities Commission considers the average monthly water consumption for single family residences in San Francisco to be 7 one hundred cubic feet or 7 units.

Residential rates based on equivalent dwelling units can be set in a number of ways:

- Rates could be established for a single family residence based on the costs of service for average water consumption and the estimated flow factor. The estimated flow factor could remain at 90 percent or be calculated in some other manner, such as on winter usage.

- Rates could be established for consumption blocks: for example, (a) the top 20 percent of water consumers would pay higher than median costs, (b) the middle 60 percent of water consumers would pay median costs, and (c) the bottom 20 percent of water consumers would pay less than median costs.

- Water and sewer rates could be combined, with a fixed flat rate representing fixed costs and a variable rate representing the variable costs of operations. Wastewater collection and treatment has high fixed costs, and decreases in volume do not result in corresponding decreases in costs. Therefore, if 85 percent of costs are fixed, the flat rate would represent 85 percent of costs and the variable rate, based on volume, would represent costs which vary with volume.

If the Public Utilities Commission were to adopt a residential sewer service charge based on equivalent dwelling units and average monthly water volume for all customers, rather than the current structure based on volume, the monthly sewer bill would increase for low volume customers and decrease for high volume customers. To the extent that sewer system costs are fixed, billing all residential customers for average costs is reasonable. However, residential customers would lose their current discretion to reduce the amount of the combined water and sewer service bill, of which the volume based sewer service charge is the larger component, by reducing water use. If the Public Utilities Commission were to consider adopting fixed rates based on equivalent dwelling units, the Public Utilities Commission could mitigate the impact on low volume customers of implementing fixed rates by adopting rates based on consumption blocks, as in the second example above.

# Alternative Volume-based Rate Structures for Residential Customers

Volume-based charges can be structured in several different ways. Most jurisdictions group residential customers into one rate class, assuming that the wastewater strength, or the wastewater concentration of oil and grease, oxygen demand from the breakdown of biological matter, and total suspended solids, do not vary greatly among residential customers.[6]

Volume-based sewer service charges are generally set as a charge per one hundred cubic feet, or one unit, consumed. Agencies can apply these sewer service charges in several ways:

- Charges can be applied uniformly across all units of service. For example, if the sewer service charge equals $1 for every unit of service, then the total sewer service bill would be $3 if the customer consumed three units of service, $5 if the customer consumed five units of service, and so forth. According to the American Water Works Association, uniform charges are simple, generally perceived as equitable because all rate payers pay the same price for each unit of use, provide relatively stable revenues, and facilitate conservation because the customer's total costs increase with increased use.

- Units of service can be divided into separate blocks with different rates applied to different blocks. "Declining" rate structures charge a higher rate for the first block of units of service and lower rates for subsequent blocks of units of service. These rate structures can be used for overall economic development purposes to provide incentives for large industrial customers to locate in a certain jurisdiction. Because the cost per unit of service declines as consumption increases, this rate structure is contrary to a rate structure that would promote water conservation.

- "Inclining" rate structures charge a lower rate for the first block of units of service and higher rates for subsequent blocks of units of service. Inclining rates promote conservation because the cost per unit of service increases with increased consumption.

## Rate Structures Implemented by Other Agencies

Agencies providing sewer services can be configured in many different ways. Often larger cities have public utilities that provide both water and sewer services, and sewer services include both collection systems and wastewater treatment plants. These cities most resemble San Francisco in delivering services. Because water and sewer services are combined within one jurisdiction, basing sewer services on water consumption is

[6] San Francisco sewer service charges include the costs of oil and grease in the wastewater. Although most California agencies include the costs of oxygen demand (which is caused by the discharge of biological products) and suspended solids, not all agencies include the costs of oil and grease.

easier to implement because water consumption data is readily available and the billing structure is in place.

Uniform Residential Charges

The City of Los Angeles uses uniform rates in charging its residential customers for sewer services. Los Angeles allocates administrative overhead, operations and maintenance, and capital costs to the dollar amount charged per unit of service. Based on the evaluation of costs, the City of Los Angeles has set the actual sewer service charge per unit of service to be 0.84 percent higher than the cost per unit to offset the cost of the low-income discount provided to eligible customers.

In FY 2004-2005, the Public Utilities Commission adopted a 15 percent low-income discount for eligible sewer service customers. According to the Public Utilities Commission Financial Services staff, approximately 5,600 single family residence customers qualify for the 15 percent low-income discount, with an estimated cost of $281,534 per year. According to Financial Services staff, implementation of the low-income discount will result in very small increases in the sewer service charge per unit of service in FY 2005-2006.

Base Rates to Cover Fixed Costs

Agencies that base sewer service charges on the volume of water use often apply a base rate in addition to the volume rate to the sewer service charge to recover customer service and administrative costs. For example, the City of San Diego has a base rate that includes all administrative overhead, such as customer service, financial services, and other administrative costs and a volume rate per unit of service, with a cap of 10 units.

The City of Portland, Oregon, charges a base sewer service fee to cover the cost of customer services, such as meter reading and billing, plus a volume rate per unit of service, with no cap. The City does not include other administrative overhead costs in the base sewer service fee to avoid high fixed fees for low volume customers.

While San Francisco does not have a base rate for sewer service charges, the water bill includes a $4.00 charge for meter reading for 5/8 inch meters, with higher charges for larger meters.

Setting Rates Based on Winter Water Use

Some agencies determine how much of the water that is consumed is returned to the sewer by monitoring water use during the winter months, when most water is consumed for household use rather than outdoor use. Both the City of Los Angeles and the City of San Diego incorporate the use of water during the winter into their rate structure. The sewer service charge during the year is tied to consumption of water during the winter months rather than the consumption of water during each billing period. In Los Angeles, the flow factor for all residential customers is determined by the lowest water usage during the previous winter, or rainy season, which results in a higher flow factor than

might otherwise be applied.[7] In San Diego, each customer pays for service during the year, based on the lowest service units consumed by that customer during the winter. Therefore, customers with low water consumption during the winter pay lower sewer service charges during the course of the year. According to the City of San Diego, this method has served as an incentive to reduce consumption, resulting in lower sewer outflows than had originally been projected.

In the Wastewater Rate Study, Black and Veatch analyzed winter water use in San Francisco and found that the advantages of billing residential customers for winter water use was minimal because of San Francisco's temperate climate. Under their analysis, the single family residence flow factor would be an estimated 93.5 percent based on winter water use alone, compared to the 90 percent flow factor in the Schedule of Sewer Service Charges.

## San Francisco's Lifeline Rates

San Francisco sewer service charges for residential customers incorporate two levels of volume charges: lifeline and excess of lifeline rates. The lifeline rate is charged for the first three units of consumption and the excess rate is for consumption greater than three units. The lifeline rate is applied to all residential customers and is set at less than the cost of service. The revenue loss, resulting from the lifeline rate, is recouped in the residential excess of lifeline charges and in nonresidential charges.

In their May of 2004 report, the Rate Fairness Board stated that the "lifeline" rate should more appropriately be called a "baseline" rate, because it is applied to all residential accounts without regard to income or economic need. According to the May of 2004 report, the existing lifeline rate, which does not include capital costs, is based solely on long standing practice by the Public Utilities Commission. The Rate Fairness Board recommended the implementation of discounts to offset sewer service charge costs for eligible low-income residents, but is continuing to discuss alternatives to the current structure of the lifeline rate.

Implementation of Low Income Discounts to Replace the Existing Lifeline Rates

The FY 2004-2005 sewer service charges provide a 15 percent discount for low-income single family residents who meet the economic criteria. The Rate Fairness Board was not able to devise a plan in FY 2004-2005 to apply low-income discounts to multiple family residential customers, which generally have master metering, or one meter and one sewer service charge, for multiple families. Cities that provide low-income discounts to single family residences often do not have a method for providing discounts to families living in multiple family residential customers. The City of Los Angeles low-income discount program applies only to single family residences because, according to their sewer service charge notice, it was not feasible to extend the discount to multiple family dwellings. The City of Portland, Oregon, conducted a one-year pilot program to provide

[7] According to the Black and Veatch Wastewater Rate Study, most California agencies use a flow factor of 60 to 70 percent, but the Los Angeles flow factor ranges from 80 percent in dry winters to 92 percent in wet winters.

vouchers to low-income residents of multiple family residences, but did not implement an ongoing voucher program because of the poor results from the pilot project.

The City's rent control ordinance covers the occupants of most multiple family residences in San Francisco. Annual rent increases are capped at 60 percent of the Consumer Price Index, unless the property owner petitions the Rent Arbitration Board for additional rent adjustments due to increased costs. To petition the Rent Arbitration Board, the property owner must prove that aggregate increased costs over the prior two-year period exceed 60 percent of the Consumer Price Index. Tenants can file a hardship petition if additional rent adjustments, exceeding 60 percent of the Consumer Price Index, increase their rental costs to more than 30 percent of their income. If increases in sewer service charges do not increase the property owner's aggregate costs by more than 60 percent of the Consumer Price Index, or if low income tenants succeed in filing a hardship petition, low-income tenants would have some protection against increased costs through the Rent Arbitration Board in the absence of a low-income discount for multiple family residences.

## Options for Alternative Sewer Service Charge Structures

The Public Utilities Commission has adopted a FY 2004-2005 sewer service charge increase to meet an 11 percent increase in FY 2004-2005 revenue requirements. The Rate Fairness Board is further evaluating the sewer service charge prior to further rate increases in FY 2005-2006 and FY 2006-2007.

Table 1.2 provides a comparison of projected average monthly sewer service charges for single family residence customers in FY 2006-2007, based on (i) lifeline and excess of lifeline rates, (ii) uniform rates, and (iii) inclining rates. The projected lifeline and excess of lifeline rates are based on the February 23, 2004 Public Utilities Commission Financial Services staff report estimate of FY 2006-2007 lifeline and excess of lifeline rates to meet projected FY 2006-2007 revenue requirements. The Budget Analyst has projected FY 2006-2007 uniform and inclining rates to meet estimated FY 2006-2007 revenue requirements, including increases in debt service payments in FY 2006-2007, 3 percent annual increase in operating and maintenance expenses, and 0.5 percent annual increase in service.

## Table 1.2

## Comparison of Projected Average Monthly Sewer Service Charges for Single Family Residences, Based on Different Rate Structures in FY 2006-2007

| Number of Units of Service | Current San Francisco Rate Structure with Lifeline and Excess of Lifeline Rates | Uniform Rate to Achieve Full Cost Recovery for all Units of Service | Percent Increase in Uniform Rate Compared to Lifeline Rate | Inclining Rate to Achieve Full Cost Recovery for all Units of Service | Percent Increase in Inclining Rate Compared to Lifeline Rate |
|---|---|---|---|---|---|
| 3 units | $8.94 | $17.49 | 96% | $15.17 | 70% |
| 5 units | $22.78 | $29.15 | 28% | $28.33 | 24% |
| 6 units | $29.70 | $34.98 | 18% | $34.90 | 18% |
| 7 units | $36.62 | $40.81 | 11% | $41.48 | 13% |
| | | | | | |
| Projected revenue in FY 2006-2007 | $99,501,323 | $116,381,281 | | $116,381,281 | |

As noted in Table 1.2, the current sewer service charge structure with lifeline rates captures less revenue than alternative uniform and inclining rates. These revenues are recouped in nonresidential rates.

Comparison of Lifeline, Uniform and Inclining Rates

Because the lifeline rate does not cover all costs for the first three units of service, the projected revenue from the rates is less than the estimated costs of residential sewer services, resulting in a shifting of costs to residential customers paying excess of lifeline rates and nonresidential customers. The uniform rate and the inclining rate are designed to recover sufficient revenues to cover the costs of service. The inclining rate is based on a 30 percent differential between the rate for each of the first three units of service and the rate for each successive units of service.

The largest impact of eliminating the lifeline rate and replacing it with a uniform or inclining rate is to customers with low consumption. Because the inclining rate is designed to encourage conservation, the impact of changing from a lifeline rate to an inclining rate is high for low consumption customers but is less than the impact of changing to a uniform rate. The monthly sewer bill for low volume customers who use three units of service each month would increase by 96 percent if the sewer service charge were based on a uniform rate and by 70 percent if the sewer service charge were based on an inclining rate.

Based on FY 2003-2004 Customer Services Division data, single family residence customers use approximately seven units of service each month. At seven units of service, the impact of replacing the lifeline rate with the uniform rate or inclining rate is less severe. The single family residence customer's monthly bill would increase by 11 percent per month if uniform rates were adopted and 13 percent per month if inclining rates were adopted.

Conservation Issues in Redesigning Rates

The Rate Fairness Board has stated that retaining the lifeline rate for all residential customers does not meet the policy goal of an income-based lifeline rate and maintains the subsidy of residential customers by nonresidential customers. In FY 2004-2005, the Rate Fairness Board is evaluating alternative rate designs to the existing sewer service charge design. Because Proposition E requires that the Rate Fairness Board evaluate and seek to implement utility rates that encourage conservation, the Rate Fairness Board has included the rate impact on water conservation in its discussions of alternative rate designs.

In the May of 2004 report, the Rate Fairness Board discussed the impact of sewer service rate designs on water conservation. The Rate Fairness Board noted that designing sewer service rates to meet water conservation goals raises two problems. First, according to the Rate Fairness Board May of 2004 report, a consumer's decision to utilize sewer services generally depends on decisions to use drinking water and water rate structures, rather than sewer rate structure, more readily meet water conservation goals. Second, because sewer service systems have high fixed costs, decreases in volume spread the fixed costs over fewer units of service, resulting in a higher cost per unit of service. Therefore, if the customer reduces water use, resulting in reduced wastewater volume, the units of sewer service will decline but the cost per unit of sewer service will increase, resulting in little or no decrease in the total sewer service bill.

The Public Utilities Commission Financial Services staff are analyzing the impact of rate design on conservation and the cost impact of reduced consumption. Sewer service charges based on volume, in which the total sewer bill increases with increased use of water, more readily meet the requirement of Proposition E to implement utility rates that promote water conservation. However fixed rates based on equivalent dwelling units that include consumption blocks may also provide price savings to low volume consumers and some incentive to conserve. The rate of residential water consumption in San Francisco tends to be lower than in other California jurisdictions, and therefore, rate structures intended to further encourage conservation, such as inclining rates, may have little impact on further conservation.

Based on analysis provided by the Public Utilities Commission Financial Services staff, the Rate Fairness Board and the Public Utilities Commission need to evaluate the effectiveness of fixed rates based on equivalent dwelling units, uniform rates based on volume, and inclining rates based on volume in achieving the Proposition E conservation requirements.

Applying Residential Rates to Single Residence Occupancy Hotels

The discussion to eliminate the lifeline rate has been tied to proposals to implement low-income discounts for residential customers. Currently, San Francisco's sewer service charges provide a reduced rate for hotels, motels, and boarding houses that participate in the City's Community House Program. Under the Community House Program, implemented in 1994, participating hotels, motels, and boarding houses that provide services to homeless and low-income individuals, receive a 50 percent reduction in the sewer service charge, prorated for the percentage of occupants that are low-income. In January of 2004, 22 hotels, motels, and boarding houses were participating in the program.

According to the Public Utilities Commission Financial Services staff, in 2001 the staff evaluated the impact of reclassifying all Single Residence Occupancy hotels from commercial properties to residential properties, thus making those properties eligible to be billed at the lower residential lifeline rate. At that time, Financial Services staff estimated that the Clean Water Enterprise Fund would lose approximately $1.3 million annually in sewer service charge revenues from reclassifying Single Residence Occupancy hotels from commercial to residential. The Financial Services staff also concluded that the Public Utilities Commission could not ensure that sewer service charge savings to Single Residence Occupancy hotels would be passed through to the occupants as reduced rent.

The Rate Fairness Board and the Public Utilities Commission considered but did not include potential sewer service charge reductions to Single Residence Occupancy hotels in formulating FY 2004-2005 rate recommendations. The Public Utilities Commission Financial Services staff should continue to assess and present the option of reclassifying the Single Residence Occupancy hotels as residential customers during the FY 2004-2005 discussions of alternative sewer service rate structures.

## Impact of Increasing Water and Sewer Service Charges on the Monthly Bill for Single Family Residences

The Public Utilities Commission issues combined bimonthly bills for water and sewer service charges to its customers. When the San Francisco voters passed Proposition E in November of 2002, the voters also passed Proposition A, which gave the Public Utilities Commission authority to issue revenue bonds for water system capital improvements. Issuance of the water revenue bonds is expected to increase water rates by approximately 5 percent to 12 percent annually, beginning in FY 2005-2006. Table 1.3 provides a comparison of the average water and sewer bill for single family residents in FY 2004-2005 compared to an estimated average water and sewer bill in FY 2006-2007, resulting from estimated increases in sewer and water rates.

## Table 1.3

## Comparison of Average Monthly Water and Sewer Bills for Single Family Residents in FY 2004-2005 and FY 2006-2007 [1]

| | FY 2004-2005 Lifeline Rates | | | FY 2006-2007 Uniform Rates, Based on 11 Percent Increase in FY 2004-2005 through FY 2006-2007 | | | |
|---|---|---|---|---|---|---|---|
| **Units of Service** | **Water Rates** | **Sewer Rates** | **Total** | **Water Rates** | **Sewer Rates** | **Total** | **Percent Change between FY 2004-2005 and FY 2006-2007** |
| 3 units | $8.47 | $6.45 | $14.92 | $9.01 | $17.49 | $26.50 | 78% |
| 5 units | $11.45 | $17.19 | $28.64 | $12.34 | $29.15 | $41.50 | 45% |
| 6 units | $12.94 | $22.56 | $35.50 | $14.01 | $34.98 | $49.00 | 38% |
| 7 units | $14.43 | $27.93 | $42.36 | $15.68 | $40.81 | $56.50 | 33% |

[1] Sewer rates are based on the Budget Analyst's estimate of uniform sewer rates in FY 2006-2007, as shown in Table 1.2, and an estimated increase in water rates of 12 percent in FY 2006-2007 compared to FY 2004-2005.

If the Public Utilities Commission adopts uniform sewer service charges, low volume customers will have an estimated 78 percent increase in their monthly water and sewer service bill in FY 2006-2007 compared to FY 2004-2005. The increase in the water and sewer service charges for higher levels of consumption is less severe. To mitigate the customer's costs resulting from combined increases in sewer and water rates, the Public Utilities Commission should consider phasing in sewer service charge increases resulting from uniform rates by gradually increasing the lifeline rate or by implementing an interim inclining rate.

# Consideration of Other Components of the Sewer Services

The Public Utilities Commission Financial Services staff are evaluating two other cost components of sewer services, for consideration by the Rate Fairness Board and the Public Utilities Commission.

## Removing Storm Water Charges from the Sewer Service Charges

The Federal Clean Water Act requires local jurisdictions to control the amount of pollutants entering the storm drains. In San Francisco the storm drainage system is combined with the sewer system and the combined storm water and sewer flow are treated in both the primary treatment and secondary treatment plants. However, the cost of collecting and treating storm water is not associated with specific residential, commercial, or industrial customers. In many California jurisdictions, storm water flow

is managed by a separate agency from the wastewater agencies. Often the storm water charge is a fixed charge to property owners which is added to the property bill.

In San Francisco, the costs for collecting and treating storm water are mingled with the costs of collecting and treating wastewater. These costs are allocated to all customers in the sewer service charge and are therefore associated with the volume charges paid by the customers. The Public Utilities Commission Financial Services staff have recommended a study of the options for charging for storm water collection and treatment, including the effect of separating the storm water charge from the sewer service charge. To separate the storm water charges, the Financial Services staff would have to determine what part of the costs are attributable to storm water collection and treatment. Once the costs are separated, the Financial Services staff would have to evaluate and recommend policies for allocating the costs of the storm water system to the Public Utilities Commission.

In assessing alternative structures for storm water fees, the Public Utilities Commission needs to consider the relative advantages and disadvantages of the current storm water structure, in which storm water charges are included with volume-based sewer service charges. Although the costs of collecting and treating storm water are not associated with specific residential and nonresidential customers, the sewer and storm water systems are combined and therefore, combined sewer service and storm water costs must be segregated to charge separate storm water rates.

If the Public Utilities Commission considers alternative proposals to include the storm water program charge in the sewer service bill or in the property tax bill, the Public Utilities Commission needs to consider the advantages and disadvantages of each alternative. Proposals to allocate storm water program charges to the property bill rather than the sewer service bill would shift the frequency of charges from bimonthly sewer service bills to annual property tax bills and shift responsibility for payment from the sewer service account customer to the property owner, which may not be the same person.

## Implementing Capacity Fees

Most California jurisdictions charge a fee for the development of new properties, requiring water and sewer services. Because of the sewer service charge freeze imposed by Proposition H in 1998, San Francisco has not implemented a fee, charging the developers of new properties to use the sewer system. The California Government Code allows local jurisdictions to charge a "connection" fee for the physical installation of lateral connections to sewer mains or a "capacity" fee to cover the costs associated with increased flow to the sewer collection and wastewater treatment system from new development. In San Francisco, the sewer service system is largely built out with excess capacity and can accommodate new development without construction of new sewer or treatment plant capacity. The capacity fee, therefore, would be a charge to developers to buy into the equity in the existing sewer collection and wastewater treatment system.

In the Wastewater Rate Study, Black and Veatch calculated a proposed capacity fee of $1,012 per equivalent dwelling unit, based on the capital investment in sewer and

wastewater treatment plants. The Public Utilities Commission Financial Services staff have implemented a work plan to evaluate introduction of a capacity fee, which will be considered by the Rate Fairness Board during FY 2004-2005.

# Conclusion

Based on recommendations by the Public Utilities Commission Financial Services staff and the Rate Fairness Board, the Public Utilities Commission adopted sewer service charge increases in FY 2004-2005 to meet an 11 percent increase in FY 2004-2005 revenue requirements but postponed the decision to increase sewer service charges in FY 2005-2006 and FY 2006-2007. During FY 2004-2005, the Rate Fairness Board is considering alternatives to the existing structure of the sewer service charges. In considering further increases in sewer service charges to meet the Clean Water Enterprise Funds revenue requirements, the Rate Fairness Board is considering elimination of the existing lifeline residential rate for the first three units of service. Because the lifeline rate does not recover the costs of sewer services, these costs are currently recouped through the residential excess of lifeline rate and nonresidential rates.

During FY 2004-2005, the Rate Fairness Board will consider various alternative sewer service charge designs. The existing sewer service charges are based on the volume of water used by the customer. As the volume of water used increases, sewer service charges also increase. Conversely, reduced water use results in lower sewer service volume and reduced sewer service charges. Because the costs of providing sewer services are largely fixed, reductions in sewer service volume and sewer service charge revenues do not result in a corresponding reduction in sewer service system costs.

The Rate Fairness Board will consider alternative fixed rate and volume based designs in FY 2004-2005. Many sewer collection and wastewater treatment agencies implement fixed sewer service charges because they do no have ready access to water volume data. In San Francisco, however, the Public Utilities Commission, which has oversight over both the water and the wastewater systems, already has water volume and sewer service charge data in the billing system, and does not have administrative or billing limitations in basing sewer service charges on volume.

Fixed rate designs offer simplicity and, because they do not vary with changes in volume, offer stable revenues. However, because customers pay a fixed rate regardless of water consumption, fixed rates do not promote water conservation, although some alternative fixed rate designs can provide price incentives to reduce water consumption, including designs in which residential customers are grouped into different blocks based on consumption and each block pays a different percentage share of total sewer service charges.

The Rate Fairness Board has acknowledged the limitations in designing sewer service charges to meet water conservation goals. However, because the sewer service charge is a large component of the combined water and sewer service bill, increases in total monthly sewer service charges based on volume will have some impact on the customer's water use decisions. If the Rate Fairness Board considers recommending volume-based sewer

service charges to the Public Utilities Commission, the Rate Fairness Board needs to consider the relative impact of uniform and inclining rates. Because the rate of residential water consumption in San Francisco tends to be lower than in other California jurisdictions, rate structures intended to further encourage conservation, such as inclining rates, may have little impact on further conservation.

In the Budget Analyst's comparison of alternative rate structures, sewer service charges based on uniform rates, combined with potential increases in the water bill, will have significant impact on the single family residential customer's combined water and sewer service bill, especially at lower volumes of consumption. If the Rate Fairness Board considers recommending and the Public Utilities Commission considers adopting sewer service charges based on uniform or inclining rates, the combined impact of increased water and sewer service charges needs to be assessed. If the Rate Fairness Board considers recommending and the Public Utilities Commission considers adopting volume-based rates, then the Rate Fairness Board and the Public Utilities Commission need to consider proposals to phase-in changes in the sewer service charge rate structure to minimize the impact.

The Public Utilities Commission Financial Services staff should continue to analyze and present information on the impact of rate design on residential sewer service customers, sewer service charge revenues, and water conservation, including (i) the relative advantages and disadvantages of fixed rates based on equivalent dwelling units that incorporate different consumption blocks, volume-based uniform rates, and volume-based inclining rates in providing stable revenues and promoting conservation, and (ii) the relative impact, including projected combined monthly water and sewer service bill increases, of fixed rates based on equivalent dwelling units that incorporate different consumption blocks, volume-based uniform rates, and volume-based inclining rates on sewer service customers.

# Recommendations

The Director of Financial Services should:

1.1 Continue to analyze and present information to the Rate Fairness Board on the impact of alternative sewer service rate designs on residential sewer service customers, sewer service charge revenues, and water conservation, including:

(i) the relative advantages and disadvantages of fixed rates based on equivalent dwelling units that incorporate different consumption blocks, volume-based uniform rates, and volume-based inclining rates in providing stable revenues and promoting conservation, and

(ii) the relative impact, including projected combined monthly water and sewer service bill increases, of fixed rates based on equivalent dwelling units that incorporate different consumption blocks, volume-based uniform rates, and volume-based inclining rates on sewer service customers.

1.2 Continue to evaluate and present to the Rate Fairness Board alternative scenarios for phasing-in new rate structures to mitigate the impact of future combined water and sewer service charges.

1.3 Continue to assess and present to the Rate Fairness Board the option of reclassifying the Single Residence Occupancy hotels as residential customers during the FY 2004-2005 Rate Fairness Board discussions of alternative sewer service rate structures.

1.4 Continue to assess and present to the Rate Fairness Board alternative structures for storm water charges, including the relative advantages and disadvantages (i) of the current storm water structure and of dis-aggregating storm water and sewer system charges, and (ii) of including storm water charges on the sewer service bill or the property tax bill, including the impact of shifting the frequency of charges from bimonthly sewer service bills to annual property tax bills and shifting charges from sewer service customers to property owners, to the extent that the two are not the same.

# Costs and Benefits

The Public Utilities Commission Financial Services staff would continue to analyze and present sewer service charge alternatives and impacts to the Rate Fairness Board and the Public Utilities Commission. The Public Utilities Commission would continue to have necessary information to assess alternative sewer service charge rate structures that address the goals of (a) providing stable revenue to the Clean Water Enterprise Fund, (b) equitably distributing the costs of sewer services to the users of the system, and (c) promoting conservation.

# 2. Allocating Costs of Sewer Services to Customer Classes

- **Residential and nonresidential sewer service customers are billed based upon wastewater volume and the expected concentration (or strength) of pollutants in their wastewater discharge. All residential customers are billed for a single domestic wastewater strength. Nonresidential customers are either billed (i) for their actual wastewater strength, if they discharge high volumes of wastewater or the wastewater discharge has high concentration of pollutants, or (ii) on the expected wastewater strength of their assigned Standard Industrial Classification code if they are minor industrial or commercial users.**
- **According to the Wastewater Rate Study, the measured amount (or loadings) of wastewater pollutants at the wastewater treatment plants do not match the calculated wastewater loadings, based on customer service billing records. The Public Utilities Commission is currently implementing work plans to (i) sample and test wastewater loadings at the treatment plants and (ii) identify correct nonresidential property uses from Tax Collector and other documents to ensure that nonresidential properties are assigned the correct Standard Industrial Classification codes and wastewater strength in the Customer Services billing system.**
- **The management audit review of Customer Services billing data found discrepancies between the Schedule of Sewer Service Charges and Customer Services billing records. For example, the Schedule of Sewer Service Charges lists 44 Standard Industrial Classification codes and the Customer Services billing system lists 83. Of the 44 Standard Industrial Classification codes listed in the Schedule of Sewer Service Charges, only 22 correspond with the Standard Industrial Classification codes listed in the Customer Services billing system. The Public Utilities Commission Business Services Division should streamline the list of Standard Industrial Classification codes and reconcile the Customer Services billing system with the Schedule of Sewer Service Charges.**

To ensure equity in establishing sewer service charges, the costs of providing sewer services to each class of customer should be reflected in the rates. Because different customers discharge different quantities of wastewater with different wastewater pollutant strength, or concentration of oil and grease, suspended solids, and oxygen demand from the break down of biological waste, the costs of sewer services vary among classes of customers.

In San Francisco, sewer service customers are divided into residential and nonresidential classes. The nonresidential classes include commercial, industrial, and municipal customers. Residential customers, which are grouped into single family and multiple family residence customer classes, are assigned a standard domestic wastewater strength.

Commercial, including municipal, and industrial customers are assigned to Standard Industrial Classification codes and the sewer service charges are based upon the wastewater pollutant strength associated with each code. Industrial customers who discharge high volumes of wastewater or have wastewater strength that differs from the Standard Industrial Classification codes are inspected, sampled, and assigned wastewater strength based on their individual activity. Sewer service charges for these customers are based on the actual strength of their wastewater discharge.

# Identifying Costs of Service

Clean water customers pay for sewer services, based on the customer's metered water use, plus the flow factor, [1] and the pounds per gallon of oil and grease, suspended solids, and oxygen demand. Sewer service revenues must meet the costs of service. Before allocating the costs of service to the customers, components of service costs need to be identified. Sewer services consist of the collection and treatment of wastewater. The costs for wastewater collection and treatment derive from the volume, or flow, of the wastewater, and the concentration of oil and grease and suspended solids, and the oxygen demand from the breakdown of biological waste.

## Allocating the Costs to the Component Parts of Sewer Collection and Wastewater Treatment

Wastewater collection and treatment costs include both capital investment in the physical plant and ongoing operating and maintenance expenses. The operating, maintenance, and capital costs of sewer collection and wastewater treatment are allocated to the wastewater components, which include volume, oil and grease, suspended solids, and oxygen demand from the breakdown of biological material.

Allocating the Costs of Capital Investment in Physical Plant

Different parts of the physical plant are involved in the collection and in the treatment processes and therefore, the costs of capital investment in the physical plant are attributed to different aspects of the collection and treatment processes. For example, the costs of capital investment in sewers is attributed almost entirely to costs associated with volume and in small part to oil and grease. The costs of capital investment in the wastewater treatment plants are divided among all the costs of treatment for component parts of

[1] One unit of service is equivalent to 100 cubic feet or approximately 748 gallons. Single family residential customers and most industrial and commercial customers have a 90 percent flow factor, which assumes that 90 percent of metered water use is returned to the sewer. Multiple family residential customers have a 95 percent flow factor.

wastewater treatment, including volume, oil and grease, total suspended solids, and oxygen demand.

Allocating Operating and Maintenance Expenses

Operating and maintenance expenses are also allocated to the component parts of the collection and treatment processes. Operating and maintenance costs for collection and treatment processes are allocated to the components, including volume, oil and grease, suspended solids, and oxygen demand, in the same percentages as the allocation of costs for capital investment. Operating and maintenance costs for the pretreatment of wastewater are allocated directly to the commercial and industrial customers that receive pretreatment services. Administrative overhead expenses are allocated in the same proportion as direct costs.

# Discrepancies in the Wastewater Strength, the Schedule of Sewer Service Charges and the Billing System

Sewer service charges for nonresidential customers are based on either (i) the actual wastewater of the industrial customer, based on sampling, or (ii) the assigned Standard Industrial Classification code. The Schedule of Sewer Service Charges adopted by the Public Utilities Commission, effective July 15, 2004, has three schedules. Schedule A sets the sewer service charges for all residential customers. Schedules B and C set the sewer service charges for all nonresidential customers.

## Schedule B and Schedule C Nonresidential Customers

Schedule B Nonresidential Customers

Schedule B sets the sewer service charges for nonresidential customers whose wastewater loadings, or the concentration of oil and grease, suspended solids, and oxygen demand in the customer's wastewater discharge, are periodically sampled by the Bureau of Environmental and Regulatory Management Pretreatment, Pollution Prevention, and Storm Water Program staff. The customer pays for sewer and wastewater treatment services based on the customer's measured wastewater strength.

The Bureau of Environmental and Regulatory Management Pretreatment, Pollution Prevention, and Storm Water Program classifies industrial customers into three industrial categories:

- Federal categorical industrial users are industrial users subject to the Federal Environmental Protection Agency pretreatment standards. In calendar year 2003, the Pretreatment, Pollution Prevention, and Storm Water Program classified five individual businesses as federal categorical industrial users under three categories: electroplating common metals, steam electric power generating, and metal finishing.

- Significant industrial users are individual businesses that discharge more than 25,000 gallons of waste water per day or have high concentrations of pollutants in the

wastewater discharge. The Pretreatment, Pollution Prevention, and Storm Water Program has classified 25 individual businesses as significant industrial users, including several major hospitals, San Francisco State University, linen supply companies, and microbreweries.

- Minor industrial users are all other industrial users that are not classified as "significant". In calendar year 2003, the Pretreatment, Pollution Prevention, and Storm Water Program identified 593 minor industrial users, which includes veterinary hospitals, wholesale bakeries, commercial printing, and other miscellaneous industrial uses.

The Pretreatment, Pollution Prevention, and Storm Water Program regularly inspects federal categorical and significant industrial users, samples the wastewater discharge, and assigns wastewater strength based on the specific strength of their wastewater discharge. Of the minor industrial users, only a small number are sampled during the course of the year. The Pretreatment, Pollution Prevention, and Storm Water Program samples fewer than 100 industrial users each year to determine wastewater strength for purposes of establishing sewer service charges.

Schedule B in the Customer Services billing system contains approximately 2,970 customer accounts, compared to the approximately 100 industrial users who are sampled annually. According to the Director of Customer Services, all nonresidential customers whose wastewater discharge has been sampled for purposes of assigning wastewater strength and setting sewer service charges are included in Schedule B. The Pretreatment, Pollution Control, and Storm Water Program staff do not sample minor industrial users annually but only sample and assign wastewater strength upon change of property use.

<u>Discrepancies between the Schedule of Sewer Services Schedule C and the Customer Services Billing System</u>

Under Schedule C of the Schedule of Sewer Service Charges, nonresidential customers who are not sampled for purposes of rate setting under Schedule B are assigned to Standard Industrial Classification codes and billed for sewer services according to the Standard Industrial Classification code rates listed in Schedule C. Schedule C contains 44 Standard Industrial Classification codes for nonresidential customers, such as wholesale bakery, fish and seafood wholesale distribution, hotel, restaurant, and other classifications. Clean water customers who fall within one of these Standard Industrial Classification codes pay for sewer and treatment services based on the standard wastewater strength for the commercial or industrial class.

The Customer Services billing system contains 83 Standard Industrial Classification codes under which Schedule C nonresidential customers are billed. Of the 44 Standard Industrial Classification codes in the Schedule of Sewer Service Charges and the 83 Standard Industrial Classification codes under which Schedule C customers are actually billed, only 22 Standard Industrial Classification codes correspond. Further, approximately 6 percent of Schedule C customer accounts in the Customer Services

billing system do not correspond to Standard Industrial Classification codes listed in Schedule C of the Schedule of Sewer Service Charges.

The Public Utilities Commission Business Services Division should review all existing Standard Industrial Classification codes in the Customer Services billing system, determine which Standard Industrial Classification codes correspond to nonresidential property uses in San Francisco, eliminate unneeded Standard Industrial Classification codes, and reconcile Standard Industrial Classification codes in Schedule C of the Schedule of Sewer Service Charges and in the Customer Services billing system.

## Discrepancies in Actual Compared to Calculated Wastewater Strength and the Public Utilities Commission Work Plan

In the Wastewater Rate Study, Black and Veatch found discrepancies between the measured amount, or "loadings" of oil and grease, suspended solids, and oxygen demand that were measured at the Clean Water Enterprise wastewater treatment plants and the calculated loadings, or expected wastewater loadings, based on residential and nonresidential customer billing data.. According to the Black and Veatch Wastewater Rate Study, the measured wastewater loadings at the wastewater treatment plants were higher than the calculated loadings using Customer Services billing data.

The Public Utilities Commission staff are in the process of preparing a work plan to address the issues raised in the Wastewater Rate Study. The Public Utilities Commission staff are implementing work plans to (i) sample wastewater strengths at the treatment plants, and (ii) match Customer Services nonresidential sewer service accounts with Tax Collector and other documents to determine property use and assign the accounts to the correct Standard Industrial Classification code.

Wastewater Sampling and Residential and Nonresidential Class Wastewater Strength Assignment

According to the staff of the Bureau of Environmental and Regulatory Management, the proposed work plan is expected to include the re-sampling of residential and major commercial and industrial classification wastewater strength and revise wastewater strength assignments to residential, commercial and industrial classifications as needed. Residential and nonresidential class wastewater strength was last reviewed in the 1970s and 1980s. Although there are no industry standards regarding the frequency of sampling and assigning wastewater strength to residential and nonresidential customers, the State Water Resources Control Board, which has oversight over wastewater strength assignment for the purpose of allocating costs to residential and nonresidential customers, suggests that wastewater strength sampling and assignment should be conducted at least every ten years. The Public Utilities Commission should adopt a formal, written policy to sample residential and nonresidential class wastewater strength every ten years and assign new wastewater strength as appropriate.

Identification and Assignment of Accurate Standard Industrial Classification Codes to Existing Customers

Currently, the majority of nonresidential customers who are billed under Schedule C of the Schedule of Sewer Service Charges are grouped into miscellaneous classifications. The Public Utilities Commission Business Services Division staff are putting together a work plan that includes hiring an outside consultant to match nonresidential customers billed under miscellaneous Standard Industrial Classification codes against the Tax Collector's and Assessor's records to identify correct property use. As a second step, the Bureau of Environmental and Regulatory Management will be responsible for preparing a schedule to spot check the identified accounts. Identifying the correct property use of nonresidential customers, and reassigning nonresidential customers from miscellaneous Standard Industrial Classification codes to the specific Standard Industrial Classification codes contained in Schedule C should more accurately assign wastewater strength to nonresidential customers.

Identifying Commercial and Industrial Users in Mixed Use Buildings

Many commercial and industrial users do not have a sewer services customer account if their business is in a mixed use building. Mixed use buildings may only have one or a few meter connections with corresponding service accounts, although the building may have multiple tenants. This results in certain commercial and industrial customers discharging wastewater strengths into the sewer system that are greater than the wastewater strengths listed on the service account.

The work program to identify the correct property use of current nonresidential customer accounts through Tax Collector and Assessor records does not extend to identifying property use of commercial and industrial users who do not have customer accounts. The Public Utilities Commission could identify the commercial or industrial use of properties through the Tax Collector's business records. The Public Utilities Commission should establish a protocol that (a) identifies which commercial and industrial property uses are high risk for discharging pollutants into the sewer system and (b) establishes a periodic schedule for reviewing Tax Collector and other documents to identify high risk commercial and industrial users who do not have customer accounts.

Correctly Classifying New Customers and Identifying When Property Use Has Changed

The Customer Services Section is responsible for setting up new sewer service customer accounts. When a commercial account is closed, the Customer Service Division carries forward the Standard Industrial Classification codes, the revenue class, the meter number, and the last date and number of the meter reading. Flow factors are converted in the billing system to the standard industrial and commercial flow factor of 90 percent.

Customer Service staff can not make changes to the Standard Industrial Classification codes in the billing system. Staff from the Pretreatment, Pollution Prevention, and Storm Water Program have direct access to the billing system information and are responsible

for entering Standard Industrial Classification code information into the system. Although Customer Services staff will notify the Pretreatment, Pollution Prevention, and Storm Water Program of suspected changes in the property use, the Pretreatment, Pollution Prevention, and Storm Water Program determines which properties are inspected and revises wastewater strength data directly into the billing system.

The Public Utilities Commission Business Services Division is assessing the role of Customer Services in verifying the property use of new accounts. The Business Services Division needs to establish formal, written policies and procedures in conjunction with the Bureau of Environmental and Regulatory Management, which includes the Pretreatment, Pollution Prevention, and Storm Water Program, defining the role of Customer Services in identifying the use of new accounts and notifying the Pretreatment, Pollution Prevention, and Storm Water Program of new accounts.

The Pretreatment, Pollution Prevention, and Storm Water Program needs to develop formal, written policies and procedures regarding identification and inspection of properties with new sewer service accounts. Although an audit by the California Regional Water Quality Control Board found that the Pretreatment, Pollution Prevention, and Storm Water Program's methods for locating and identifying industrial users was sufficient, Pretreatment, Pollution Prevention, and Storm Water Program acknowledge that their approach to locating and identifying commercial and industrial users is based on "experience" rather than formal procedures.

# Conclusion

The Black and Veatch Wastewater Rate Study identified a discrepancy between the measured wastewater loading and calculated wastewater loading at the wastewater treatment plants. The Bureau of Environmental and Regulatory Management is currently sampling and testing wastewater loadings to identify the sources of the discrepancy. At the same time the Business Services Division is implementing a work plan to identify nonresidential customers' correct property uses from Tax Collector and other documents to ensure that nonresidential customers, for whom the majority are billed under miscellaneous Standard Industrial Classification codes rather than specific codes, are entered into the Customer Services billing system under the correct code. By entering nonresidential customers into the billing system under the Standard Industrial Classification code with the assigned wastewater strength that matches the property uses, the discrepancy between measured wastewater loadings at the treatment plants and calculated wastewater loadings from the billing system should be reduced.

The management audit review of Customer Services billing data found discrepancies between the Schedule of Sewer Service Charges and Customer Services billing records. For example, the Schedule of Sewer Service Charges lists 44 Standard Industrial Classification codes and the Customer Services billing system lists 83. Of the 44 Standard Industrial Classification codes listed in the Schedule of Sewer Service Charges, only 22 correspond with the Standard Industrial Classification codes listed in the Customer Services billing system. The Public Utilities Commission Business Services

Division should streamline the list of Standard Industrial Classification codes and reconcile the Customer Services billing system with the Schedule of Sewer Service Charges.

# Recommendations

The Public Utilities Commission General Manager should:

2.1 Adopt a formal, written policy to sample wastewater strength for residential and nonresidential customer classes every ten years and assign new wastewater strength as appropriate.

2.2 Direct the Business Services Division to reconcile Customer Services billing system data for nonresidential customers with the Schedule of Sewer Service Charges, including:

(a) Clearly defining the categories of nonresidential customers who are sampled for purposes of setting sewer service charges under Schedule B;

(b) Clearly defining criteria for assigning nonresidential customers to Standard Industrial Classification codes under Schedule C; and

(c) Reviewing all existing Standard Industrial Classification codes in the Customer Services billing system, to determine which Standard Industrial Classification codes correspond to nonresidential property uses in San Francisco, eliminate unneeded Standard Industrial Classification codes, and reconcile Standard Industrial Classification codes in Schedule C of the Schedule of Sewer Service Charges and in the Customer Services billing system.

2.3 Continue implementation of the proposed work plan to sample the wastewater strengths of residential and nonresidential customers to determine the source of the discrepancy between expected and actual wastewater strength.

2.4 Continue implementation of the proposed work plan to test existing customer accounts against Tax Collector and Assessor records to verify the correct use of properties.

2.5 Establish a protocol to (a) identify which commercial and industrial property uses are high risk for discharging pollutants into the sewer system, and (b) establish a periodic review of Tax Collector and other documents to identify high risk commercial and industrial users who do not have customer accounts.

2.6 Direct the Business Services Division, in conjunction with the Bureau of Environmental and Regulatory Management, to develop formal, written policies defining the role of Customer Services in identifying the property use of new

accounts and notifying the Pretreatment, Pollution Prevention, and Storm Water Program of new accounts.

2.7 Direct the Bureau of Environmental and Regulatory Management to develop formal, written policies regarding identification and inspection of properties with new sewer service accounts or changes in use for existing accounts.

# Costs and Benefits

Implementation of these recommendations would allow the Public Utilities Commission to correctly identify and bill for residential and nonresidential customers wastewater strengths.

# 3. Opportunities to Improve Management Control of Clean Water Enterprise Fund Expenditures

- **The Clean Water Enterprise program's expenditures for providing sewer collection and wastewater treatment services have increased by approximately 18 percent between FY 1998-1999 and FY 2002-2003. The Clean Water Enterprise program's operating costs for chemicals and electricity have increased at a higher rate than other costs. Electricity costs have increased by approximately 44 percent and chemical costs have increased by 49.7 percent.**

- **One of the main increases in expenditures has been administrative overhead. Budgeted overhead expenditures for Public Utilities Administration increased by 47.8 percent between FY 2001-2002 and FY 2004-2005.**

- **The Public Utilities Commission Financial Services section, in conjunction with the Clean Water Enterprise program management, should implement budgetary benchmarks and performance matrices for administrative functions, and should assess potential cost savings for electricity and chemical purchases.**

- **Decreasing electricity costs by 1.0 percent would result in annual savings of $122,380 and decreasing administrative overhead by 5.0 percent would result in annual savings of $917,060, for total cost savings of $1,039,440.**

To contain the pace of further sewer service charge increases, the Public Utilities Commission needs to contain the growth in the Clean Water Enterprise Fund expenditures. Although some growth in Clean Water Enterprise program expenditures is necessary to operate and maintain the sewer collection and wastewater systems, meet capital program needs, and comply with federal and state requirements, other causes of expenditure growth are more discretionary.

The main source of revenues for the Clean Water Enterprise Fund are sewer service charges. The Clean Water Enterprise Fund also receives some revenues from charges for services to special districts, property rentals, recoveries from other City agencies, interest earned on cash accounts, and other miscellaneous sources.

The Clean Water Enterprise Fund expenditures are made up of:

- The operating and maintenance expenditures of the Water Pollution Control Division, which operates and maintains the sewer collection and wastewater treatment systems;

- Direct funding for the Bureau of Environmental and Regulatory Management Pretreatment, Pollution Prevention, and Storm Water Program, and the Water Quality Bureau Laboratories for services provided directly to the Clean Water program;

- The Public Utilities Commission's Administration overhead charges;

- Annual State Revolving Loans and Revenue Bond debt service payments, and

- The repair and replacement of clean water facilities capital assets.

## The Clean Water Enterprise Fund's Growth in Expenditures

The Clean Water Enterprise Fund actual operating expenditures grew by an approximately 3.4 percent compounded annual growth rate between FY 1998-1999, the year in which the voters approved Proposition H, freezing sewer service rates, through FY 2002-2003, with total growth in operating and maintenance expenditures over the five-year period of approximately 18.4 percent. The largest areas of expenditure growth were salaries and fringe benefits, chemical costs, and services to other departments, including increases in information technology and power.

## Table 3.1

## Comparison of the Clean Water Enterprise Fund Actual Expenditures

## FY 1998-1999 through FY 2002-2003

| | FY 1998-1999 | FY 1999-2000 | FY 2000-2001 | FY 2001-2002 | FY 2002-2003 | Percent Increase/ (Decrease) from FY 1998-1999 to FY 2002-2003 |
|---|---|---|---|---|---|---|
| Salaries and benefits | $22,809,526 | $25,398,459 | $27,025,565 | $28,971,808 | $29,558,760 | 29.6% |
| Citywide overhead | 1,734,838 | 1,786,718 | 2,046,455 | 1,961,565 | 1,730,293 | (0. 26%) |
| Sludge hauling contract | 2,593,347 | 2,539,859 | 2,750,463 | 2,602,767 | 2,716,885 | 4.8% |
| Other contractual services | 3,725,398 | 2,555,017 | 2,591,573 | 3,114,583 | 3,078,364 | (17.4%) |
| Travel and training | 121,731 | 144,989 | 129,339 | 128,322 | 137,892 | 13.3% |
| Chemicals | 2,581,636 | 2,985,102 | 3,620,533 | 3,774,202 | 3,865,143 | 49.7% |
| Other materials and supplies | 2,791,755 | 2,575,819 | 2,851,032 | 3,424,639 | 2,800,137 | 0.3% |
| Equipment | 463,091 | 340,395 | 1,371,986 | 821,105 | 754,261 | 62.9% |
| Services of DPW | 10,463,300 | 8,182,840 | 8,449,835 | 7,127,513 | 8,185,193 | (21.8%) |
| Services of other departments | 8,025,278 | 7,994,373 | 9,051,824 | 10,998,100 | 12,647,262 | 57.6% |
| **Subtotal** | **55,309,900** | **54,503,571** | **59,888,605** | **62,924,604** | **65,474,190** | **18.4%** |
| Public Utilities Commission Administration overhead | 13,122,099 | 14,983,807 | 17,041,239 | 21,655,213 | 22,773,506 | 73.6% |
| **Subtotal** | **68,431,999** | **69,487,378** | **76,929,844** | **84,579,817** | **88,247,696** | **29.0%** |
| Debt service | 64,677,595 | 65,303,331 | 65,790,434 | 68,435,795 | 44,028,817 | (31.9%) |
| **Subtotal** | **133,109,594** | **134,790,709** | **142,720,278** | **153,015,612** | **132,276,513** | **(0.6%)** |
| Revenue funded capital | 11,091,421 | 11,925,800 | 18,932,541 | 14,035,000 | 14,633,175 | 31.9% |
| **Total Expenses** | **144,201,015** | **146,716,509** | **161,652,819** | **167,050,612** | **146,909,688** | **1.9%** |

Source: Public Utilities Commission Financial Services

The Clean Water Enterprise Fund has experienced expenditure growth in most areas of the budget. The growth in salaries and benefits has resulted primarily from mandated salary and fringe benefit costs. The total number of Clean Water Enterprise Fund positions has remained relatively stable over the past five years.

Major components of the Clean Water Enterprise Fund's operating expenditures are chemical, power, and sludge hauling costs, information technology, and services performed by the Department of Public Works. In 1999 twenty-six janitors and crafts workers transferred from the Department of Public Works to the Clean Water Enterprise program, resulting in a $2.3 million dollar reduction in the work order between the Clean Water Enterprise Fund and the Department of Public Works in FY 1999-2000. The Department of Public Works work orders are discussed in Section 8 of this report.

The Clean Water Enterprise Fund's annual expenditures also include expenditures for Public Utilities Commission Administration overhead, debt service, and revenue funded capital projects.

## Growth in Public Utilities Commission Administration Overhead

Table 3.1, which is based on actual expenditure data provided by the Public Utilities Commission Financial Services staff, shows a 73.6 percent increase in Public Utilities Commission Administration overhead costs that were allocated to the Clean Water Enterprise Fund between FY 1998-1999 and FY 2002-2003. The increases in Public Utilities Commission Administration overhead costs are overstated, because these costs include direct operating costs charged to the Clean Water Enterprise Fund for the Bureau of Environmental and Regulatory Management Pretreatment, Pollution Control, and Storm Water Program, and the Water Quality Bureau Laboratories. Prior to FY 2000-2001, Bureau of Environmental and Regulatory Management and Water Quality Bureau Laboratories direct costs for the Clean Water Enterprise program were allocated to the Clean Water Enterprise Fund through administrative overhead, but in FY 2000-2001, these costs were included directly in the Clean Water Enterprise Fund budget. According to the Public Utilities Commission Financial Services staff, due to system and data limitations, the Financial Services staff were unable to separate Bureau of Environmental and Regulatory Management and Water Quality Bureau Laboratories direct costs from Public Utilities Commission Administration overhead to prepare the five-year historical comparison. Table 3.2 shows the growth in Public Utilities Commission Administration overhead that was allocated to the Clean Water Enterprise Fund in the annual budget, from FY 2001-2002 through FY 2004-2005, the period in which the Bureau of Environmental and Regulatory Management and Water Quality Bureau Laboratories direct costs for the Clean Water Enterprise program were removed from the Public Utilities Commission Administration overhead allocation and charged directly to the Clean Water Enterprise Fund. As shown in Table 3.2, the Public Utilities Commission Administration budgeted overhead costs increased by 47.8 percent over the four-year period.

## Table 3.2

## Public Utilities Commission's Administration Budgeted Overhead Costs Allocated to the Clean Water Enterprise Fund

## FY 2002-2003 through FY 2004-2005

| | FY 2001-2002 | FY 2002-2003 | FY 2003-2004 | FY 2004-2005 | Percent Increase in Costs from FY 2002-2003 to FY 2004-2005 |
|---|---|---|---|---|---|
| Public Utilities Commission Administration Overhead[1] | $12,880,664 | $16,473,542 | $19,295,940 | $19,036,886 | 47.8% |

Source: Annual Appropriation Ordinance

The Clean Water Enterprise Fund pays for three layers of administrative costs and overhead:

- The Water Pollution Control Division's expenditures for its own administration;
- Transfers of revenue to the Public Utilities Commission's Administration for overhead charges to the Clean Water Enterprise Fund; and
- Citywide overhead.

Citywide overhead pays for the indirect costs of services provided by the City's central service departments to the Clean Water Enterprise Fund, such as the Controller's costs for administering payroll. These costs are calculated by the Controller's Office, based on the formula established by the Federal Office of Management and Budget.

The Public Utilities Commission's Administration overhead is allocated to the three enterprises based on a methodology established by an outside financial consultant. The Public Utilities Commission Financial Services staff calculate the cost allocation plan annually. Currently, the Public Utilities Commission allocates approximately $55 million in costs to the three enterprises through the Public Utilities Commission's cost allocation plan, which includes the costs for:

- The General Manager's office;

[1] Administration overhead charges allocated to the Clean Water Enterprise Fund are included in the Annual Appropriation Ordinance under Source of Funds as an expenditure recovery.

- The Public Utilities Commission's Planning Bureau;
- Human Resource Services;
- Administrative costs for the Water Quality Bureau Laboratories and the Bureau of Environmental and Regulatory Management, which are not included as direct costs in the Clean Water Enterprise Fund budget;
- The Health and Safety and Environmental Compliance sections of the Bureau of Environmental and Regulatory Management; and
- Business Services, including Financial Services, Information Technology Services, and Customer Services.

Between FY 1998-1999 and FY 2002-2003, Public Utilities Commission Information Technology Services expenditures increased from $5.7 million to $10.4 million annually, an increase over five years of approximately 84 percent. According to the Public Utilities Commission Financial Services staff, these increases were the result of a multi-year investment in desktop and network technology. The Budget Analyst will review Information Technology Services in Phase IV of the management audit.

## Increases in Chemical and Power Costs for Operating the Treatment Plants

The Water Pollution Control Division, which provides sewer collection and wastewater treatment services for the Clean Water Enterprise program, has increasing costs for power and for chemicals used in wastewater treatment.

Potential Savings in Electricity Costs

The Water Pollution Control Division's expenditures for electricity have increased by 44 percent in the past five years. In FY 1999-2000, total Water Pollution Control Division electricity expenditures were $5,650,804, which increased to $9,335,099 in FY 2002-2003, before declining to $8,158,683 in FY 2003-2004. The Water Pollution Control Division purchases electricity from the Hetch Hetchy Enterprise, which charges the City's enterprise departments for electricity at the market rate established by the California Public Utilities Commission. The Hetch Hetchy Enterprise is currently constrained from reducing the rates charged to the Water Pollution Control Division, the result of a legal settlement with the airlines, in which the City may not charge a higher rate to airline tenants at the San Francisco International Airport than it charges to City enterprise departments for a like class of service.

According to the Hetch Hetchy Acting Director of Power Operations, the Water Pollution Control Division would not achieve cost savings by purchasing power through a private operator because the Hetch Hetchy rates are equivalent to rates from private operators. Although the rates charged to the Water Pollution Control Division exceed the costs of providing power, the difference between costs and net revenues is available for use by

Hetch Hetchy, or in accordance with Proposition E of November of 2002, can be transferred among the three Public Utilities Commission enterprises.

It may be possible to operate the treatment plants during off-peak hours to achieve energy savings. However, this needs to be balanced with the operational capacity of storing wastewater for off-peak treatment. The Water Pollution Control Division should evaluate the feasibility of operating the treatment plants during off-peak hours, which includes an assessment of storage capacity and odor control at different levels of storage and off-peak operations and the potential associated cost savings. This analysis should be part of the Public Utilities Commission's FY 2005-2006 budget preparation and review.

Potential Savings in Chemical Costs

Costs for chemicals used in the wastewater treatment process increased by 49.7 percent between FY 1998-1999 through FY 2002-2003. Increases in chemical costs resulted from overall increases in the price of chemicals and in increased chemical requirements to meet operating needs. Financial Services staff should work with the Water Pollution Control Division to assess the options for reducing or limiting increases in chemical costs, including revised vendor contracts, prior to the Public Utilities Commission's FY 2005-2006 budget preparation and review.

# Establishing Budgetary Controls

## Implementing Service Measures for Administration Functions

As noted in Sections 9 and 10 of this report, because responsibility for Clean Water Enterprise programs and expenditures are dispersed among the Water Pollution Control Division, the Pretreatment, Pollution Prevention, and Storm Water Program, and the Clean Water functions of the Water Quality Bureau Laboratories, no specific manager is responsible for the Clean Water Enterprise Fund budget. Consequently, no one manager exerts oversight over Clean Water Enterprise Fund expenditures. Further, there is no formal mechanism for the Water Pollution Control Division and other programs funded by the Clean Water Enterprise Fund to determine how the Public Utilities Commission's Administration functions serve the mission of the Clean Water Enterprise programs or for evaluating the cost efficiency of Public Utilities Commission's Administration functions. As a result, the Public Utilities Commission Administration determines the Clean Water Enterprise Fund's contribution to the Department's overhead costs without the benefit of a full analysis of the Clean Water Enterprise programs' actual administrative support needs.

The Public Utilities Commission's Administration does not have service measures that allow the Clean Water Enterprise programs to assess the cost effectiveness of the overhead functions provided to the Clean Water Enterprise programs. According to the performance assessment interim draft report, prepared by the consulting firm, Red Oak, although it is understood that Administration overhead costs are allocated to the enterprises, the overhead functions should have metrics that would allow the Public

Utilities Commission's Administration to measure the effectiveness and efficiency of it overhead functions.

All of the Public Utilities Commission's Administration overhead expenditures are allocated to the three enterprises through the Public Utilities Commission's cost allocation plan. The cost allocation plan is solely a tool to determine the percentage of overhead costs that each enterprise will bear. Budgetary decisions to allocate Public Utilities Commission Administration overhead are made outside of the Clean Water Enterprise program's management decision making process. The Public Utilities Commission's Administration, in conjunction with the three enterprises, should develop service measures for each of the Administration functions. These service measures should determine the level of services provided by the Administration functions and the funding levels, and should include deliverables and performance evaluations. For example, Human Resource Services should have clearly defined levels of service that are provided to each of the three enterprises and funding of positions should be directly linked to the level of service. Preparation of each year's budget for Administration functions should include an assessment of the current year's deliverables and performance.

## Establishing Budgetary Benchmarks

In a national survey of wastewater agencies, which included the San Francisco Public Utilities Commission, conducted by the Association of Metropolitan Sewerage Agencies, almost one half of the agencies surveyed reported the use of one or more performance benchmarks. The most frequently used benchmark was "total cost per million gallons treated". The other frequently used benchmark was "operating and maintenance costs per million gallons treated". In the survey, the San Francisco Public Utilities Commission reported that they did not benchmark performance. The Public Utilities Commission Financial Services staff should assist the Water Pollution Control Division and other Clean Water program managers to establish budgetary benchmarks to evaluate the changes in costs for providing sewer collection and wastewater treatment services. For example, as shown in Table 3.3, the annual increase in costs per million gallons treated have ranged from 5 percent to 8.7 percent between FY 1999-2000 and FY 2002-2003.

**Table 3.3**

**Total Costs per Million Gallons Treated**

**FY 1999-2000 though FY 2002-2003**

| | FY 2002-2003 | FY 2001-2002 | FY 2000-2001 | FY 1999-2000 |
|---|---|---|---|---|
| Total Operating Expenses | $129,177,000 | $128,948,000 | $117,840,000 | $115,273,000 |
| Million Gallons | 33,050 | 34,732 | 34,489 | 35,413 |
| Total Cost per Million Gallons | $3,909 | $3,713 | $3,417 | $3,255 |
| Percent Increase in Costs | 5.3% | 8.7% | 5.0% | n/a |

Source: Pretreatment Program Annual Reports and Clean Water Enterprise Fund Financial Statements

To better identify the source of the cost increases, the Public Utilities Commission Financial Services staff should work with Water Pollution Control Division and Clean Water program managers to develop additional benchmarks, including "operating and maintenance costs per million gallons treated", "chemical cost per million gallons treated", and "electric costs per million gallons treated".

# Conclusion

The Clean Water Enterprise Fund's costs for providing sewer collection and wastewater treatment services have increased over the past several years. Some of these cost increases result from operational increases, especially electricity and chemical costs, but much of the increase is due to administrative overhead.

Developing performance standards for Administration functions are a concern for all three Public Utilities Commission enterprises. Administrative overhead costs, including implementation of service measures and cost controls, will be evaluated further in Phases II through IV of the management audit.

# Recommendations

The Public Utilities Commission General Manager should:

3.1 Direct the development of service measures for each of the Administration functions in conjunction with the three enterprises, which determine (a) the level of services provided by the Administration functions and (b) the funding levels. Service measures should include deliverables and performance evaluations. Preparation of each year's budget for Administration functions should include an assessment of the current year's deliverables and performance.

The Director of Financial Services should:

3.2 In conjunction with the Water Pollution Control Division Manager, assess the options for reducing or limiting increases in chemical costs, such as revised vendor contracts, prior to the Public Utilities Commission's FY 2005-2006 budget preparation and review.

3.3 In conjunction with Financial Services, evaluate the feasibility of operating the treatment plants during off-peak hours, which includes an assessment of storage capacity and odor control at different levels of storage and off-peak operations and the potential associated cost savings. This analysis should be part of the FY 2005-2006 budget preparation and review.

3.4 In conjunction with the Water Pollution Control Division Manager, the Pretreatment, Pollution Prevention, and Storm Water Manager, and the Water Quality Bureau Laboratories Manager, develop budgetary benchmarks for the Clean Water Enterprise Fund.

# Costs and Benefits

These recommendations are intended to increase the level of budgetary controls for Clean Water Enterprise Fund expenditures. Decreasing electricity costs by 1.0 percent would result in annual savings of $122,380 and decreasing administrative overhead by 5.0 percent would result in annual savings of $917,060, for total cost savings of $1,039,440.

# 4. Clean Water Capital Improvement Planning

- **The Public Utilities Commission is facing significant clean water capital improvement challenges, particularly with regard to the Southeast Water Pollution Control Plant, the City's sewer system, the North Point Facility, the Channel Street Pump Station, and the Treasure Island and Hunters Point Naval Shipyard sewer systems.**
- **Despite the significant clean water capital planning work performed by the Department since the 1990s, all clean water projects were severed from the Department's long-term capital improvement program in 2002. Instead, the Department is undertaking a separate Clean Water Master Planning process due for completion in 2007.**
- **Given that Clean Water Master Plan construction cannot begin for at least five to seven years, the Department is actively considering how to ensure certain existing facilities' reliability and compliance with regulatory requirements. Department staff are proposing a five year interim capital improvement program which could cost between $100 million and $150 million.**

## Clean Water Capital Improvement Challenges

The Public Utilities Commission is facing significant clean water capital improvement challenges. Due to the Clean Water Master Planning process now underway, which is described in more detail below, a number of urgently required clean water capital improvement projects are either on hold or proceeding incrementally through the annual clean water repair and replacement program. In recent years, however, due to the Proposition H sewer service charge freeze, the clean water revenues available for the annual clean water repair and replacement program have been approximately $15 million annually which has been insufficient for the Department to develop a proactive repair and replacement program and which has resulted in a large backlog of work. Such an amount is insufficient to address all of the known facility inadequacies described below.

Southeast Water Pollution Control Plant

The Southeast Water Pollution Control Plant treats approximately 80 percent of the wastewater generated in the City, including most of the downtown commercial wastewater and the bulk of all industrial discharges. By contrast, the Oceanside Water Pollution Control Plant located on the west side of the City only processes the remaining 20 percent of the City's wastewater, which is primarily generated by residential sources. The Southeast community considers that it is adversely impacted by this distribution of the City's wastewater, in particular by the odors emanating from several sources within the Southeast Water Pollution Control Plant. There are ongoing efforts to reduce odors.

For example, the firm developing Mission Bay, Catellus Inc., provided funding in the amount of $5 million for one odor control improvement project as part of its mitigation commitment.

The Southeast Water Pollution Control Plant's digesters are now more than 50 years old and at the end of their useful lives. Replacement of these digesters will be evaluated as part of the Clean Water Master Planning process currently underway. Therefore, if the digesters are to be replaced, it will take at least five to seven years before new digesters are operational. In the meantime, the old digesters are being maintained through a program of proactive preventive maintenance work.

The Southeast Water Pollution Control Plant was expanded in 1981 to undertake secondary treatment. Therefore, the mechanical components which were installed at that time have come to the end of their 20 year life spans and are now overdue for replacement. Aging equipment will increase the Southeast Water Pollution Control Plant's operations and maintenance costs.

Hydraulically and Structurally Inadequate Sewers

The City has nearly 900 miles of sewers, of which approximately 15 percent are over 100 years old and approximately 70 percent are over 70 years old. The likelihood of sewer failure more than doubles after 90 years of use and more than doubles again after 105 years of use. The large number of sewers built after the 1906 earthquake are reaching those milestones. Approximately 60 miles of sewers are still constructed of brick. The Department's current sewer replacement cycle is approximately 200 years. The Department wishes to significantly reduce that in order to ultimately achieve an 80 year sewer replacement cycle which more closely reflects sewers' average life span. As shown in Table 4.1, the Public Utilities Commission estimates a $283,820,000 backlog for structurally and hydraulically inadequate sewers.[1]

[1] "Structurally inadequate" sewers are broken and in need of replacement. "Hydraulically inadequate" sewers are too small to contain large storm flows without flooding.

## Table 4.1

## Current Backlog of Structurally and Hydraulically Inadequate Sewers

| List | Description | Estimated Amount |
|---|---|---|
| 1. | Structurally Inadequate Sewers (to be addressed through the Repair and Replacement Program) | $12,020,000 |
| | **List 1 Subtotal:** | **$12,020,000** |
| 2. | Hydraulically Inadequate Sewers (to be addressed through future capital funding) | |
| | Category 1: Major Flooding Projects (above $1,000,000) | 127,500,000 |
| | Category 2: Minor Flooding Projects (below $1,000,000) | 8,300,000 |
| | Category 3: Substantially Inadequate Sewers | 66,000,000 |
| | Category 4: Low Priority Inadequate Sewers | 70,000,000 |
| | **List 2 Subtotal:** | **$271,800,000** |
| | **TOTAL:** | **$283,820,000** |

Source: Public Utilities Commission

The funding that is available to repair and replace sewers cannot always be directed to the highest priority needs because a certain amount of funding has to be available for sewer repair and replacement related to (a) the Department of Public Works' street repaving program, and (b) emergency sewer repairs. Currently, the Department performs approximately 60 miles of sewer inspections per year, and replaces approximately 5.4 miles of sewers per year in the nearly 900 mile system.

North Point Facility

The North Point Facility, which was constructed in the 1950s, provides the City with an important venue for primary treatment of wet weather wastewater and storm water flows. However, due to its age and old technology, the North Point Facility is at risk of electrical and mechanical failure and of causing environmental permit violations, which are potentially very expensive. The North Point Facility is currently slated for a $20 million refurbishment which will solve some, but not all, of its problems.

Channel Street Pump Station

The new Mission Bay development surrounds the existing Channel Street Pump Station which currently has no odor control facilities. This situation is likely to create a new source of odor complaints. Further, the Channel Street Pump Station experiences overflows during the annual October to April wet weather period. Capital improvements are needed to reduce combined wastewater and storm water overflows in the new Mission Bay development.

Treasure Island and the Hunters Point Naval Shipyard

When the City assumes responsibility for Treasure Island and the Hunters Point Naval Shipyard, it may assume responsibility for sewer systems which do not comply with Federal, State, or City regulatory requirements. Both systems could cause very expensive environmental permit violations. However, the City is working on agreements with the Navy to avoid assuming facilities that do not comply with regulatory requirements, and the entities developing these two areas will be required to upgrade all facilities to applicable codes and regulations.

Recycled Water Program

A citywide plan to reuse high quality treated wastewater for irrigation, toilet flushing, and other non-potable uses was developed in the 1990s. A revised draft of the *Recycled Water Master Plan* and a draft Programmatic and Project Specific Environmental Impact Report were completed in 1996. These documents outlined a recycled water system consisting of centralized treatment, major underground reclaimed water reservoirs, pump stations, and use of the City's high pressure fire fighting water supply system for reclaimed water distribution throughout the City. When clean water functions were transferred from the Department of Public Works to the Public Utilities Commission in 1996, the recycled water program was deferred, and since that time the Public Utilities Commission has not advanced far in the implementation of a recycled water system.

## Potential Impact on Ratepayer Support for Sewer Service Charge Increases

Failure to address the facility inadequacies listed above risks not just serious structural failures, but also citizen support for the clean water system. In her August 12, 2004 briefing to the incoming General Manager, the Acting General Manager stated, "Inadequate definition of upcoming [wastewater] capital costs erodes customer confidence, making it difficult to raise rates to support current operations." The length of the multi-year Clean Water Master Planning effort the Department is now embarking upon (described below) could exacerbate this problem. Indeed, public resistance to ongoing sewer service charge increases could increase pressure not to fund clean water capital improvements.

## Previous Clean Water Capital Planning

Historically, the City has made a significant investment in its clean water system. Over the last 105 years, the City has implemented the following master plans to reduce bacterial contamination of the receiving waters:

- 1899: The City consolidated its sewers and reduced the number of sewer outlets.

- 1935: The City consolidated more sewers and sewer outlets, and constructed primary treatment plants.[2] One primary treatment plant was constructed in 1938 and two more, including the North Point Facility, were constructed in the 1950s after World War II.

- 1974: The City worked to consolidate and reduce its wastewater overflows, and provide secondary treatment.[3] This master plan, which began in 1971, was adopted in 1974 after a Programmatic Environmental Impact Report was completed, and it was updated in 1982. The 1974 master plan focused on treatment and discharge in order to bring the City into compliance with the secondary treatment requirements of the Federal Water Pollution Control Act (later known as the Clean Water Act) enacted in 1972. The 1974 master plan also resulted in the construction of an extensive network of storage and transportation box sewers to improve the conveyance of wastewater and storm water to the treatment plants.

The City came into compliance with all its permit conditions and all San Francisco Bay Area Regional Water Quality Control Board cease and desist orders in April of 1997 when the last of the 1974 Master Plan construction projects was completed at a total capital improvement program cost of approximately $1.4 billion.

Following the 1974 Master Plan's completion, there were interim ten year plans based on priorities identified by clean water staff. These plans were developed by staff with limited public participation, and the plans did not specifically address environmental justice or sustainability issues, or alternative technologies. Increasingly limited funding was available to fund strategic planning initiatives due to the passage of Proposition H in 1998 which froze the sewer service charges through July 15, 2004.[4]

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[2] Primary treatment uses settling tanks to remove about half the pollutants carried in wastewater. During wet weather, the wastewater flow is highly diluted, which drops primary treatment's removal efficiency to between 30 and 40 percent.

[3] Using a natural biological process, secondary treatment removes a minimum of 85 percent of the pollutants in wastewater. Secondary treatment facilities combine bacteria, which use wastewater as a food source, with pure oxygen, which accelerates the bacteria's growth. Given the City's combined wastewater and storm water sewer system, secondary treatment removes the majority of pollutants from both wastewater and storm water.

[4] Proposition H, approved by the voters in 1998, froze sewer service charge rates through July 1, 2006 (subject to certain exceptions). However, in 2002 the voters approved Proposition E which gave the Public Utilities Commission the authority to set sewer charges to meet the cost of service, including capital improvement costs, subject to review by the Rate Fairness Board. Subsequent to Proposition E, the Commission increased the sewer service charge rate to meet an 11 percent increase in FY 2004-2005 sewer

Nevertheless, since the early 1990s, the Clean Water Program has undertaken a number of individual projects, studies, reports, and funding initiatives, of which the most notable have been:

- *Bayside Discharge Alternatives Study* (1992 onwards). This included an extensive public consultation process.

- The $140 million revenue bond measure approved by voters in 1994 for clean water capital improvement projects related to treatment facilities and sewer repair, of which only a portion was encumbered by 1998 when the Proposition H sewer service rate freeze came into effect. As a result of Proposition H, the Clean Water Program was unable to issue the balance of the bonds which had been previously authorized.

- *Recycled Water Master Plan* (revised draft, July of 1996, prepared by Montgomery Watson).

- The Technical Review Committee established by the Commission in 1997 to provide technical review of clean water reports and issues. This committee issued an outline for an *Assessment of Wastewater and Storm Water Management Technologies for the City and County of San Francisco* (July 27, 1997).

- *Overview of Wastewater Management Alternatives for Reducing Pollutant Mass Discharge to the Bay* (draft, April of 1997, prepared by CH2M-Hill). In response to a Board of Supervisors directive, this listed clean water management alternatives.

- *Long-term Biosolids Management Report* (December of 1997). This was the culmination of four reports examining biosolids post-treatment, reuse, and marketing.

- *Southeast Plant Anaerobic Digestion/Solids Handling Upgrade Project*. Brown and Caldwell's August of 1998 facilities planning report addressed the replacement of the Southeast Water Pollution Control Plant's original digesters with new egg-shaped digesters. The project was subsequently expanded to upgrade and relocate the solids handling facilities in their entirety. The project was then put on hold for re-evaluation in the upcoming Clean Water Master Plan.

- *Odor Control Master Plan, Report for the Southeast Water Pollution Control Plant* (August of 1998, prepared by Brown and Caldwell).

- *SFPUC 1999 Strategic Plan – Clean Water Program* (draft, November 24, 1998). This strategic plan recommended the development of an updated master plan, Clean Water 2030. Appendix A was used for the clean water component of the Public Utilities Commission's proposed integrated long-term capital improvement program.

service revenue requirements, and is considering additional sewer service charge increases in both FY 2005-2006 and FY 2006-2007.

- *Screening of Feasible Technologies* (draft, February of 2000, prepared by Brown and Caldwell). This report is part of the Commission's response to Board of Supervisors Resolution 876-96 which requested the Commission to conduct a comprehensive feasibility study of environmentally beneficial alternatives to the cross-town tunnel for dealing with clean water flow into the Bay.

- *Wastewater System Reliability Assessment Baseline Facilities Report* (draft, December of 2003, prepared by Water Infrastructure Partners).

- *Treasure Island/Yerba Buena Island Utility Vulnerability and Risk Assessment Final Report* (March of 2004).

- *Hunters Point Shipyard Decentralized Wastewater Treatment Study* (September of 2004). This study explored a wide range of decentralized treatment alternatives for the Hunters Point Shipyard redevelopment. The technical and cost information developed in this study will be incorporated into an update of the 1996 *Recycled Water Master Plan* and the current Master Planning process.

## Elimination of Clean Water Projects from the Long-term Capital Improvement Program

Initially, clean water projects were an integral part of the Department's long-term capital improvement program. In July of 1999, the Department issued a Request for Proposals for a program management services contract for more than 150 water, power, and clean water capital improvement projects, including the replacement of hydraulically inadequate sewers, and installation of new wastewater digesters and improvements to the clean water treatment process at the Southeast Water Pollution Control Plant. The estimated cost of the clean water elements was $960 million. According to that Request for Proposals, a key driver for the Department's long-term capital improvement program was increasingly stringent clean water regulations. Therefore, Clean Water Enterprise Department revenues were to be available as one of the long-term capital improvement program's funding sources. Bidders were required to have at least 15 years experience with water and/or clean water systems.

The Request for Proposals noted that "The [capital improvement] program is loosely organized within each enterprise, but needs to be cohesively planned as a whole to optimize the impact of available funds on infrastructure and service reliability." To that end, the draft *Clean Water Program 10 Year Capital Plan 1998 – 2007* (May of 1998) was appended to the Request for Proposals. Although never formally adopted, iterations of that plan formed the basis for the Department's long-term capital improvement program planning.

The program management services contract, which commenced on September 22, 2000, was initially awarded to the San Francisco Water Alliance which had both water and clean water experience. Early on, the San Francisco Water Alliance identified that key strategic objectives for clean water included:

- Minimizing odors and visual impacts at the Southeast Water Pollution Control Plant.
- Reducing sewer failure and flooding.
- Reducing the number and volume of combined sewer overflows.
- Adequate funding for the clean water repair and replacement program.

Nevertheless, in 2002 the former General Manager severed the clean water projects from the long-term capital improvement program. There was no proportionate decrease to the program management services contract awarded to the San Francisco Water Alliance or its successor, Water Infrastructure Partners, despite the significant decrease in the size of the long-term capital improvement program for which they were providing program management services.

Based on comments from Department interviewees, the Budget Analyst concludes that the former General Manager severed clean water from the long-term capital improvement program due to her assessment that:

- The planning process had been inadequate because the Department had developed a prescription without presenting a range of alternatives to the Southeast community. The prescription comprised a collection of individual projects which were not supported by a clean water system-wide master plan.
- Opposition from the Southeast community and the Mayor's Public Utilities Infrastructure Task Force[5] to the prescribed clean water projects would undermine politician and voter support for the water system components of the proposed long-term capital improvement program and the revenue bonds required to fund them. The Department might not be able to counteract very vocal criticism from the Southeast community that the Department had not analyzed the full range of wastewater and storm water treatment options, had not defined the long-term vision, and had not adequately addressed community concerns through meaningful public participation.
- Voters might not support the total cost of a $4.6 billion integrated long-term capital improvement program.
- The proposed odor control plans for the Southeast Water Pollution Control Plant might not be effective.

The former General Manager decided to sever clean water projects from the long-term capital improvement program without consultation with the Water Pollution Control

[5] The program was not supported by the Mayor's Public Utilities Infrastructure Task Force, formed in 2001 to provide recommendations to the Mayor's Office on the integrated long-term capital improvement program. The wastewater program was not supported by the task force, which included representation from businesses, residents, and special interest groups. The Alliance for a Clean Waterfront provided specific criticism of the Department's planning efforts. The task force issued a final report on June 17, 2002.

Division. The Water Pollution Control Division Manager learned about the decision at a Public Utilities Commission meeting, along with the general public. The former General Manager publicly stated that there was no clean water master plan and that the Department would start clean water capital planning from scratch using a community consultation process which examined all available options. These actions and statements were regarded by long-term clean water staff as dispiriting given the amount of clean water capital planning which had taken place since the 1990s, and the vetting of the long-term capital improvement program's proposed clean water projects and their funding by the initial Program Management Services contractor, the San Francisco Water Alliance (September 22, 2000 – March of 2002), an external analysis performed by R. W. Beck, Inc. (May 21, 2002), and an independent Blue Ribbon Panel evaluation of the R. W. Beck, Inc. analysis (May 23, 2002). The R. W. Beck, Inc. analysis had concluded that:

> "In general, the [long-term capital improvement program] was well developed and provides a comprehensive list of necessary projects. The overall process to develop the [long-term capital improvement program] was thorough and the Long-Range Financial Plan complements the program."

The Blue Ribbon Panel found that the R. W. Beck, Inc. analysis was "very competent, comprehensive, rigorous, accurate and on-target" and that the long-term capital improvement program should go forward. Further, department engineers interviewed by the Budget Analyst have indicated that the clean water projects severed from the long-term capital improvement program were at a more advanced stage of technical development than the water system projects retained in that program. The Budget Analyst notes that the current development of a five year interim capital improvement program for clean water projects, which would address immediate needs and which may not require the level of public consultation envisaged for the Clean Water Master Plan, indicates that the wholesale severance of all clean water projects from the long-term capital improvement program resulted in the elimination of some clean water projects which justify implementation as quickly as possible.

## The Clean Water Master Planning Process

The former General Manager wanted to manage the Clean Water Master Planning process out of the General Manager's Office. This approach has resulted in links with the Infrastructure Division, but not with the Water Pollution Control Division nor with the Planning Bureau. The *Draft Interim Phase II Report* on the Water Pollution Control Division prepared by Red Oak Consulting (August 10, 2004) made the following assessment: "The management of the [Clean Water] Master Plan from the GM's office, rather than directly from the [Water Pollution Control Division], is illustrative of the lack of control of the [Water Pollution Control Division] of the decisions that directly affect it."

Initially, the Clean Water Master Planning process was insufficiently staffed. Department staff did not start to work full force on the process until early 2003 when the Infrastructure Development Program Manager began to lead the process while retaining her prior responsibilities for the development of new sewer systems at Treasure Island,

the Hunters Point Naval Shipyard, and Mission Bay. The Infrastructure Development Program Manager only remained in that role until March of 2004 when she was reassigned to another priority project and the management responsibility for the Clean Water Master Planning process was allocated to two lower level staff. Recently, a Classification 0942 Program Manager VII has been hired to manage the program for part of her time. By FY 2005-2006, the incumbent of this more senior position expects to be devoting approximately 60 percent of her time to the Clean Water Master Planning process. In addition, there will be three sets of staff working on specific aspects of the Clean Water Master Plan managed under a "matrix organization" whereby each staff member will report to both the supervisor in his or her own section and to the Clean Water Master Plan project manager. Engineering and plan checker staff will work on the Planning and Engineering Project. Coordinators of citizens' involvement and public information officers will work on the Public Participation Project. Planners will work on the Environmental Review Project. Therefore, going forward there will be a significant number of City staff dedicated to the Clean Water Master Planning process from both the Public Utilities Commission and the Department of Public Works.

There are three components to the Clean Water Master Planning process to be managed by the Department with contractor support:

1. Planning and engineering: As at the writing of this report, under a proposed $6,000,000 contract, a joint venture between Brown and Caldwell, Carollo Engineers, and Metcalf and Eddy will be responsible for coordinating and synthesizing the technical work and analyses completed by the contractors and City staff into a comprehensive Clean Water Master Plan. Further input will be provided by an eight member Technical Advisory Committee costing $405,000. This committee will provide technical guidance, as-needed consultation, quality control, and independent review throughout the Clean Water Master Planning process.

2. Public participation: As at the writing of this report, under a proposed $2,000,000 contract, a joint venture between Public Affairs Management and Alfred Williams Consultancy will be responsible for a comprehensive three year public participation program which will begin concurrently with the proposed planning and engineering contract, acting as a link between the technical work and the community's input. The Department anticipates that a lot of the public outreach will be coordinated and conducted through the Proposition E-required Public Utilities Citizens' Advisory Committee which will be independently advising the Public Utilities Commission. This public participation effort will include meetings, surveys, websites, tours, public education, and discussions with residents, businesses, and special interest groups throughout the City.

3. Programmatic Environmental Impact Report: As at the writing of this report, under an estimated $2,250,000 contract, the selected contractor will begin work in Year 2 after the public participation process has begun to allow time for the development of project alternatives. The Programmatic Environmental Impact Report will take approximately two years to complete.

Three years after the commencement of the proposed planning and engineering contract and the proposed public participation contract, the contractors should provide a Clean Water Facilities Plan, a Clean Water Financial Plan, a Programmatic Environmental Impact Report, and a Public Participation Report.

## Advantages and Disadvantages of the Clean Water Master Planning Process Being Undertaken by the Department

Table 4.2 summarizes the Budget Analyst's assessment of the advantages and disadvantages of the Clean Water Master Planning process.

**Table 4.2**
**Advantages and Disadvantages of the Clean Water Master Planning Process**

| Advantages | Disadvantages |
|---|---|
| A comprehensive analysis of all options will determine definitively what is and what is not possible. The master planning process creates opportunities to (a) link wastewater, storm water, biosolids, recycled water, and conservation planning strategies, and (b) anticipate increasingly stringent Federal and State environmental regulations. This is the Department's first significant public consideration of major policy issues such as decentralizing the clean water system, redirecting flow, separating the combined sewer and storm water system in whole or in part, and whether or not to continue to discharge treated effluent into the ocean. | The sheer length of this multi-year process means that there will be no major new infrastructure constructed for at least five to seven years unless an interim capital improvement program for immediate needs is approved (as recommended below). An interim capital improvement program will be necessary to address the infrastructure needs related to flooding, odor control, other issues of immediate concern to citizens, and compliance with more stringent regulations enacted in the short term. Interim solutions constructed in the short term could have a useful 15 year life span before permanent solutions are identified and constructed. It is important that the master planning process not create an excuse for inaction on the Department's part. |

| Advantages continued | Disadvantages continued |
|---|---|
| In line with ideas expressed in the briefing to the incoming General Manager, the master planning process creates an opportunity for the Department to develop its first clean water sustainability plan looking at organizational sustainability (e.g. its financial viability and personnel succession planning), infrastructure sustainability (e.g. asset management), and environmental sustainability (e.g. compliance with more stringent regulations in the future). | The master planning process, by virtue of canvassing all options, could create unrealistic public expectations. For example, with regard to the siting of future treatment plants, how many alternative, low-lying, affordable sites within the City's boundaries, with good transportation access for hazardous materials, are actually available? |
| The master planning process will formalize, consolidate, and coordinate knowledge held by staff and disparate databases. It will also contextualize the findings contained in the various reports listed above, each of which is focused on specific questions. | There is a risk that the master planning process will "reinvent the wheel" given how much planning work has already happened since the 1990s. The master planning process needs to maximize its use of the thinking that has already been done. |
| Public participation will shape the projects and policies. The master planning process formalizes citizen involvement and the need for the Department to actively seek citizen input. It creates an opportunity to address environmental justice issues. | This master planning process is holding itself to a much higher standard for public consultation than the Water System Capital Improvement Program process did. For example, there was no equivalent level of public consultation about the Hetch Hetchy restoration proposal. There has also been no equivalent planning process connected to the Department's current and potential future power services. |
| The proposed public participation contract strongly supports the public outreach and input goals of the master planning process. | Absent strong Department management of the links between the proposed planning and engineering contract and the proposed public participation contract, there is a significant risk that the public input will insufficiently inform the technical process. |

| Advantages continued | Disadvantages continued |
|---|---|
| The final product should facilitate obtaining political and public support for financing clean water capital investments. | Whereas the Water System Capital Improvement Program has the Bay Area Water Supply and Conservation Agency as a major external advocate for progress and funding, there is no comparable advocate for a Clean Water Capital Improvement Program. Further, because the Department is compliant with all its clean water permits, there is no external regulatory requirement forcing the Department to invest in its infrastructure. If the Clean Water Master Plan generates proposals which require a huge level of investment, there may be insufficient support for the necessary level of funding. |
| The master planning process incorporates the need for a Programmatic Environmental Impact Review from the outset, unlike the Water System Capital Improvement Program. | This process is occurring in the absence of a completed strategic plan for the Department as a whole. |

Based on the information contained in Table 4.2 above, the Budget Analyst concludes that the advantages of undertaking a Clean Water Master Planning process outweigh the disadvantages. This is primarily because the comprehensiveness of this type of planning process, and the level of stakeholder involvement woven into the entire process, will provide the public with a meaningful opportunity to provide input into policy and planning decisions and will protect the Department from future criticism that it did not consider all the options and work closely with affected communities. This is important given the level of community concern about clean water system planning. Nevertheless, the disadvantages are both real and serious, and need to be carefully managed. The General Manager will need to hold Department staff and third party contractors accountable for meeting critical path milestones in the Clean Water Master Planning process to ensure that the process is not any more lengthy than already planned.

## Simultaneous Required Actions

Department staff now estimate that the Department will need to invest between $1 billion and $2 billion in the clean water system's infrastructure. If the Clean Water Master Planning process results in significant infrastructure changes, the costs would be much greater. For example, moving the Southeast Water Pollution Control Plant could alone cost $2 billion. In the interim, the Department does not want to invest in capital improvement projects which might become quickly obsolete if the Master Plan determines new policy parameters (for example, requiring sewers to be built with

sufficient capacity for 25 year storms, rather than the current five year storms) or new ways of conducting business (for example, decentralized sewer treatment and redirected flow).

Nevertheless, a small subset of previously identified capital improvement projects are moving forward as part of the annual repair and rehabilitation program. Further, given that Clean Water Master Plan construction cannot begin for at least five to seven years, the Department is actively considering how to ensure certain existing facilities' reliability and compliance with regulatory requirements. Department staff are developing for the General Manager's consideration a proposal for a five year interim capital improvement program which could cost between $100 million and $150 million. Such an interim capital improvement program could start in FY 2005-2006 for completion by FY 2010-2011. This interim capital improvement plan, which would be managed by the Infrastructure Division's Project Management Bureau, could cover projects which would fall outside the need for extensive public consultation under the Clean Water Master Planning process, such as:

- Immediately required repairs to aged existing infrastructure (for example, replacing the collapsed digester roof at the Southeast Water Pollution Control Plant).

- Sewer improvements to prevent flooding.

- Odor control projects at the Southeast Water Pollution Control Plant and certain pump stations.

- In order to bridge the five to seven year gap before Clean Water Master Plan construction can commence, the General Manager, with assistance from the Assistant General Manager, Clean Water position recommended in Section 10, should consider a five year interim capital improvement program for immediately needed projects which would not jeopardize the Clean Water Master Planning process or result in investing in facilities which would be quickly redundant.

The Department is also refining its assessment of the risks associated with the Department's clean water capital assets as part of the Department's current asset and risk management initiatives. These initiatives will determine the risk of major clean water capital assets failing, and the direct and community costs of such failures. The resulting "risk cost" data will assist the Department to determine what asset-related risks are most important to reduce through the Department's future clean water capital improvement investments.

# Conclusion

There are a number of urgently required clean water capital improvement projects which are either on hold or proceeding incrementally through the insufficiently funded annual clean water repair and replacement program.

Since the 1990s, there has been extensive clean water capital planning, but the overall planning process has not been particularly coherent, particularly given the elimination of clean water projects from the Department's long-term capital improvement program.

Despite delays in moving the Clean Water Master Planning process forward, the process has now begun. The advantages of the master planning approach outweigh the disadvantages. This is primarily because the comprehensiveness of this type of planning process, and the level of stakeholder involvement woven into the entire process, will provide the public with a meaningful opportunity to provide input into policy and planning decisions and will protect the Department from future criticism that it did not consider all the options and work closely with affected communities. Nevertheless, the disadvantages are both real and serious, and need to be carefully managed.

An interim five year capital improvement program would usefully bridge the five to seven year gap before Clean Water Master Plan construction can commence.

# Recommendations

The Public Utilities Commission General Manager should:

4.1 Hold Department staff and third party contractors accountable for meeting critical path milestones in the Clean Water Master Planning process.

4.2 Consider a five year interim capital improvement program for immediately needed projects which would not jeopardize the Clean Water Master Planning process or result in investing in facilities which would be quickly redundant.

In Section 9, the Budget Analyst recommends that the staff managing the Clean Water Master Planning process should be part of the new Clean Water Enterprise. It is important that (a) Clean Water Master Planning be a core responsibility of the new Assistant General Manager, Clean Water position recommended by the Budget Analyst in Section 10, and (b) clean water staff with operational expertise are an integral part of the Clean Water Master Planning process.

# Costs and Benefits

As of the writing of this report, in order to develop a Clean Water Master Plan, the Department is planning to invest $15,750,000 in consultant services and internal City resources. The Budget Analyst considers that this will be a worthwhile investment if it completes a Clean Water Master Plan with widespread stakeholder support that facilitates the financing and construction of necessary capital improvements in a timely fashion.

# 5. Public Participation in Clean Water Policy and Planning

- **The public participation process for the 2002 Clean Water Projects was inadequate.**
- **As a result, the public received inconsistent and vague information, which fueled the public perception that the Department was not listening. Additionally, it is unclear whether public concerns were consistently conveyed to decision-makers and whether the recommendations of established community and technical advisory groups influenced the selection of the 2002 clean water projects.**
- **The Department's failure to provide for public participation in clean water policy and planning and to conduct adequate public outreach prior to the introduction of the integrated long-term capital improvement program in 2002 will result in delays to necessary capital improvements.**
- **The incoming General Manager should ensure that a public participation program for the Clean Water Master Planning Process is carefully managed so that this effort provides the public with a meaningful opportunity to give input into policy and planning decisions and results in widespread stakeholder support of a clean water capital improvement program.**

In the Spring of 2002, the former General Manager severed the clean water projects from the long-term capital improvement program. The clean water projects included ten projects, eight for the Southeast Water Pollution Control Plant, one for the North Point Facility, and one for the Oceanside Water Pollution Control Plant, for a total estimated cost of approximately $960 million. The proposed projects for the Southeast Water Pollution Control Plant would have (1) replaced the existing sewage digesters[1], (2) replaced the sewers at Sunnydale in the Bayview, (3) repaired and replaced various components of the aging Southeast Water Pollution Control Plant, and (4) built a 66 inch force main from the Channel Pump Station to the Southeast Water Pollution Control Plant. The Department stated that these ten projects would have improved wastewater treatment efficiency and reliability at the Southeast Water Pollution Control Plant,

[1] Ten existing digesters at the Southeast Water Pollution Control Plant handle the solids from the sewer system. These ten digesters are deteriorated, are not seismically safe, and are a significant cause of the odor that is generated at the Southeast Water Pollution Control Plant. While the digester project was one of the ten projects proposed in integrated capital improvement program, this project was also specified in a November 1994 Clean Water Program bond initiative approved by San Francisco voters. Four years later, in April of 1998, the Board of Supervisors passed a Resolution (98-0465) urging the Public Utilities Commission to repair these sewage digesters.

reduced odor emissions and the risk of flooding in the surrounding Bayview neighborhood, and prevented overflow of untreated wastewater into the San Francisco Bay. The Department expended approximately $275,000 on two professional service contracts to conduct community outreach for these clean water projects.

The former General Manager severed the clean water projects from the long-term capital improvement program, in part, because members of the Southeast Community opposed the clean water projects. To address the Southeast Community's concerns, the former General Manager implemented a planning process to complete a Clean Water Master Plan that would provide the foundation for a new clean water capital improvement program. This decision will result in a five to seven year delay in the construction of comprehensive improvements to the City's wastewater and storm water system.

As of the writing of this report, the Clean Water Master Planning process includes three programs: 1) planning and engineering, 2) public participation, and 3) environmental review, which will take approximately three years to complete for a total estimated cost of $15,750,000. The proposed public participation program is currently projected to cost $2,750,000, of which $750,000 will be for staff costs and $2,000,000 will be for consultant services. The Department issued a Request for Proposal for the consultant services for the proposed public participation program in December of 2003, and awarded the contract to a joint venture of Public Affairs Management and Alfred Williams Consultancy, JV in August of 2004. To date, the Communications Division has developed only an initial "Communications Strategic Action Plan" for this project to:

- Oversee the creation of a three-year public participation plan for the Clean Water Master Plan.
- Manage the official launch of the Clean Water Master Plan.
- Create a staff mentoring and training program.
- Raise awareness about scheduled odor control improvements at the Southeast Water Pollution Control Plant.

## Public Information Program for the 2002 Clean Water Projects

For the public information program for the 2002 clean water projects, although the Department has an internal Communications Division, the Department conducted community outreach efforts for the clean water programs using outside public relations consultants. The Communications Division did not participate in the planning or performance of this outreach effort. However, the Communications Division did send a representative to some of the consultant managed community meetings.[2] The Department

[2] The Budget Analyst will review the performance of the Communications Division in Phase IV of the management audit.

awarded a one-year contract from June 12, 2000 through June 12, 2001 for $200,000 to Public Affairs Management to conduct public outreach. This public outreach effort focused exclusively on presenting the digester project to the Southeast Community. Public Affairs Management conducted stakeholder interviews, public surveys, prepared a summary of the results for the Commission, and made recommendations on how to improve public information efforts. Additionally, Public Affairs Management prepared meeting announcements, agendas, presentation materials, and recorded minutes. Department staff presented the digester project to the public at twelve public meetings.

The Department awarded, through the Water Infrastructure Partners Program Management services contract, a second six-month contract to Reputation LLC for a six month time period, February and March of 2002, and June through September of 2002. The contract was for public outreach for the integrated long-term capital improvement project. Between February and March of 2002, Reputation LLC coordinated community meetings in each of the eleven supervisorial districts to provide a forum for the former General Manager to educate the public about and promote the integrated long-term capital improvement project.[3]

## Inadequacies of the Public Participation Process for the 2002 Clean Water Projects

The Department did not have a plan for public participation that included (1) the identification of who is representative of a cross section of the community, (2) an ongoing forum for public input for policy and planning, (3) a method to incorporate community input into the integrated long-term capital improvement project, and (4) a specific plan for community outreach.

*The Department did not consistently send representatives to community meetings who had authority in the organization, were decision-makers regarding the content of the clean water projects, and could clearly convey complex technical information.*

For the meetings that presented the digester project to the Southeast Community, Department representatives included the following staff: the Director of Planning (presented at five of the twelve meetings), and the Assistant General Manager of Operations (presented at one of the twelve meetings), the Water Pollution Control Division Manager (presented at five of the twelve meetings), and staff engineers from the Water Pollution Control Division (attended seven of the twelve meetings). At six of the twelve meetings, Department representation did not include representatives who had authority in the organization and who were decision-makers regarding the content of the clean water projects. No one staff representative attended all, or even a majority, of these public meetings. As a consequence of this, the public received inconsistent information,

[3] During the June through September 2002 period, the General Manager had already made the decision to remove the clean water projects from the integrated long-term capital improvement program.

and in many cases, vague responses to questions. Additionally, whether public concerns were consistently conveyed to decision-makers is unclear.

*The Department did not adequately respond to the recurring questions and concerns that members of the public expressed.*

The report that Public Affairs Management prepared for the Commission on December 31, 2001, and the Community Outreach Report prepared by Reputation, LLC show that members of the public continually raised the following questions:

- Can the Southeast Water Pollution Control Plant be relocated?
- Why does the oldest facility in the City with noticeable deferred maintenance, reflected in odor problems and flooding, treat the majority of the City's sewage?
- Can the system be redesigned so that the Southeast Water Pollution Control Plant does not treat 80 percent of the City's wastewater?
- How will the clean water projects integrate environmental solutions that consultant studies have explored in the past?
- Have all feasible technologies been explored?
- How will the Department involve the community in policy and planning decisions?
- How will the Department outreach to the public?

A review of the minutes reveals that the former General Manager and Department staff provided vague and inconsistent responses to these recurring questions. As an example, in response to criticism from the public that the clean water projects did not reflect a consideration of alternatives or a community planning process, the former General Manager responded:

> "Our purpose tonight is not to design projects, but to describe the projects. We don't have a plan in place at this time. We don't know what technology we'll use. We have heard complaints about how the SFPUC had addressed the issues. We're starting over and we will be using a TRC. Tonight is not the place to plan how the projects will be designed. We're here to present a package of projects and educate the public. How the projects will be implemented is not decided. We will have community input. . . . The design will have lots of community input opportunities." District 9 meeting, April 10, 2002.

However, the Department had not developed a plan for public participation in policy and planning, nor did the General Manager provide the public with any details of "community input opportunities". The consequence of inadequate responses to questions fueled public perception that the Department was not listening, and failure to provide details of

"community input opportunities" gave the public little assurance that the Department would listen later in the development of the clean water projects.

*The Department did not evaluate whether to implement the consultant recommendations to improve public outreach.*

On December 31, 2001, Public Affairs Management made eleven recommendations to the Commission to improve public outreach. As an example, Public Affairs Management recommended that the Department conduct a study of the potential to relocate the Southeast Water Pollution Control Plant and share the results with the surrounding community. However, nothing in the minutes of the meetings prepared by Reputation, LLC between February and April of 2002 and in interviews with staff indicate that the Department considered whether to implement, had implemented, or intended to implement, these eleven recommendations for the subsequent public outreach effort to educate the public about the integrated long-term capital improvement program. The consequence of this is a missed opportunity to improve the subsequent process and a failure to achieve all the potential benefits from the expenditure of $200,000 for the consultant contract.

## Utilization of Advisory Groups

The Department failed to fully utilize established community and technical advisory groups in the development of the 2002 clean water projects. The Department did not solicit comment from established community and technical advisory groups in the selection of the clean water projects included in the integrated long-term capital improvement program so that these groups could provide input in policy and planning. Instead, the Department developed the 2002 clean water projects using internal documents, conducting workshops with Department staff, and contracting with experts on an as needed basis.

The Department had an opportunity to involve three existing groups in policy and planning decisions for the clean water projects, but failed to do so. These groups were:

- The Citizens' Advisory Committee on Wastewater Management established by the Board of Supervisors in 1972. After clean water functions were transferred from the Department of Public Works to the Public Utilities Commission in 1996, the Citizens' Advisory Committee languished and after a two-year period of inactivity, the Commission disbanded the committee in the summer of 2002. The last meeting of the Citizens' Advisory Committee was in May of 2000. The Board of Supervisors finalized this Commission action on February 10, 2004.

- The Technical Review Committee was established in 1997 by the Public Utilities Commission to develop an outline for a technology assessment that is the basis for the Screening of Feasible Technologies Report (SOFT). The SOFT report is the Commission's response to Board of Supervisor Resolution 876-96 which requested the Commission to conduct a comprehensive feasibility study of environmentally

beneficial alternatives to the cross-town tunnel for addressing clean water flow into San Francisco Bay. The Committee meets on an ad-hoc basis.

- The Public Utilities Infrastructure Task Force established in 2001 by former Mayor Brown to examine the operation and long-term requirements of the City's water and wastewater systems, and to advise the Mayor and the Public Utilities Commission regarding the capital improvements and financial measures required. The task force met between January of 2000 and January of 2003.

The Department could not provide documentation that indicates that the recommendations of established community and technical advisory groups influenced the selection of the 2002 clean water projects**.** The Department was unable to even provide a complete set of agendas and minutes for the meetings held by the Citizens' Advisory Committee, the Technical Review Committee, and Public Utilities Task Force despite repeated requests by the Budget Analyst. Interviews with members of these groups reveal that the Public Utilities Infrastructure Task Force provided recommendations to the General Manager and the Commission regarding the clean water projects; however, these recommendations were not maintained in the Department's files provided to the Budget Analyst. Finally, a community outreach report, prepared by Reputation LLC, includes correspondence from the Chair of the Public Utilities Infrastructure Task Force to the Mayor, the General Manager and the Commission, and correspondence from the Alliance for a Clean Waterfront, a community based nonprofit organization. However, the report does not include return correspondence from the General Manager or the Commission that responds to the concerns raised by the Public Utilities Infrastructure Task Force or the Alliance for a Clean Waterfront.

Proposition E, passed by San Francisco voters in November of 2002, requires the establishment of a Public Utilities Citizens' Advisory Committee. The intention is that public outreach for the Clean Water Master Planning process will be conducted through the Public Utilities Citizens' Advisory Committee, which will independently advise the Commission.

The General Manager should (1) ensure that the Department utilizes established community and technical advisory groups in policy and planning decision for the Clean Water Master Plan, and (2) direct that the Project Manager of the Clean Water Master Planning process to ensure a system of documentation in which the planning and engineering program and the environmental review program clearly record how recommendations from established community and technical advisory groups influence technical decisions.

## The Proposed Clean Water Master Planning Process

As noted above, the proposed public participation program for the Clean Water Master Planning Process will cost $2,750,000, of which $750,000 will be for staff costs and $2,000,000 will be for consultant services. Unlike the public information program for the 2002 clean water projects which focused a majority of resources on outreach to the

Southeast community, the proposed Clean Water Master Planning Process will be a citywide outreach effort with particular attention on the communities surrounding the North Point Facility and the Southeast Water Pollution Control Plant. To date, the Communications Division has only developed a preliminary plan for the proposed public participation program for the Clean Water Master Planning process. In the professional services agreement for the consultant to provide assistance to the Department in the proposed public participation program, the key components for the work are:

- Contract and team management which includes the development of project procedures and guidelines to ensure consistency and quality of work, the coordination of sub-consultant work, and coordination of internal Communications Division and technical staff.

- Development of a public participation program which includes stakeholder identification and interviews.

- Preparation and tracking of contact and issue database.

- Organization of a "Project Launch" and six public workshops.

- Preparation of customer surveys and issue reports.

- Plan and implementation of a media campaign.

- Development of communications materials, including a web page.

- Review and translation to technical documents for the public.

- Development and provision of training for internal Communications Division and technical staff.

Under the proposed organization structure, the Communications Division would be responsible for the work of the public participation program consultant. The Project Manager would oversee the planning and engineering, public participation, and environmental review programs.

The problems in the earlier outreach program were:

- The Department did not develop a plan for public participation.

- Staff representation did not consistently include representatives who had authority in the organization, were decision-makers regarding the content of the clean water project, and who could convey complex technical information.

- The internal Communications Division staff was not utilized to do public outreach work.

- The former General Manager and Department staff gave unclear and inconsistent responses to recurring questions from the public, which fueled public perception that the Department was not listening.

- The Department did not evaluate or implement consultant recommendations to improve public outreach.

- The Department did not create a forum for public input into policy and planning for the clean water projects and did not fully utilize established community and technical advisory groups.

Based on an evaluation of the problems of the earlier outreach process compared to the key components of the proposed public participation program for the Clean Water Master Planning process, the Budget Analyst concludes that the proposed public participation program should address a majority of the problems of the earlier process. However, the General Manager should ensure that the internal Communications Division staff is fully utilized to do public outreach work, and that expenditures for the proposed public participation program reflect the appropriate mix of internal and contractual resources.

The incoming General Manager should also direct the Communications Division to develop a detailed plan for the public participation program following the policy guidance of the Public Utilities Citizens' Advisory Committee. In developing this work plan, the Communications Division should not "reinvent the wheel", and should instead build on the consultant stakeholder lists, evaluations, and recommendations developed in the earlier process. The incoming General Manager should report the work plan to the Commission, and in particular show how this work plan (1) identifies who is representative of a cross section of the community, (2) provides an ongoing forum for public participation in policy and planning, (3) ensures a method to incorporate community input into the Clean Water Master Plan, and (4) demonstrates adequate public outreach.

The incoming General Manager should ensure consistent and appropriate staff representation in the community planning process. This consistent representation should include staff who have authority in the organization, are decision-makers regarding the content of the Clean Water Master Plan, and who can clearly convey complex technical information to the public.

# Conclusion

The Public Utilities Commission is responsible for maintaining the City's wastewater and storm water system. The Department's failure to provide for public participation in clean water policy and planning and to conduct adequate public outreach prior to the introduction of the integrated long-term capital improvement program in 2002 will result in delays to necessary capital improvements. The Clean Water Master Planning process should address a majority of the problems of the earlier process and give the public a meaningful opportunity to provide input into policy and planning decisions.

# Recommendations

The Public Utilities Commission General Manager should:

5.1 Ensure that the Department utilizes established community and technical advisory groups in policy and planning decisions.

5.2 Direct the Project Manager of the Clean Water Master Planning process to establish a system of documentation in which the planning and engineering program and the environmental review program clearly record how recommendations from established community and technical advisory groups influence technical decisions.

5.3 Ensure that the internal Communications Division staff is fully utilized to do public outreach work, and that expenditures for the proposed public participation program reflect the appropriate mix of internal and contractual resources.

5.4 Direct the Communications Division to develop a detailed plan for the proposed public participation program following the policy guidance of the Citizens' Advisory Committee.

5.5 Ensure that the Communications Division does not "reinvent the wheel". Instead, the Communications Division should further the development of the existing consultant stakeholder lists, evaluations, and recommendations from the earlier process.

5.6 Ensure that the detailed plan for proposed public participation includes (1) the identification of who is representative of a cross section of the community, (2) an ongoing forum for public input to policy and planning, (3) a method to incorporate community input into the Clean Water Master Plan and new Clean Water Capital Improvement Program, and (4) a plan for community outreach.

5.7 Ensure consistent and appropriate staff representation in the community planning process.

The Public Utilities Commission should:

5.8 Review and approve a plan for public participation.

5.9 Require the General Manager to report the status of the public participation program quarterly.

5.10 Ensure that the Public Utilities Citizens' Advisory Committee is fully utilized in policy and planning.

# Costs and Benefits

As of the writing of this report, in order to develop the proposed public participation component of the Clean Water Master Planning process, the Department is planning to invest $2,750,000, of which $750,000 will be for staff costs and $2,000,000 will be for consultant services. The above Budget Analyst recommendations could result in a larger share of resources for the internal Communications Division staff, and a reduction in the consultant contract, if the Department determines that such changes reflect the appropriate mix of internal and contractual resources for public outreach. The Budget Analyst considers that this public participation process will be a worthwhile investment if it provides the public with a meaningful opportunity to give input into policy and planning decisions and results in widespread stakeholder support of a clean water capital improvement program. Close management of this departmental contract is necessary to ensure that the problems of earlier outreach efforts are not repeated.

# 6. Managing Debt and Funding Future Capital Projects

- **Even with the sewer service charge increase to meet an 11 percent increase in FY 2004-2005 revenue requirements and the recommended sewer service charge increases in FY 2005-2006 and FY 2006-2007 to meet 11 percent increases in annual revenue requirements, projected Clean Water Enterprise Fund operating reserves in most years would still be less than the Public Utilities Commission's policy of maintaining a reserve equal to 25 percent of operating and maintenance costs. The Clean Water Enterprise Fund may need sewer service charge increases beyond the proposed FY 2005-2006 and FY 2006-2007 sewer service charge increases to fund interim capital needs prior to commencement of construction of Clean Water Master Plan Capital Improvement Program projects in FY 2009-2010 at the earliest.**

- **Both water and sewer service charges will need to increase to pay for Water and Clean Water Master Plan Capital Improvement Program projects over the coming fiscal years. Because construction of improvements to water and clean water infrastructure will impact all San Francisco rate payers, the Public Utilities Commission needs to assess the alternatives of annual incremental sewer service charge increases compared to larger periodic sewer service charge increases to meet ongoing operating and capital needs. The advantage of such an approach would be to reduce the risk of sudden large rate increases in future years and to meet current revenue needs. Annual incremental rate increases would stabilize revenues and better match operating revenues to meet operating needs.**

- **Public Utilities Commission Financial Services staff present ten-year Clean Water Enterprise financial projections to the Public Utilities Commission each year, pursuant to Proposition E. The General Manager of the Public Utilities Commission should present this annual report to the Board of Supervisors prior to May 31 each year, including (i) Clean Water Enterprise program revenue and expenditure projections, (ii) the projected need for sewer service charge increases, the impact of smaller incremental sewer service charge increases compared to larger periodic increases, and the impact of combined water and sewer service charge increases, (iii) the status and an evaluation of implementing the asset management program, and (iv) the status of the capital planning process and proposed funding for both interim capital projects and Clean Water Capital Improvement Program projects.**

# The Clean Water Enterprise Fund's Outstanding Debt

The Board of Supervisors adopted a motion (M04-77) on June 29, 2004, directing the Budget Analyst to conduct an analysis of sewer service charges and the financial condition of the Clean Water Enterprise Fund. The Public Utilities Commission adopted sewer service charge increases, effective July 15, 2004, to meet an 11 percent increase in FY 2004-2005 revenue requirement. Prior to the FY 2004-2005 sewer service charge increase, the Public Utilities Commission had not increased sewer service charges for the eight-year period from 1996 until 2004 due to the approval of Proposition H by the voters in 1998, which froze the sewer service charges. Sewer service charges were last increased prior to the transfer of the Clean Water Enterprise program from the Department of Public Works to the Public Utilities Commission between 1996 and 1997.

According to the Clean Water Enterprise Fund's audited financial statements, between FY 1999-2000, after the voter approval of Proposition H implementing the sewer service charge freeze, and FY 2002-2003, the Clean Water Enterprise Fund's operating and maintenance expenses and debt service payments increased compared to revenues. As a result, in FY 2001-2002 and FY 2002-2003, the change in the Clean Water Enterprise Fund's net assets was negative. Overall, between FY 1999-2000 and FY 2002-2003 net assets declined by $19,581,000, from $954,396,000 in the FY 1999-2000 audited financial statement to $934,815,000 in the FY 2002-2003 audited financial statement.[1]

In a report to the Board of Supervisors in June of 2002, entitled "Review of Best Practices for Financing Large Capital Improvement Projects at Municipal Utilities in the State of California", the Budget Analyst projected that total annual revenues would not be sufficient to pay both operating and maintenance costs, as well as the revenue funded capital projects and debt service. The Budget Analyst projected that unappropriated surplus funds would be available to fund operating expenditures and debt service on outstanding debt through FY 2004-2005, but without an increase in the sewer service charges, the Clean Water Enterprise Fund would exhaust its fund balance by FY 2005-2006.

According to the Public Utilities Commission Financial Services staff, the unappropriated fund balance as of July 1, 2004 was $15.97 million, a decrease of approximately $4.2 million from the unappropriated fund balance as of July 1, 2003 of approximately $20.8 million. The projected unappropriated fund balance for FY 2005-2006, as of July 1, 2005, is approximately $14.4 million.

Both Moody's and Standard and Poors rating agencies had issued a negative credit outlook for the Clean Water Enterprise Fund. In June of 2002, both rating agencies considered that the Clean Water Enterprise Fund had strong credit factors that included its large customer base within an economically viable region and relatively low sewer

[1] Net assets equal current assets, including cash deposits and investments, interest income, receivables, capital assets net of depreciation, and other assets, less current and long-term liabilities, such as accrued payroll, sick leave and vacation time, payable interest on outstanding bonds, State revolving fund loans and other liabilities.

service rates. However, the freeze on sewer service charges caused concern because of the negative impact on the Clean Water Enterprise Fund's financial profile and the long term ability of the Public Utilities Commission to fund essential capital improvements. After the voters approved Proposition E in November of 2002, which authorized increases in the sewer service charges, both Moody's and Standard and Poors changed their ratings outlook for the Clean Water Enterprise Fund from negative to stable.

Between FY 1998-1999, after the implementation of the sewer service charge freeze, and FY 2002-2003, the Clean Water Enterprise Fund's debt service ratio, or the ratio of net revenues to the annual debt service, declined from 2.34 to 1.58. The FY 2002-2003 debt service ratio of 1.58 still exceeded the minimum requirement of 1.25 in the Clean Water Enterprise Fund's bond covenants. However, the Clean Water Enterprise Fund's bond covenants are weaker than those of its counterparts in California. The Clean Water Enterprise Fund includes the unappropriated fund balance with net revenues in calculating the ratio of revenues to annual debt service payments.

Clean Water Enterprise Debt

Between 1992 and 1995, the Clean Water Enterprise Fund issued $561 million in revenue bonds, of which $396 million were outstanding in January of 2003. The Clean Water Enterprise Fund refunded and restructured these bonds in January of 2003, as discussed below.

The Clean Water Enterprise Fund also has an outstanding series of low-interest State Revolving Fund loans, through the California Water Resources Control Board. The original principal amount of the State Revolving Loans was $281,855,361. As of December 31, 2002, the State Revolving Fund loans outstanding balance was $172,658,080, with annual debt service payments through FY 2020-2021 as shown in Table 6.1.

## Refunding and Restructuring of Outstanding Debt

In January of 2003, the Clean Water Enterprise Fund refunded all of its outstanding revenue bonds, totaling $396,270,000. These outstanding bonds had interest rates, ranging from 4.7 percent to 6.0 percent, and the refunding bonds had lower interest rates, ranging from 3.0 percent to 5.25 percent. The refunding resulted in total net present value savings of approximately $32.5 million. At the time of the refunding, the Clean Water Enterprise Fund restructured the debt payments to reduce the annual debt service payments in FY 2002-2003 through FY 2005-2006. Total debt service extends through FY 2025-2026, as shown in Table 6.1.

# Table 6.1

## State Loan and Refunding Bond Annual Debt Service Payments FY 2002-2003 through FY 2025-2026

| | | Refunding Bonds | | | |
|---|---|---|---|---|---|
| | **State Loan** | **Bond Interest** | **Bond Principal** | **Subtotal Interest and Principal on Refunding Bonds** | **Total State Loan and Refunding Bond Interest and Principal Payments** |
| FY 2002-2003 | $20,132,647 | - | - | - | $20,132,647 |
| FY 2003-2004 | 20,132,647 | 20,232,618 | - | 20,232,618 | 40,365,265 |
| FY 2004-2005 | 20,132,646 | 17,219,250 | - | 17,219,250 | 37,351,896 |
| FY 2005-2006 | 20,132,647 | 17,219,250 | - | 17,219,250 | 37,351,897 |
| FY 2006-2007 | 20,132,647 | 16,717,575 | 33,445,000 | 50,162,575 | 70,295,222 |
| FY 2007-2008 | 16,505,490 | 15,698,400 | 34,500,000 | 50,198,400 | 66,703,890 |
| FY 2008-2009 | 16,505,490 | 14,645,925 | 35,665,000 | 50,310,925 | 66,816,415 |
| FY 2009-2010 | 16,505,490 | 13,182,700 | 37,130,000 | 50,312,700 | 66,818,190 |
| FY 2010-2011 | 16,505,490 | 11,826,750 | 26,320,000 | 38,146,750 | 54,652,240 |
| FY 2011-2012 | 10,983,062 | 10,958,850 | 22,010,000 | 32,968,850 | 43,951,912 |
| FY 2012-2013 | 9,423,615 | 9,941,275 | 23,095,000 | 33,036,275 | 42,459,890 |
| FY 2013-2014 | 9,040,594 | 8,754,025 | 24,395,000 | 33,149,025 | 42,189,619 |
| FY 2014-2015 | 6,287,641 | 7,467,162 | 25,790,000 | 33,257,162 | 39,544,803 |
| FY 2015-2016 | 5,267,762 | 6,072,894 | 27,325,000 | 33,397,894 | 38,665,656 |
| FY 2016-2017 | 3,619,205 | 5,102,312 | 11,920,000 | 17,022,312 | 20,641,517 |
| FY 2017-2018 | 1,751,470 | 4,518,919 | 12,575,000 | 17,093,919 | 18,845,389 |
| FY 2018-2019 | 1,751,470 | 3,839,306 | 13,315,000 | 17,154,306 | 18,905,776 |
| FY 2019-2020 | 1,751,470 | 3,119,137 | 14,120,000 | 17,239,137 | 18,990,607 |
| FY 2020-2021 | 1,751,470 | 2,355,787 | 14,960,000 | 17,315,787 | 19,067,257 |
| FY 2021-2022 | - | 1,567,212 | 15,835,000 | 17,402,212 | 17,402,212 |
| FY 2022-2023 | - | 796,212 | 15,005,000 | 15,801,212 | 15,801,212 |
| FY 2023-2024 | - | 359,100 | 2,610,000 | 2,969,100 | 2,969,100 |
| FY 2024-2025 | - | 231,919 | 2,745,000 | 2,976,919 | 2,976,919 |
| FY 2025-2026 | - | 83,362 | 3,510,000 | 3,593,362 | 3,593,362 |
| **Total** | **218,312,953** | **191,909,940** | **396,270,000** | **588,179,940** | **806,492,893** |

Source: 2003 Refunding Bond Official Statement

Annual debt service payments on existing debt will peak in FY 2006-2007 and decrease annually thereafter. In FY 2006-2007, total annual debt service payments will be $70.3 million compared to $40.3 million in FY 2003-2004. In FY 2011-2012, annual debt service payments will be approximately $43.9 million, which is approximately 10 percent more than annual debt service payments in FY 2004-2005.

## Sewer Service Charges and Future Debt

In the February 23, 2004, Public Utilities Commission Financial Services report on proposed sewer service charge increases, the Financial Services staff analyzed proposed sewer service charge increases based on expected annual debt service payments of $70,295,222 in FY 2006-2007. The Financial Services staff recommended that sewer service charges be increased annually from FY 2004-2005 through FY 2006-2007 to meet 11 percent increases in annual revenue requirements. The Public Utilities Commission adopted FY 2004-2005 sewer service charge increases to meet an 11 percent increase in revenue requirements in FY 2004-2005 and is considering future sewer service charge increases. According to the February 23, 2004, report, the increased sewer service charges are intended to meet the following conditions:

- Clean Water Enterprise Fund operating and maintenance costs will increase by approximately 3 percent per year.
- Wastewater volume will increase by approximately 0.5 percent.
- The debt service coverage ratio will be at least 1.25.
- The Clean Water Enterprise Fund will maintain an operating reserve of 25 percent of annual operating and maintenance costs.
- Revenues are sufficient to provide adequate funding for recurring capital needs on a pay-as-you-go basis.
- Sufficient revenues are available to increase the annual funding for repair and replacement of assets by 5 percent per year.

## Operations and Maintenance Reserve

According to the Public Utilities Commission Financial Services staff's financial projections for the Clean Water Enterprise program, based on current revenue and expenditure expectations, the operating and maintenance reserve will fall below 25 percent of operating and maintenance costs. Based on the FY 2004-2005 sewer service charge increase to meet an 11 percent increase in FY 2004-2005 revenue requirements and proposed annual sewer service charge increases to meet 11 percent increases in revenue requirements in FY 2005-2006 and FY 2006-2007 and on projected expenditures, operating reserves will equal 14 percent of operating and maintenance costs in FY 2005-2006, increase to 27 percent of operating and maintenance costs in FY 2006-2007, and decrease in subsequent fiscal years. Table 6.2 shows the Public Utilities Commission Financial Services projections for Clean Water Enterprise Fund revenues and expenditures, FY 2004-2005 through FY 2008-2009, which were reviewed by the Budget Analyst and found to be reasonable.

## Table 6.2

## Public Utilities Commission Financial Services Projections for Clean Water Enterprise Fund Revenues and Expenditures, Including Proposed Sewer Service Charge Increases in FY 2005-2006 and FY 2006-2007 to Meet 11 Percent Increases in Annual Revenue Requirements

## FY 2004-2005 through FY 2008-2009

| | FY 2004-2005 | FY 2005-2006 | FY 2006-2007 | FY 2007-2008 | FY 2008-2009 |
|---|---|---|---|---|---|
| Beginning Fund Balances as of July 1 | $15,974,690 | $14,429,109 | $28,719,272 | $26,814,107 | $25,364,574 |
| Revenues | 153,862,899 | 171,546,632 | 191,458,218 | 192,350,696 | 193,183,064 |
| Total | 169,837,589 | 185,975,741 | 220,177,490 | 219,164,803 | 218,547,638 |
| Operating and Maintenance Expenditures | 100,196,118 | 103,926,191 | 106,290,820 | 109,479,544 | 112,763,931 |
| Debt Service and Loan Payments | 37,351,062 | 37,351,062 | 70,294,387 | 66,703,600 | 66,816,125 |
| Revenue Funded Repair and Replacement Projects | 17,861,300 | 15,979,215 | 16,778,176 | 17,617,085 | 18,497,939 |
| Total Expenditures | 155,408,480 | 157,256,468 | 193,363,383 | 193,800,229 | 198,077,995 |
| Ending Fund Balance as of June 30 | $14,429,109 | $28,719,272 | $26,814,107 | $25,364,574 | $20,469,643 |
| Beginning Fund Balance as a Percentage of Operating and Maintenance Expenditures | 15.9% | 13.9% | 27.0% | 24.5% | 22.5% |

Source: Public Utilities Commission Financial Services Section

## Funding for Capital Needs

The Financial Services' Clean Water Enterprise program revenue and expenditure projections include 5 percent annual increases to pay for revenue funded repair and replacement projects. The Clean Water Enterprise program has identified approximately $100 million to $150 million in repair and replacement projects in the coming years that exceed the available funding for revenue funded repair and replacement projects. The Public Utilities Commission has begun the planning process for the Clean Water Master Plan, which is the foundation of the proposed Clean Water Capital Improvement Program. The Clean Water Master Plan is expected to be completed in September of 2007. Construction of the clean water capital projects is not expected to commence until

FY 2009-2010 at the earliest, although the Clean Water Enterprise Fund will incur costs for planning, design, environmental review, and other pre-construction costs prior to that time. Prior to completion of the Clean Water Master Plan and commencement of construction in FY 2009-2010 at the earliest, the Clean Water Enterprise program staff anticipate approximately $100 million to $150 million in interim capital projects. According to the Public Utilities Commission Financial Services staff, the Public Utilities Commission has various options for issuing debt to finance interim clean water capital needs, including issuing revenue bonds under existing voter authorization[2], Proposition E authorization, or issuing commercial paper.

## Implementation of an Asset Management Program

In addition to planning for major capital improvements and identifying interim capital needs, the Public Utilities Commission is in the preliminary stages of developing an asset management program for the Water, Clean Water, and Hetch Hetchy Enterprises. According to Public Utilities Commission staff, the asset management program includes developing and improving systems to track and evaluate existing assets. With improved data and monitoring, the Public Utilities Commission staff anticipate (i) improved knowledge of the existing infrastructure, including improvements in maintenance and repair and replacement practices, (ii) reductions in unexpected infrastructure failures, (iii) improved planning for capital improvements to ensure funding for priority and necessary projects, and (iv) better matching of revenues and funding with capital projects. The Budget Analyst will review and report on the Public Utilities Commission's asset management program in Phase IV of the management audit.

## Impact of Capital Improvement Programs on Water and Sewer Service Charges

Both the Water Enterprise and the Clean Water Enterprise are planning major capital improvement projects. Water rates are projected to increase by an estimated 5 to 12 percent per year, commencing in FY 2005-2006, to fund the Water System Capital Improvement Program in addition to expected sewer service charge increases between FY 2004-2005 and FY 2006-2007. The combined impact of funding water and clean water capital improvement programs will have a significant impact on water and sewer service charges. Analysis of future clean water capital needs and the impact on sewer service charges will have to include an analysis of both Water Enterprise and Clean Water Enterprise capital needs and potential water and sewer service charge increases to pay for capital projects. Pursuant to Proposition E, the Public Utilities Commission Financial Services staff annually prepare 10-year Clean Water Enterprise program revenue and expenditure projections that evaluate future operating, debt service, repair and replacement, and operating reserve requirements, and have evaluated alternative sewer service charge scenarios to identify needed increases in sewer service charges to meet future revenue requirements.

[2] The Clean Water Enterprise Fund has prior voter authorization to issue $70 million in revenue bonds that remain unissued.

Even with the sewer service charge increase to meet an 11 percent increase in FY 2004-2005 revenue requirements and the recommended sewer service charge increases in FY 2005-2006 and FY 2006-2007 to meet 11 percent increases in annual revenue requirements, Clean Water Enterprise Fund operating reserves are less than 25 percent of operating and maintenance costs in most years, as shown in Table 6.2. The Clean Water Enterprise Fund may need sewer service charge increases beyond the proposed sewer service charge increases in FY 2005-2006 and FY 2006-2007 to fund interim capital needs prior to commencement of construction of Clean Water Master Plan Capital Improvement Program projects in FY 2009-2010 at the earliest.

The Public Utilities Commission Financial Services staff should continue to evaluate the need for sewer service charge increases over time to meet the operational and capital needs for the Clean Water Enterprise program, beyond the sewer service charge increase to meet an 11 percent increase in FY 2004-2005 revenue requirements and the recommended sewer service charge increases in FY 2005-2006 and FY 2006-2007 to meet 11 percent increases in annual revenue requirements. Evaluation of sewer service charges should include the impact on clean water customers of annual incremental rate increases compared to larger periodic rate increases to fund capital needs, noting that large increases in FY 2005-2006 and FY 2006-2007 will probably need to occur. The advantage of such an approach would be to reduce the risk of sudden large rate increases in future years and to meet current revenue needs. Smaller incremental rate increases would stabilize revenues and better match operating revenues to meet operating needs.

The Budget Analyst's analysis suggests that annual incremental sewer service charge increases would yield the same total revenues to the Clean Water Enterprise over time as less frequent but larger periodic sewer service charge increases. The Clean Water Enterprise Fund would receive a stable increase in annual revenues to meet operating, maintenance, and ongoing capital needs, but the rate payer would not be confronted all at once with large increases in the monthly sewer service bill. For example, annual incremental sewer service charge increases of 1.25 percent annually from FY 1997-1998 through FY 2005-2006 would have yielded the same total revenues over ten years as sewer service charges with no increases from FY 1997-1999 through FY 2003-2004 and three annual increases of 11 percent from FY 2004-2005 through FY 2006-2007.

Implementing annual incremental sewer service charge increases results in lower cumulative sewer service charges for the rate payer also. If the sewer service charges increased incrementally by 1.25 percent annually over ten years, the cumulative sewer service charge increase to the rate payer over ten years would be 13.2 percent, but if sewer service charges did not increase for seven years and then increased by 11 percent annually for three years, the cumulative increase to the rate payer over ten years would be 36.9 percent. In comparing the two scenarios, rate payers who had received incremental rate increases of 1.25 percent between FY 1997-1998 and FY 2006-2007 would pay FY 2006-2007 rates that were 17.3 lower than the FY 2006-2007 rates of rate payers who had received three larger rate increases of 11 percent in FY 2004-2005 through FY 2006-2007.

Because of the 1998 Proposition H rate freeze, the Public Utilities Commission was not able to implement incremental sewer service charge increases from 1998 through 2004, resulting in the need to implement a larger increase in FY 2004-2005 to meet an 11 percent increase in FY 2004-2005 revenue requirements and consideration of further increases in FY 2005-2006 and FY 2006-2007. Going forward, the Public Utilities Commission needs to consider annual incremental increases in sewer service charges to meet revenue requirements.

# Conclusion

Even with the sewer service charge increase to meet an 11 percent increase in FY 2004-2005 revenue requirements and the recommended sewer service charge increases in FY 2005-2006 and FY 2006-2007 to meet 11 percent increases in annual revenue requirements, projected Clean Water Enterprise Fund operating reserves in most years would still be less than the Public Utilities Commission's policy of maintaining a reserve equal to 25 percent of operating and maintenance costs. The Clean Water Enterprise Fund may need sewer service charge increases beyond the proposed FY 2005-2006 and FY 2006-2007 sewer service charge increases to fund interim capital needs prior to commencement of construction of Clean Water Master Plan Capital Improvement Program projects in FY 2009-2010 at the earliest.

Both water and sewer service charges will need to increase to pay for Water and Clean Water Master Plan Capital Improvement Program projects over the coming fiscal years. Because construction of improvements to water and clean water infrastructure will impact all San Francisco rate payers, the Public Utilities Commission needs to assess the alternatives of annual incremental sewer service charge increases compared to larger periodic sewer service charge increases to meet ongoing operating and capital needs. The advantage of such an approach would be to reduce the risk of sudden large rate increases in future years and to meet current revenue needs. Annual incremental rate increases would stabilize revenues and better match operating revenues to meet operating needs.

Currently, Public Utilities Commission Financial Services staff prepare a long range financial plan, presenting ten-year financial projections that include estimates of operation and maintenance expenses, repair and replacement costs, debt costs and rate increase requirements to the Public Utilities Commission, pursuant to Proposition E. The General Manager of the Public Utilities Commission should present this annual report to the Board of Supervisors prior to May 31 each year, including (i) current Clean Water Enterprise program revenue and expenditure projections, (ii) the projected need for sewer service charge increases, the impact of smaller incremental sewer service charge increases compared to larger periodic increases, and the impact of combined water and sewer service charge increases, (iii) the status of implementation of the asset management program and an evaluation of the asset management program's effectiveness, and (iv) the status of the capital planning process and proposed funding for both interim capital projects and Clean Water Capital Improvement Program projects.

# Recommendations

The Public Utilities Commission General Manager should:

6.1 Present the annual report, prepared by the Public Utilities Commission Financial Services staff pursuant to Proposition E, to the Board of Supervisors prior to May 31 each year, that includes (i) current Clean Water Enterprise program revenue and expenditure projections, (ii) the projected need for sewer service charge increases, the impact of smaller incremental sewer service charge increases compared to larger periodic increases, and the impact of combined water and sewer service charge increases, (iii) the status of implementation of the asset management program and an evaluation of the asset management program's effectiveness, and (iv) the status of the capital planning process and proposed funding for both interim capital projects and Clean Water Capital Improvement Program projects.

# Costs and Benefits

The benefit of this recommendation is to provide the Public Utilities Commission with sufficient information to assess the Clean Water Enterprise Fund's interim capital needs, project ongoing revenue requirements, and analyze and recommend sewer service charges to meet the Clean Water Enterprise Fund's ongoing maintenance, operating, and capital needs, including maintaining an operating reserve fund equal to 25 percent of annual operating and maintenance expenditures.

# 7. Water Pollution Control Division's Personnel and Maintenance Management

- **Although the Water Pollution Control Division was transferred from the Department of Public Works to the Public Utilities Commission in 1996, and the Division's Policies and Procedures Manual was last revised as recently as October of 2003, the manual continues to cite the Director of the Department of Public Works and the Department of Public Works Employee Reference Guide as policy authorities in several instances. Other Policies and Procedures Manuals, such as the Maintenance Management and Materials Management Manuals, which have been minimally revised since the Water Pollution Control Division's transfer to the Public Utilities Commission, also contain Department of Public Works references. It is clear, therefore, that critical documents that are supposed to communicate policies and procedures from management to all employees have not been comprehensively reviewed or updated in at least eight years.**

- **The Policies and Procedures Manual requires that Water Pollution Control Division employees receive an annual performance evaluation. Although Division management is currently making a significant effort to have all performance evaluations completed for the period ended June 30, 2004, our review of the performance evaluation files revealed that numerous Division employees did not receive an annual performance evaluation for previous periods.**

- **The administrative Policies and Procedures Manual contains (a) an *Entrance – Exit Policy* that is designed to track and control equipment and tools assigned to employees, and to track and control information, such as computer access codes, provided during each employee's tenure, and (b) a provision requiring that the Water Pollution Control Division conduct an exit interview of employees who are separating from the Division and that an Exit Interview Form is completed. Although a total of 66 Water Pollution Control Division employees have separated from the Public Utilities Commission since January of 2003, the Bureau of Human Resources had received a total of only 19 Equipment Processing and Exit Interview Forms for all years.**

- **The Water Pollution Control Division does not currently exclude pre-scheduled overtime hours from its calculation of overtime usage.**

- **The Bureau of Human Resources processed a total of 40 Equal Employment Opportunity complaints from Water Pollution Control Division employees between February of 2000 and August of 2004. The results of the 40 complaint investigations are as follows: (1) 16 complaints were dismissed after an investigation showed insufficient evidence of discrimination; (2) seven complaints were closed after mediation or other mutual agreement among the parties; (3) eight complaints were closed after an investigation disclosed no factual evidence to identify a responsible person or other inconclusive outcome; (4) two complaints resulted in disciplinary actions; and (5) seven complaints were closed due to there not being sufficient evidence to support that the issue was concerned with equal employment opportunity.**

- **The former General Manager of the Public Utilities Commission met with a group of approximately 20 African-American female employees of the Water Pollution Control Division in February of 2004 to hear complaints of alleged unfair treatment. According to reports from some of those in attendance at the meeting, follow up actions have not been taken.**

- **According to the Section Chief who has been assigned responsibility for maintaining tools and equipment not issued to individual crews, there has not been an inventory of the tools and equipment in the tool rooms or storage containers since sometime in 2001. Using an inventory list provided by the Section Chief, we located some of the tools and equipment in the tool rooms but could not locate many other of the items. Tool and equipment accountability is weak within the Maintenance Division.**

# Water Pollution Control Administration

## Administration Policy and Procedures Manual

Although the Water Pollution Control Division was transferred to the Public Utilities Commission in 1996 and the Policies and Procedures Manual was revised in October of 2003, the Manual continues to cite the Director of the Department of Public Works and the Department of Public Works Employee Reference Guide as policy authorities in several instances. Other Policies and Procedures Manuals, such as the Maintenance Management and Materials Management Policies and Procedures Manuals, which have been minimally revised since the Water Pollution Control Division's transfer to the Public Utilities Commission, also contain references to the Department of Public Works. By revising the administrative Policies and Procedures Manual, on a high priority basis, to reflect current Public Utilities Commission policy direction, and by revising other Policies and Procedures Manuals on a priority basis as resources allow, the Division can implement policies that reflect the direction of the Public Utilities Commission and also remove vestiges of the Division's former attachment to the Department of Public Works,

which many staff members view as a hindrance to full integration into the Public Utilities Commission.

## Administration Section

The Administration Section of the Water Pollution Control Division is responsible for performing normal administrative functions such as developing the Division's budget, processing personnel and payroll actions, and overseeing contracts. As shown in the Division's organizational chart, 14 positions, two of which are currently vacant, have been allocated to the Administration Section. Many of the Administration Section's responsibilities are prescribed in the Division's Policies and Procedures Manual, 2003 Edition. The Budget Analyst selected three administrative processes to evaluate the Water Pollution Control Division's compliance with the City's, the Public Utilities Commission's, and the Division's administrative regulations:

- Personnel evaluations.
- The Entrance – Exit Policy.
- Control of overtime.

The Budget Analyst also examined discipline and Equal Employment Opportunity issues.

## Personnel Evaluations

As stated in Policy No. 4.2 of the Policies and Procedures Manual, *Performance Appraisals,* the purpose of performance appraisals is to ensure that employees understand their job functions and are evaluated fairly. The Policies and Procedures Manual requires that non-supervisory employees be evaluated once every year, based on their employment anniversary date.

The appraisal period for managers and supervisors is one year, coinciding with the fiscal year. According to the Policies and Procedures Manual, managers and supervisors are evaluated, based on goals and objectives that are established between the employee and the evaluator. The employee is evaluated on how well those goals and objectives were accomplished.

According to the Water Pollution Control Division, Water Pollution Control Division managers are currently making an effort to complete all performance evaluations due for the period ending June 30, 2004. However, our review of the performance evaluation files showed that for the period ending June 30, 2003, and for other previous reporting periods, numerous Division employees did not receive an annual performance evaluation. Our review of the performance evaluation files found that, although the written procedures specify that non-supervisory employees are evaluated once each year, based on their employment anniversary date, the Water Pollution Control Division has

established the end of the fiscal year as the one-year period for evaluating all non-supervisory and supervisory or management employees. According to the Director of Human Resources, a former General Manager, Public Utilities Commission, implemented the policy to evaluate all employees prior to the end of the fiscal year a few years ago to ensure that the performance evaluations were actually completed.

By ensuring that each Division employee is provided with an annual performance evaluation, Division management would be complying with an important City regulation and, combined with appropriate management actions, would also demonstrate to Division employees that the professional development of its staff members, of which sound performance evaluations are a necessary part, is a high priority task.

## Entrance – Exit Policy

Policy No. 1.5 of the Policies and Procedures Manual, *Entrance – Exit Policy,* prescribes controls for issuing tools and equipment to Water Pollution Control Division employees. The Processing Unit of the Public Utilities Commission's Bureau of Human Resources initiates the entrance – exit process by creating an Equipment Processing Form for each new employee assigned to the Water Pollution Control Division and forwards the Equipment Processing Form to the Water Pollution Control Division. Subsequently, whenever equipment or tools are assigned, the employee's supervisor is responsible for recording such use on the Equipment Processing Form. In addition to tools and equipment, the Equipment Processing Form is also used for issuing keys, access codes, and any other information-enabling devices.

Policy No. 1.5 also requires that the Water Pollution Control Division conduct an exit interview with employees separating from employment at the Division and that an Exit Interview Form be completed. As a part of the prescribed separation process, the Water Pollution Control Division forwards the completed Equipment Processing Form and the Exit Interview Form to the Human Resources Division of the Public Utilities Commission.

In order to test whether the Equipment Processing Forms and the Exit Interview Forms are being completed and retained as required by Policy No. 1.5, the Budget Analyst selected ten names from a list of 66 employees who had separated from the Water Pollution Control Division since January of 2003. Of the ten files reviewed, the Bureau of Human Resources had received only four of the files. Further, the Bureau of Human Resources had received a total of only 19 Equipment Processing and Exit Interview Forms for all years, even though the separation list provided to the Budget Analyst by the Administrative Section of the Water Pollution Control Division contained a total of 66 employees separated since January of 2003.

The Budget Analyst reviewed the existing 19 Equipment Processing Forms and found that only five of the 19 Equipment Processing Forms had been adequately completed.

## Control of Overtime

Policy 3.9, *Time Policies,* of the Water Pollution Control Division's Policies and Procedures Manual enumerates the following overtime policies:

- All overtime worked must have the advance approval of management.
- Annually, no Water Pollution Control Division employee may work overtime hours in excess of 16 percent of his or her regularly scheduled hours without the prior approval of the Appointing Officer.
- Compensatory time off may be taken only upon mutual agreement of the employee and supervisor. Compensatory time must be reported to the nearest 15 minutes and expended in minimum increments of one hour.
- Z-class employees may carry over a maximum balance of 80 compensatory hours to the next year. Amounts above 80 hours are lost at year's end. Non-Z employees receive pay for any excess compensatory time remaining at the end of the year with the exception of Operations staff working the 12-hour schedule, who must carry over 16 hours.

The Budget Analyst reviewed an overtime usage report provided by the Administration Section titled *Employee Overtime By Descending Amount* that shows overtime hours used for Water Pollution Control Division employees for all of fiscal year 2003-04. One column in the document, named *Over 16 %,* displays the comment "Over" for those employees who have exceeded the 16 percent usage level and "Warning" for those employees nearing the 16 percent level. Nineteen employees had worked overtime hours in excess of 16 percent of their regularly scheduled hours.

The Water Pollution Control Division's Operations Manager has informed the Budget Analyst that with one exception, all of the nineteen names listed as "Over" on the report are Operations Division employees who work a five-week rotating shift that includes 16 hours of pre-scheduled overtime every five weeks, as described in the cost-neutral rotating schedule provisions of the Memorandum of Understanding between the City and the International Union of Operating Engineers, Local 39. According to the Operations Manager, approximately 160 overtime hours should be deducted from the overtime usage totals of the subject Operations staff employees and that by so doing, none of the subject employees exceeded the 16 percent hurdle.

Subsequently, the Manager, Water Pollution Control Division, informed the Budget Analyst that although he thought that the Division had obtained a waiver excluding the pre-scheduled overtime hours from the 16 percent overtime hurdle calculation, he could not locate such a document. Therefore, the Budget Analyst recommends that all Water Pollution Control Division employees obtain the approval of the Appointing Officer prior to working overtime hours in excess of 16 percent of his or her regularly scheduled hours, or that the Water Pollution Control Division obtain a waiver from the Appointing Officer excluding pre-scheduled overtime hours from the 16 percent hurdle calculation.

Concerning the provision limiting a maximum balance of 80 compensatory hours to be carried forward, the Budget Analyst has been informed and has verified that the 80-hour provision was increased to 120 hours for Local 21, Z-Class employees in 2002. The Budget Analyst has reviewed the list of Z-class employees assigned to the Water Pollution Control Division showing the number of compensatory hours carried forward for each., and noted no irregularities.

## Discipline

The Disciplinary Section of the Policies and Procedures Manual covers complaints, grievances, and the Employee Assistance Program. Based on information provided by the Administration Section of the Water Pollution Control Division, a total of 57 disciplinary actions were processed between November 14, 2002, and August 11, 2004, a period of approximately 21 months. The disciplinary actions ranged from Letters of Instruction to suspensions to a dismissal. In the opinion of the Budget Analyst, 57 disciplinary actions during a 21 month period appear reasonable, especially because some of the disciplinary actions were Letters of Instruction that were issued for administrative infractions. In at least one case, one repeat offender had multiple disciplinary actions, including five separate periods of suspension in a six-month period.

## Equal Employment Opportunity Complaints

Based on information provided by the Public Utilities Commission's Bureau of Human Resources, the Bureau processed a total of 40 Equal Employment Opportunity (EEO) complaints between February of 2000 and August of 2004, distributed by calendar year as follows:

**Table 7.1**

**Employee Complaints**

| Calendar Year | Number of EEO Complaints |
|---|---|
| | |
| **2000** | **4** |
| **2001** | **16** |
| **2002** | **6** |
| **2003** | **10** |
| **2004 through August** | **4** |
| **Total** | **40** |

Source: Public Utilities Commission's Bureau of Human Resources

The complaints cover a wide range of issues; however, the majority of the complaints are concerned with racially-based harassment and retaliation. Thirteen of the sixteen complaints filed in calendar year 2001 were filed in July, August, and September of that year, five of which involved racially offensive symbols discovered in Water Pollution

Control Division work locations. The results of the complaint investigations are as follows: (1) 16 complaints were dismissed after an investigation showed insufficient evidence of discrimination; (2) seven complaints were closed after mediation or other mutual agreement among the parties; (3) eight complaints were closed after an investigation disclosed no factual evidence to identify a responsible person or other inconclusive outcome; (4) two complaints resulted in disciplinary actions; and (5) seven complaints were closed due to there not being sufficient evidence to support that the issue was concerned with equal employment opportunity.

Additionally, three lawsuits alleging discrimination or harassment, which were filed by Water Pollution Control Division employees, are pending.

The reduced numbers of EEO complaints filed since calendar year 2001 suggest that working conditions at the Water Pollution Control Division may have improved since that time. However, the former General Manager of the Public Utilities Commission met with a group of approximately 20 African-American female employees of the Water Pollution Control Division in February of 2004 to hear complaints of alleged unfair treatment, including disparate treatment in promotional opportunities and the administration of discipline. According to reports from some of those in attendance at the meeting, the Public Utilities Commission has not taken follow up actions. The former General Manager departed the Public Utilities Commission in May of 2004.

Accordingly, the Budget Analyst recommends that the General Manager, Public Utilities Commission, assess the February of 2004 concerns of Water Pollution Control Division employees regarding unfair treatment, including disparate treatment in promotional opportunities and the administration of discipline, and propose appropriate follow-up actions as needed.

# Water Pollution Control Maintenance Division Operations

## Maintenance Management Policies and Procedures

Most sections of the Maintenance Management Policies and Procedures Manual were created or last revised in calendar year 1987. Since that time, the Water Pollution Control Division was transferred from the Department of Public Works to the Public Utilities Commission, and the Water Pollution Control Division implemented use of the Maximo Computer Maintenance Management System approximately four years ago. Maximo automated many of the manual processes described in the Policies and Procedures Manual. The Maintenance Management Policies and Procedures Manual should be updated on a priority basis.

The Maintenance Management Policies and Procedures Manual and Materials Management Policies and Procedures Manual, discussed below, cover a wide range of maintenance and material handling functions and appear to be comprehensive in scope.

Aside from being outdated and in need of major revision, the Budget Analyst's review of the Maintenance Management Policies and Procedures Manual identified the following items:

- Section 1.5 of the Maintenance Management Policies and Procedures Manual describes the development and use of the Weekly Maintenance Plan which is intended to provide an effective means to schedule work for the following week so that maintenance personnel have adequate time for job preparation and moving materials to the job site.

  Although the Maintenance Division does develop and use the Daily Work Schedule, described in Section 1.4 of the Maintenance Management Policies and Procedures Manual, it does not develop the Weekly Work Schedule, thus not providing the means of assisting maintenance crews in job preparation for a full week. Accordingly, we recommend that the Maintenance Division develop and use a Weekly Work Schedule.

- Section 1.6 of the Maintenance Management Policies and Procedures Manual describes the development and use of job cards, which is a bar chart schedule prepared by the Planner and used to coordinate the different phases and/or crews in a complex or extended job. The manual tasks described in Section 1.6 of the Maintenance Management Policies and Procedures Manual have been automated in Maximo. However, Maximo, as used by the Maintenance Division, does not produce a bar chart that shows task duration and sequencing, a major feature of the manual system. Accordingly, we recommend that the Maintenance Division investigate the feasibility and suitability of obtaining the charting capability through Maximo, Microsoft Project, or other means.

- Section 1.9 of the Maintenance Management Policies and Procedures Manual covers warranty tracking procedures and is designed to provide means of tracking equipment, parts, and material under warranty. Such a tracking capability is necessary for efficiently providing a means of obtaining warranty consideration and recovering costs in cases of warranted defective goods.

  According to the Maintenance Manager, the warranty module in Maximo is not used, although the Water Pollution Control Division does have equipment that is under warranty. The Budget Analyst recommends that the Maintenance Division initiate warranty tracking on all new warranty items and bring existing warranty items under tracking control as resources permit. Since warranty provisions often require that preventive maintenance be performed as a condition of maintaining the warranty, the Water Pollution Control Division needs to ensure the preventive maintenance tracking of warranty items.

## The Water Pollution Control Maintenance Division's Performance Standards

The mission of the Water Pollution Control Maintenance Division – to provide service, repairs, and improvements to Division equipment and facilities so that permit standards can be met efficiently and economically – is critical to the mission of the entire Water Pollution Control Division. The Division's performance standards, as enumerated in the FY 2003-04 Clean Water Enterprise – Final Budget document published by the Public Utilities Commission, are as follows:

- Number of major National Pollution Discharge Elimination System (NPDES) Permit violations.
- Number of critical equipment failures that cause permit violations.
- Respond in person to 95 percent of all sewer complaints within eight hours.

Only the third performance standard, "respond in person to 95 percent of all sewer complaints within eight hours," provides an actual standard that can be measured. The other two statements are performance indicators that require qualitative or quantitative statements that can be measured. For example, "Zero NPDES Permit violations during the reporting period" would be a performance standard.

According to the Manager, Water Pollution Control Division, the Division's actual performance against the performance standards is shown in Table 7.2, below.

### Table 7.2

### Actual Performance

| Fiscal Year | Number of NPDES Permit Violations | No. Of Critical Equipment Failures Causing Failures | Respond to 95% of all sewer complaints within 8 hours |
|---|---|---|---|
| 1999-00 | 3 | 1 | 98% |
| 2000-01 | 2 | 1 | 95% |
| 2001-02 | 1 | 1 | 98% |
| 2002-03 | 0 | 0 | 98% |
| 2003-04 | 0 | 0 | 98% |

Source: Water Pollution Control Division

The Water Pollution Control Division should use a structured approach to setting objectives. Performance measures could be effectively developed by enumerating the organization's Key Results Areas, defined as those areas of the organization's operations

in which important results will occur. For an organization as large as the Water Pollution Control Division, one Key Results Area should always concern personnel as that area pertains to staff development, training, safety, or other personnel-related issue.

The point of the foregoing discussion is not to criticize the Water Pollution Control Division's performance standards – we have audited organizations that have none – but to show that the performance standards identified by the Water Pollution Control Division can and should be improved upon.[1]

## Maintenance Division Staffing

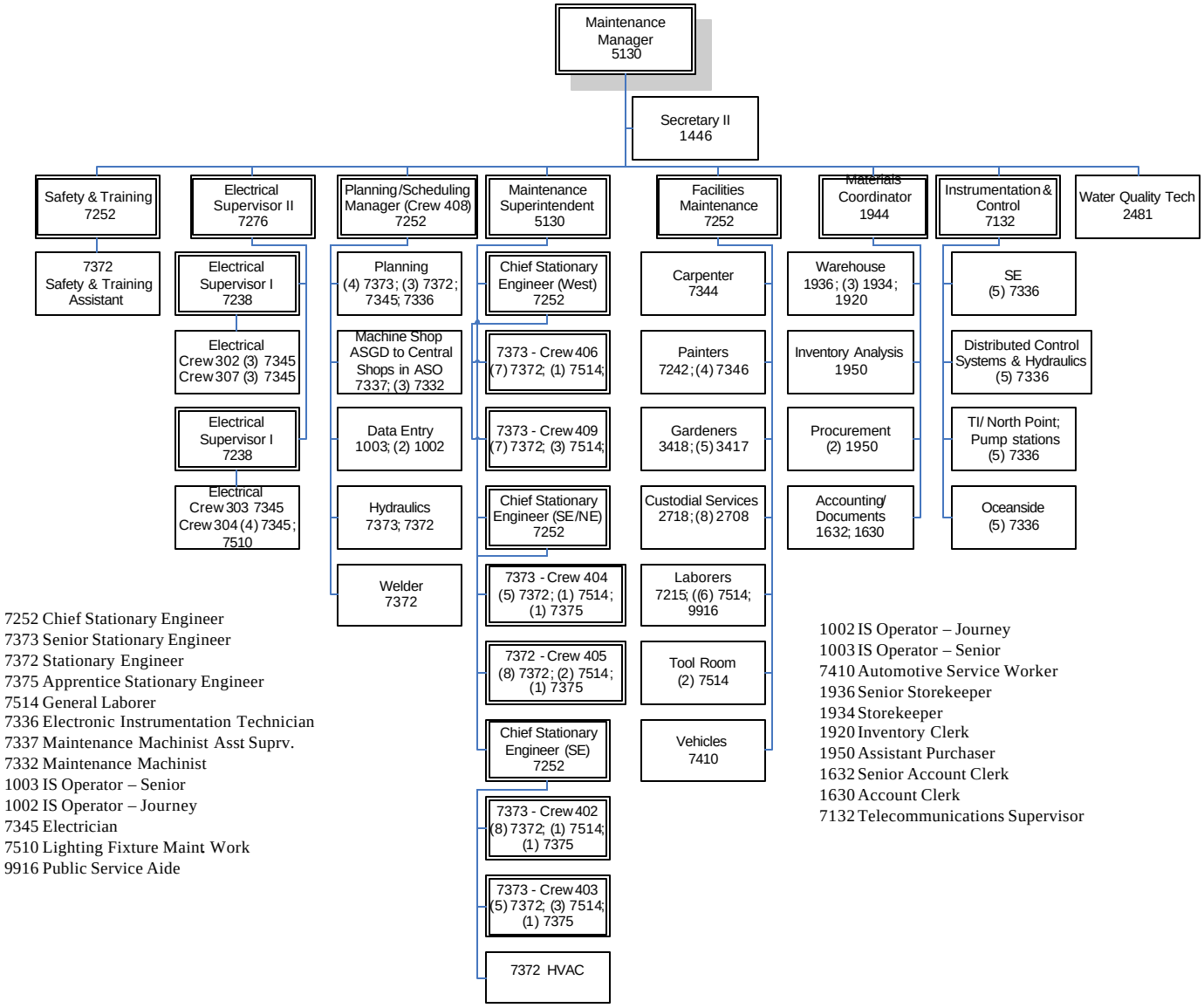
The Maintenance Division consists of 140 positions, most of which are in the Stationary Engineer classification. In general, stationary engineers are responsible for operating and maintaining a wide variety of complex machinery and equipment. The Water Pollution Control Operations Division operates and the Maintenance Division maintains the wastewater treatment plants.

The current organizational structure of the Maintenance Division is shown in Exhibit 7.1 below. Most of the work is performed by the stationary engineer classifications under the Maintenance Superintendent. The Maintenance Division also includes the Planning/Scheduling Section, which plans and schedules the work of the maintenance crews, and the Facilities Section, which plans and schedules their own work.

[1] An excellent text for guiding an organization through the process of developing sound objectives is *Management By Objectives and Results In the Public Sector* by George Morrissey.

**Exhibit 7.1**

## Maintenance Division Organizational Chart




Time constraints did not allow the auditors to administer a survey to obtain information on the concerns of the maintenance staff. However, according to informal interviews with managers, supervisors, and maintenance workers, the quality of maintenance work and pay equity are two major concerns of the Maintenance Division staff.

- Quality of maintenance work: Maintenance Division staff perceive a wide range in the abilities and motivation of maintenance workers and supervisors. Most

Maintenance Division personnel whom we interviewed think that high standards should be set and enforced.

- Lack of pay equity with the Operations Division Chief Stationary Engineers, Senior Stationary Engineers, and Stationary Engineers: The Operations Division, in general, operates on a rotating, 5-week, 12-hour work shift, work schedule, with built-in overtime, and blocks of consecutive days off.

## Maintenance Management Reporting – Management by Objectives

The Maintenance Division reports on its maintenance performance quarterly for the months ending in March, June, September, and December by publishing a Management by Objectives (MBO) Report. The MBO Report uses efficiency and effectiveness ratios and other metrics that show the performance of most of the maintenance crews and related disciplines assigned to the Maintenance Division. The primary metrics developed are shown below:

| Report Section Name | Type Measure | Numerator | Denominator |
|---|---|---|---|
| | | | |
| Productivity | Efficiency | Estimated Hours Required to Complete the Job | Actual Hours Expended to Complete the Job |
| Compliance | Effectiveness | Hours of Priority 1 Work Planned | Hours of All Work Performed |
| Backlog | Combination Efficiency and Effectiveness | Work Planned, In Progress, and Awaiting Completion | None |

The MBO Report is a useful management tool. The Maintenance Division could add to the usefulness of the tool by setting standards for each of the MBOs, adjusted for seasonal variations. The Manager, Maintenance Division should continue to develop the usefulness of the MBO Report, such as the recently initiated report on the numbers of preventive maintenance jobs planned and completed.

## Materials Management

The Materials Management section provides required materials to the correct location, at an economical cost, and in a timely manner. The three operating segments within the Materials Management Section are as follows:

- Buyers: The function of the buyers is to procure materials, equipment, and spare parts at an economical price and in a timely manner.
- Inventory Control: The function of inventory control is to ensure that the storeroom is stocked with critical items and items whose usage warrants stocking.

- Storeroom Operation: The function of the storeroom is to receive, store, issue or deliver material to users in the most efficient means available.

Materials Management Policies and Procedures Manual

Most sections of the Materials Management Policies and Procedures Manual were created or last revised in 1988, prior to the transfer of the Water Pollution Control Division from the Department of Public Works to the Public Utilities Commission and the implementation of Maximo. Inventory and purchasing procedures have changed since 1988, including automation of procedures through Maximo, and decentralization of purchasing functions to the City departments. The Materials Management Policies and Procedures Manual should be updated on a priority basis.

Materials Management Operations

We reviewed the operations and facilities of the Materials Management Section and found the Section personnel knowledgeable in their work subjects and eager to support the users of their processes in an effective manner. The Materials Coordinator has served many years with the City, and is actively seeking means of improving the Section's capabilities and performance.

Discussions with the Materials Coordinator on how the Materials Management Section orders material revealed potential opportunities to improve material management support within the Water Pollution Control Division. Those possible opportunities are as follows:

- In order to reduce turnaround time from receipt of a purchase requisition to issuance of a purchase order, the Public Utilities Commission Administration should consider granting authority to the Water Pollution Control Division to approve their own Departmental (Proposition Q) purchase orders. The Materials Management Section would be required to approve the Departmental purchase orders following rules and regulations established by the City's Office of Contract Administration, the Controller's Office, and the Finance Bureau of the Public Utilities Commission.
- In order to reduce turnaround time for providing Material Receiving Reports (MRR) to the storeroom, the Public Utilities Commission Administration should consider granting authority to the Water Pollution Control Division to create MRRs in-house.
- In order to reduce the time from receipt of material to paying the vendor, and thus being able to take advantage of payment discounts, the Public Utilities Commission Administration should consider granting authority to the Water Pollution Control Division to generate vouchers for submission to Public Utilities Commission Administration. The Water Pollution Control Division would enter vouchers in the Advanced Purchasing and Inventory Control System (ADPICS).

Because decentralization of the purchasing, receiving, and payment functions affects all three enterprises of the Public Utilities Commission, the Budget Analyst will address

decentralization of the Public Utilities Commission-wide functions as a whole during the course of the management audit.

Storeroom Operations

The Water Pollution Control Division storeroom is clean and well organized. Storeroom staff are well versed in their duties and appear to execute their tasks in a safe manner. The auditors tested bin locations for item and number correspondence with inventory records and noted no discrepancies.

The storeroom operates a storage yard located on the North side of the Southeast Water Pollution Control Plant called Lot A. The items in Lot A are recorded in inventory and appear to be stored in accordance with storm water regulations.

However, adjacent to Lot A, separated only be a fence, is a larger storage yard called Lot B, or the "bone yard." All manner of items are stored in Lot B, including compressors, heat exchangers, pumps, fittings, valves, scrap metal, and pipe. Some of the items such as contractor left-over parts have never used, and some items reportedly date from the 1930s.

The items in Lot B are not in the inventory and the Water Pollution Control Division Maintenance Manager and Materials Coordinator disclaim ownership. However, the assets in Lot B should be brought under control. The Budget Analyst recommends that selected staff members of the Engineering, Maintenance, and Operations Divisions of the Water Pollution Control Division asses the usefulness of the items in Lot B, that the Maintenance Manager bring items selected for retention under inventory control, and that surplus items be reported as such or otherwise disposed of.

## Control of Tools and Equipment

The tools and equipment maintained in the Southeast Water Pollution Control Plant tool room have not been inventoried since 2001. In a review of the most recent tool room inventory list, which contained 1,677 line items, we were able to identify the location of many of the tools and equipment items but could not locate many other of the items. Water Pollution Control Division management advise that staff have been doing partial inventories on a revolving basis so that they will not have to shut down the tool room for two or three days as would be required to perform a "wall to wall" inventory. Water Pollution Control Division management is reviewing records to determine the adequacy of those partial inventories.

Water Pollution Control Division Rules and Regulations require an annual inventory of tools and equipment and marking tools and equipment with "BWPC." Many but not all of the tools have been marked in accordance with the required designation.

Water Pollution Control Maintenance staff responsible for controlling tools and equipment are able to locate most tools and equipment and assist maintenance crews in

performing their work. However, the Water Pollution Control Maintenance Division does not have a method to hold staff accountable for missing tools and equipment.

The Manager, Maintenance Division, should initiate an inventory of all tools and equipment and establish a system of accountability.

## Sewer Operations

The City's sewer system collects and treats up to 90 million gallons of sewage per day during the dry season and up to 465 million gallons each day during the rainy season. There are 898 miles of sewer pipes that are maintained by the Sewer Operations Division of the Water Pollution Control Division in conjunction with the Bureau of Street and Sewer Repair of the Department of Public Works. The Division is physically located at the City's Operations Yard on Cesar Chavez Street.

The Sewer Operations Division does no digging. The Bureau of Street and Sewer Repair performs street digging that is required to perform spot repairs of sewers. The Sewer Operations Division is authorized approximately 40 positions and is organized with two sections: (a) the Service Section responds to calls for assistance to clear blocked catch basins and other service malfunctions, and (b) the Inspection Section runs cameras into sewer lines to locate the cause of malfunctions.

Service Section crews are dispatched to problem areas from the Sewer Operations Cesar Chavez Street headquarters during regular duty hours of 6:30 a.m. to 3:00 p.m. The Water Pollution Control Division has work ordered funds to the Department of Telecommunications and Information Services to provide call-taking services between the hours of 3:00 p.m. and 6:30 a.m. Calls for service during the latter period come into the City's Emergency Communications Center at 1011 Turk Street and are radio relayed to a Sewer Operations unit in the field until 11:00 p.m. For other than emergencies, service calls coming in after 11:00 p.m. are handled the next day.

The work order to the Department of Telecommunications and Information Services from the Water Pollution Control Division for FY 2004-2005 is in the amount of $128,195. The Water Pollution Control Division estimates that the Department of Telecommunications and Information Services transfers approximately 5,000 calls annually; thus, the cost per transferred call to the Water Pollution Control Division is approximately $25.64.

The Water Pollution Control Division has attempted, unsuccessfully, to reduce its costs for call transfer services by either (1) having the Department of Telecommunications and Information Services reduce its rates, or (2) by contracting with another City agency to provide the service at a lower cost.

According to the Water Pollution Control Division's Manager, Collection Systems, there are now two options for obtaining the call taking services other than the Department of Telecommunications and Information Services. In addition to the Public Utilities

Commission's City Distribution Division, the Department of Public Works has very recently initiated a 24-hour per day, seven-day per week, dispatch for their "28-CLEAN" telephone line service and could provide the service. The Budget Analyst recommends that the Public Utilities Commission General Manager initiate action to obtain a reasonable cost for the service of taking calls for assistance concerning sewer services during the hours previously stated.

# Conclusion

The Water Pollution Control Division is not in compliance with important provisions of its Policies and Procedures Manual and the Policies and Procedures Manual needs to be revised to reflect current Public Utilities Commission policy direction. The Maintenance Management Policies and Procedures Manual and the Materials Management Policies and Procedures Manual are both outdated and in need of revision.

The Water Pollution Control Division should make every effort to ensure fairness in promotional opportunities and other personnel-related processes. Management should particularly be attuned to what some employees see as a lack of respect and obtain training for Division personnel on gender and cultural sensitivities.

The MBO Report is a useful management tool that should be continually reviewed for improvement. Performance standards should be set at the appropriate levels within the Maintenance Division, adjust for seasonality.

The Water Pollution Control Division appears to have a very competent Materials Management Section. The Division's procurement needs could be improved by the Public Utilities Commission Administration granting the Division greater purchasing authority, with appropriate controls installed

Accountability for tools and equipment is problematic. The Maintenance Division has not complied with its inventory requirements for tools and equipment.

The items in Lot B of the Southeast Water Pollution Control Plant, should be brought under inventory control or disposed of.

Based on our analysis of reports provided by the Water Pollution Control Division, the Division is paying too much for its after-hour, call-taking services.

# Recommendations

The Public Utilities Commission General Manager should:

7.1 Assess the February of 2004 concerns of Water Pollution Control Division employees regarding unfair treatment, including disparate treatment in promotional opportunities and the administration of discipline, and propose appropriate follow-up actions as needed.

7.2 Direct the Director of Financial Services to evaluate the availability and the cost effectiveness of alternative providers for the after-hour, call-taking service required for Sewer Operations services.

The Water Pollution Control Division Manager should:

7.3 Revise the administrative Policies and Procedures Manual to include all current Public Utilities Commission policies as a priority.

7.4 Revise the Materials Management Policies and Procedures Manual to include all current Public Utilities Commission policies as a priority.

7.5 Revise the Maintenance Management Policies and Procedures Manuals as necessary to include all current Public Utilities Commission policies and to reflect current Maintenance Division practices.

7.6 Require compliance with the Maintenance Management Policies and Procedures including:

(a) Developing and implementing the "Weekly Work Schedule";

(b) Investigating the feasibility of implementing "job cards" or other bar chart procedures in Maximo, Microsoft Project, or other systems;

(c) Implementing the "warranty" module in Maximo, including a system to track preventive maintenance on equipment under warranty.

7.7 Require all Water Pollution Control Division managers and supervisors to complete performance evaluations for all staff annually.

7.8 Include completion of staff performance evaluations annually as a goal and objective in the Water Pollution Control Division managers' and supervisors' performance evaluations.

7.9 Establish policies and practices, in conjunction with the Director of Human Resources, to improve morale within the Maintenance Division, including setting acceptable work standards, recognizing good work performance, and taking appropriate action when performance standards are not met.

7.10 Establish procedures for and monitor compliance with the "Entrance-Exit Form", including ensuring the correct use of the form and forwarding the forms to the Bureau of Human Resources.

7.11 Comply with Policy 3.9 of the Water Pollution Control Division's Policies and Procedures Manual, which requires that annually no Water Pollution Control Division employee may work overtime hours in excess of 16 percent of his or her regularly scheduled hours without the prior approval of the Appointing Officer, or

obtain a waiver from the Appointing Officer excluding pre-scheduled overtime hours from the 16 percent hurdle calculation.

7.12 Direct the Maintenance Manager to continue developing the "Management by Objectives" report as a management tool to monitor the performance of the maintenance crews.

7.13 Direct the Maintenance Manager and Materials Coordinator to inventory all items in Lot B, assess the usefulness of each item, bring the items selected for retention under inventory control, and dispose of surplus items in accordance with Public Utilities Commission policy.

7.14 Direct the Maintenance Manager to establish procedures to inventory all tools and equipment in the Southeast Water Pollution Control Plant tool room annually and to ensure that all items are marked.

7.15 Direct the Maintenance Manager to establish written policies and procedures regarding inventory and accountability of all tools and equipment, including identification of staff members responsible for location of tools and equipment at all times and sign-out procedures for tools and equipment.

7.16 Develop performance objectives that are stated in measurable terms for each of the Division's Key Results Areas.

# Costs and Benefits

The Water Pollution Control Division could achieve approximately $100,000 in cost savings from obtaining more economical call-taking services for Sewer Operations. The Budget Analyst's other recommendations can be accomplished with existing staff in-house. The benefits of the recommendations would include a more efficient water pollution control operation, with personnel better supported by the administrative staff, and the Operations Division better supported by the Maintenance Division.

# 8. Managing the Interface Between the Public Utilities Commission and the Department of Public Works

- **Both the Public Utilities Commission and the Department of Public Works have clean water responsibilities. All of the Department of Public Works' clean water functions are funded by clean water revenues through Public Utilities Commission work orders.**
- **A number of Public Utilities Commission staff indicated to the Budget Analyst that they wished to receive more data on the Department of Public Works' delivery of services paid for by clean water revenues. However, the Budget Analyst found that considerable amounts of data are already gathered by the Department of Public Works and the Public Utilities Commission through a number of protocols, regular reports and meetings, and databases. The two departments need to do a better job of information sharing.**

## Current Situation

Prior to 1996, the Department of Public Works was responsible for clean water services. At that time there was no one Clean Water Enterprise; rather the responsibility for clean water services was allocated between a number of bureaus within the Department of Public Works.[1] Between 1996 and 1997, the Mayor transferred most clean water related functions from the Department of Public Works to the Public Utilities Commission. As part of the transfer, 6.00 FTE new Public Service Aid Program positions and 1.76 FTE new temporary positions were created, and a further 5.00 FTE new stationary engineering positions were created to handle the transfer of the Treasure Island and Hunters Point Naval facilities. Then, in 1999, the Department of Public Works janitors and craftspeople working on Water Pollution Control Division facilities, and the Project Manager for the clean water repair and replacement program, were also transferred to the Public Utilities Commission.

Under the July 27, 1997 memorandum of understanding which memorialized the transfer of clean water functions between the two departments, the Public Utilities Commission assumed responsibility for:

[1] The former Clean Water Enterprise, which had encompassed the entire program, had been disaggregated in 1990.

- The ownership and management of clean water system facilities, including the sewer system.[2]

- Staff in the Water Pollution Control Division, the laboratories at the Southeast Water Pollution Control Plant, the Industrial Waste Group (the nucleus of the Bureau of Environmental Regulation and Management), and Planning.

- The financial management of the Clean Water Enterprise Fund.

Under the July 27, 1997 memorandum of understanding, the Department of Public Works remains responsible for:

- Some design, construction management, and post-construction services for clean water capital projects and programs.

- Emergency sewer repair services, provided by either Department of Public Works staff or contractors.

- Paving for all non-capital sewer and water main repair and replacement capital projects, provided by either Department of Public Works staff or contractors.

- Management of sewer collection system and sewer repair records on behalf of the Public Utilities Commission. (The Public Utilities Commission maintains its own sewer cleaning maintenance records.)

Both departments continue to occupy the City and County of San Francisco Yard, the operations center for Department of Public Works maintenance, cleaning, and construction crews and for Public Utilities Commission Sewer Operations staff located at 2323 Cesar Chavez Street.

This allocation of responsibilities allowed the Department of Public Works to remain a full-service engineering, landscape design, and architecture shop for the City, and to retain primary responsibility for City streets and the coordination of all work in the right-of-way. This allocation of responsibilities also minimized the transition's impact on the Department of Public Works' overhead rates. As a result, the Department of Public Works retained the following clean water related functions: (a) the Hydraulic Section, which designs sewer replacements in the City's right-of-way, (b) the sewer repair and replacement, and street paving services provided by the Bureau of Street and Sewer

[2] Sewer system management includes repairs, television tape and walking inspections, cleaning blocked sewers, maintaining sewer maps, root control, sewer odor control, and preventive maintenance cleaning. Public Utilities Commission inspectors work in conjunction with the Department of Public Works' paving program, recognizing that a five year moratorium on street work after repaving work performed by the Department of Public Works limits the Public Utilities Commission's ability to work on sewers in a repaved location for five years afterwards.

Repair, (c) architectural services,[3] and (d) construction management, site assessment, and site remediation for all street-related clean water capital projects performed by the Department of Public Works.

In addition, the Department of Public Works continues to provide payroll services for its former staff transferred to the Public Utilities Commission, an arrangement which is finally scheduled to cease in December of 2004. This payroll service was provided by the Department of Public Works under an annual $150,000 work order. Public Utilities Commission staff advise that this arrangement has lasted for 7.5 years because the Public Utilities Commission was waiting to transfer the former Department of Public Works staff onto a new Department-wide payroll system based on a modified version of TESS, the payroll system used by most City departments. However, because the Personnel Payroll Services Department of the Controller's Office has not added the system functionality to TESS that the Public Utilities Commission needed, the Public Utilities Commission has developed and implemented its own enterprise timekeeping system, Etime. The $150,000 work order was deleted from the FY 2004-2005 budget in anticipation of the December migration onto the new in-house Etime system.

All these Department of Public Works' clean water services are funded by clean water revenues through Public Utilities Commission work orders to the Department of Public Works.

## Department of Public Works Work Order Services Provided to the Public Utilities Commission

Since 1997, the Public Utilities Commission has work ordered the amounts shown in Table 8.1 below to the Department of Public Works for building repair, street cleaning, engineering for the sewer system, updating and maintenance of the Geographic Information System for the sewer system, waste disposal, construction, and street and sewer repair.[4]

[3] As part of the transition of clean water functions and staff into the Public Utilities Commission, certain Public Utilities Commission architects were transferred to the Department of Public Works to centralize such services.

[4] The work order figures in Table 8.1 exclude the Public Utilities Commission's annual work order payment to the Department of Public Works for the Southeast Community Childcare Facilities for building repair services. This work order is funded by the General Fund. In FY 2004-2005, this work order is budgeted in the amount of $99,810.

**Table 8.1**

**Public Utilities Commission Work Orders to the Department of Public Works Since the Transfer of Clean Water Functions**

| Fiscal Year | Actual Expenditures |
|---|---|
| FY 1997-98 | $9,936,987 |
| FY 1998-99 | $10,463,300 |
| FY 1999-2000 | $8,182,845 |
| FY 2000-2001 | $8,449,835 |
| FY 2001-2002 | $7,127,514 |
| FY 2002-2003 | $8,170,192 |
| FY 2003-2004 | $8,911,289 |

Source: Public Utilities Commission Financial Services

In FY 2004-2005, the Public Utilities Commission is work ordering the Department of Public Works in the amounts of:

- $10,075,340 for building repair, street cleaning, engineering for the sewer system, updating and maintenance of the Geographic Information System for the sewer system, waste disposal, construction, and street and sewer repair.

- $3,000,000 to maintain the Department of Public Works' FY 2003-2004 level of street cleaning to minimize the amount of plant, litter, and other debris entering into the sewer system which would require treatment and disposal. This is the first time since the 1980s that the Clean Water Enterprise Fund has funded the Department of Public Works for this purpose.

- Negotiated amounts for specific capital projects under the clean water repair and replacement program.

## The Need for Reporting Enhancements

Under the July 25, 1997 memorandum of understanding, the Department of Public Works is required to produce monthly progress reports for each capital project or program. For

sewer repair work, the Department of Public Works is required to produce (a) emergency and daily reports on new or required capital projects involving the potential for injury or damage, (b) weekly reports for any activities incurring a cost to the Public Utilities Commission, (c) monthly reports on all completed work, and (d) quarterly reports to reconcile the Department of Public Works' charges against Public Utilities Commission work orders.

A number of Public Utilities Commission staff indicated to the Budget Analyst that they wished to receive more data on the Department of Public Works' delivery of services paid for by clean water revenues. Further, the *Draft Interim Phase II Report* on the Water Pollution Control Division prepared by Red Oak Consulting (August 10, 2004) identified that the budget and schedule information held by the Department of Public Works did not appear to be communicated to the Public Utilities Commission and that there is no clear follow-up on work performed by the Bureau of Street and Sewer Repair in terms of scheduling and completion of such projects. Red Oak Consulting recommended a formal reporting system "to enable efficient and accurate tracking of work order budget, schedule, and status, including completion, closure, and current backlog."

The Budget Analyst has found that considerable amounts of data are already gathered by the Department of Public Works and the Public Utilities Commission through a number of protocols, regular reports and meetings, and databases, including:

- Public Utilities Commission authorization on a case-by-case basis for the Department of Public Works to repair roadway defects caused by sewer subsidence.

- A Geographic Information System based reporting database developed by the Department of Public Works, significantly funded over the last five years by Public Utilities Commission work order funds for sewer information support. This database links documents about the sewer pipes, their size, age, material, and condition, to a Geographic Information System "Sewer Base Map." The resulting data supports sewer project management, sewer television tape inspections, the sewer work order tracking system, and hydraulic engineering, and is used by both departments. The Department of Public Works is developing a system that will provide real time updates of the Sewer Base Map.[5]

[5] If, as recommended in Section 9, the Department of Public Works' Hydraulic Section is transferred to the Public Utilities Commission, the Public Utilities Commission will need to negotiate use of the Geographic Information System "Sewer Base Map" with the Department of Public Works. The Geographic Information System would need to remain in the Department of Public Works because its street, right-of-way, and easement information is used by other Department of Public Works bureaus. However, due to the Public Utilities Commission's significant investment in the development of that system, that investment would need to be factored into the two department's mutual calculation of what constitutes an equitable annual charge for the Public Utilities Commission's ongoing use of that system.

- A database of sewer cleaning work completed by the Public Utilities Commission's Sewer Operations, through which repair requests can be electronically transmitted to the Department of Public Works' Bureau of Street and Sewer Repair.

- A Department of Public Works database which records the daily product figure reports from the daily crew production sheets. This database contains data such as the total number of linear feet of pipe installed, the total cubic yards of excavation completed, and the locations of the tasks performed as performed by both Department of Public Works crews and contractor crews. The Public Utilities Commission has access to this database.

- A weekly report prepared by the Public Utilities Commission which tracks clean water capital project expenditure data, including Department of Public Works expenditures, to the City's financial management system, FAMIS.

- Other as-needed FAMIS reports. For example, materials and supplies expenditure data are posted to FAMIS daily. While the FAMIS system provides information on expenditures, it is not a user-friendly program management tool. FAMIS does not provide information on the average cost of regularly required tasks (for example, the average cost of installing a catch basin), and FAMIS data cannot guarantee that all work order funds are, in fact, being spent on sewer repairs.

- As-needed Financial and Personnel System (FPS) payroll system reports on the Department of Public Works labor costs. This system captures the crew timesheet information signed off by the responsible foremen.

- Regularly scheduled monthly staff meetings on the Repair and Replacement Program, combined sewer operations, and streets and highways project coordination which are attended by both Public Utilities Commission and Department of Public Works staff.

- A quarterly and annual report prepared by the Department of Public Works' Hydraulic Section on its sewer-related activities.

- Periodic reports issued by the "One Point of Contact" staff member in the Department of Public Works' Bureau of Construction Management. This position acts as the operational interface between the Public Utilities Commission's Sewer Operations and the Department of Public Work's Bureau of Street and Sewer Repair. The reports issued by the "One Point of Contact" staff member are derived from a stand-alone database managed by the Bureau of Street and Sewer Repair. However, these reports do not tie to FAMIS expenditure reports nor to FPS payroll reports.

- Department of Public Works monitoring of third party contractors working on clean water projects against their contract bid lists which specify the tasks to be performed and those tasks' costs.

Despite this array of available information, improvements could be made to the reporting relationship between the two departments to improve reporting on the actual work performed. The two departments should jointly:

- Determine if there is additional cost and schedule information which needs to be electronically shared between the parties.

- Ensure that all reporting systems permit appropriate information exchange and results verification. For example, when the Public Utilities Commission's Sewer Operations electronically requests a sewer repair be performed by the Department of Public Works' Bureau of Street and Sewer Repair, there needs to be an automatic electronic report back to Sewer Operations when that job has been completed.

- Determine how data protocols can be structured so that personnel in both departments can view the management reporting databases operated by the Department of Public Works. Currently, security concerns over protecting the integrity and accuracy of data are preventing certain electronic files from being shared.

- Ensure that all field operations information should be stored electronically, rather than having some information held in paper-based document form.

- Ensure accurate data exchange between Department of Public Works databases and the FPS payroll and FAMIS financial management systems to capture all project expenditures.

- Ensure, to the degree possible, that all data exchange is in the form of user-friendly information.

## The Need for a Service Cost Comparison Between the Department of Public Works and Third Party Contractors

The Department of Public Works uses third party sewer construction contractors to perform a portion of its sewer repair services work order when its own staff are fully committed or there is specialist work which is best performed by contractors. The Department of Public Works awards between one and three such contracts per year based on the lowest per unit cost bid, subject to the bidders complying with prescribed quality standards. Such contracts are usually capped at a cost of $500,000 apiece.

No analysis has been performed comparing the cost of sewer repair services provided by the Bureau of Street and Sewer Repair with those provided by third party contractors. Such a comparative analysis would provide the Public Utilities Commission with useful cost benchmarks to determine if it receives good value for its work orders and if the appropriate proportion of sewer repairs are being allocated by the Department of Public Works to third party contractors. Such a comparative analysis would need to take into account the following factors:

- City staff and equipment are available for immediate mobilization in emergencies, whereas third party contractors would not be available immediately.

- Contractors can hire their staff on a temporary basis to meet seasonal needs, whereas City staff are usually hired on a permanent basis.

- There would likely be public sector union opposition to increased contracting out.

- The City's contracting process can be both expensive and lengthy.

- The incentives for public and private sector managers are different. Whereas cost savings in the private sector can result in bonuses for staff, cost savings in the public sector can result in budget reductions in the next fiscal year due to under-expenditure.

Nevertheless, these factors do not negate the value of understanding third party contractors' price structures and how they compare to using City employees and resources. Even if third party contractor costs are lower, the City may still wish to pay more for its own services for a variety of valid public policy and political reasons. In that case, however, the Public Utilities Commission and the Department of Public Works should know the value of the premium they are paying to understand the opportunity costs involved.

## The Need for a Space Analysis at the City and County of San Francisco Yard

The Public Utilities Commission Sewer Operations staff continue to use space at the City and County of San Francisco Yard, the operations center for Department of Public Works maintenance, cleaning, and construction crews and for Public Utilities Commission Sewer Operations staff. Under the 1997 memorandum of understanding, all clean water assets transferred to the Public Utilities Commission and neither party was to incur increased expenses as a result of the transition. The Public Utilities Commission interpreted that to include the space occupied by Sewer Operations staff at the City and County of San Francisco Yard, whereas the Department of Works did not. A study of alternative sites prepared by the Department of Public Works' Bureau of Architecture determined that shifting Sewer Operations staff would cost between $2 million and $7 million, and such funding was not available. Although the Department of Public Works wishes to take over the space used by Public Utilities Commission Sewer Operations staff, the Budget Analyst notes that:

- Physical co-location facilitates communication between Sewer Operations and the Bureau of Street and Sewer Repair, a vital interface in the efficient management of the sewer system.

- Space had previously been available for Sewer Operations staff when they were part of the Bureau of Street and Sewer Repair.

- The insistence on separate administrative and workshop facilities for staff in each department may not be the most rational use of the available space. Based on comments from interviewees, the Budget Analyst understands that the current space would be sufficient if all staff were reunited under the Bureau of Street and Sewer Repair. This suggests that current perceived space shortages are the result of restrictive space rationing decisions based on artificially rigid demarcation lines between the two departments.

- The Department of Public Works uses adjacent Public Utilities Commission land rent-free for the storage of large items, the transfer of equipment needed for night work, and the clean-up of contaminated equipment.

- Freeing up the space used by Sewer Operations would not necessarily become available to the Bureau of Street and Sewer Repair. The Mayor's Office could, for example, request that the space be reallocated to a community-based program.

- Senior management from the two departments recently met to develop a tentative plan to relocate all Public Utilities Commission staff and functions within one contiguous area of the City and County of San Francisco Yard. The Sewer Operations trailer will be moved to the front gate area by the end of 2004, with moving costs shared by both departments. The two departments would need to negotiate about the Department of Public Works' contribution to any further Public Utilities Commission accommodation moves.

The Budget Analyst recommends that the General Manager and the Director of Public Works conduct a joint space needs analysis of the City and County of San Francisco Yard and adjacent Public Utilities Commission space to ensure the two departments' optimal usage of those sites, and to clarify property ownership issues within the City and County of San Francisco Yard.

# Conclusion

Both Public Utilities Commission staff and Red Oak Consulting have identified deficiencies in the management information provided to the Public Utilities Commission by the Department of Public Works. However, the Budget Analyst notes that considerable amounts of data are already gathered by the Department of Public Works and the Public Utilities Commission through a number of protocols, regular reports and meetings, and databases. This data should be shared more effectively between the two departments to improve reporting on the actual work performed.

Useful management information would also be provided by (a) a comparative analysis of the cost of sewer repair services provided by the Bureau of Street and Sewer Repair and third party contractors, and (b) a joint space needs analysis of the City and County of San Francisco Yard and adjacent Public Utilities Commission space to ensure the two departments' optimal usage of those sites, and to clarify property ownership issues within the City and County of San Francisco Yard.

# Recommendations

The Public Utilities Commission General Manager and the Director of Public Works should jointly:

8.1 Determine if there is additional cost and schedule information which needs to be electronically shared between the parties.

8.2 Ensure that all reporting systems permit appropriate information exchange and results verification.

8.3 Determine how data protocols can be structured so that personnel in both departments can view the management reporting databases operated by the Department of Public Works.

8.4 Ensure that all field operations information is stored electronically, rather than having some information held in paper-based document form.

8.5 Ensure accurate data exchange between Department of Public Works databases and the FPS payroll and FAMIS financial management systems to capture all project expenditures.

8.6 Ensure, to the degree possible, that all data exchange is in the form of user-friendly information.

8.7 Commission a comparative analysis of the cost of sewer repair services provided by the Bureau of Street and Sewer Repair and third party contractors.

8.8 Conduct a joint space needs analysis of the City and County of San Francisco Yard and adjacent Public Utilities Commission space to ensure the two departments' optimal usage of those sites, and to clarify property ownership issues within the City and County of San Francisco Yard.

# Costs and Benefits

There may be information technology costs associated with the recommended reporting enhancements between the Public Utilities Commission and the Department of Public Works, but they cannot be estimated until the scope of required work between the two departments has been defined. In both departments, however, the base software is already in place. The most important benefit of the recommended reporting enhancements would be the improved reporting on the actual work performed by the Department of Public Works for the Public Utilities Commission, and that work's actual cost.

Given the cost data they already hold, staff in the two departments should jointly be able to conduct a comparative analysis of the cost of sewer service repair services provided by

the Bureau of Street and Sewer Repair and third party contractors. Therefore, the only significant cost would be staff time. The resulting information would assist the two departments to make optimal work allocation decisions between City staff and third party contractors.

Similarly, staff from the two departments should jointly be able to conduct a space needs analysis of the City and County of San Francisco Yard, with support from property experts in the City. Therefore, the only significant cost would be staff time, including support from the Department of Administrative Services' Real Estate Division and from the City Attorney's Office. The resulting analysis would assist in resolution of space usage debates and future planning options at the City and County of San Francisco Yard.

# 9. The Clean Water Enterprise's Organizational Structure

- **There is no single Clean Water Enterprise responsible for all expenditures of clean water revenues. Instead, the City's clean water functions are currently divided between a number of divisions, and managed by two separate City departments.**

- **This results in a fragmented organizational structure which does not foster a unified business identity for clean water staff. As a result there is no one executive management team member responsible for clean water, no integrated Clean Water Enterprise Fund business plan, the Clean Water Master Planning process is not being managed by the Clean Water Enterprise Program's experts in clean water operations and planning, hydraulic engineering services are provided by another department, there are unclear management accountabilities for clean water regulatory requirements, and the Water Pollution Control Division is still not integrated into the Department, either culturally or in terms of policies and procedures.**

## Disaggregated Clean Water Functions

There is no single Clean Water Enterprise responsible for all expenditures of clean water revenues. Instead, the City's clean water functions are currently divided between a number of divisions, managed by two separate City departments, the Public Utilities Commission and the Department of Public Works. This results in a fragmented organizational structure.

### Issues Caused by Structural Disaggregation

This structural disaggregation of functions does not foster a unified business identity for clean water staff that is characterized by shared goals, shared long-term planning capacity, functional coordination, efficiency, clear decision-making, or clear accountability lines. As a result:

- There is no executive management team position dedicated to clean water; instead different executive management team members are responsible for separate clean water functions. Clean water staff perceive that this disaggregated responsibility adversely impacts clean water advocacy at the executive management team level in terms of policy, program operations, and capital improvement investments.

- There is no integrated business plan for the Clean Water Enterprise which sets annual and long-term business goals and the investment decisions necessary to achieve them. One of the results of this lack of integrated business planning is that the Public

Utilities Commission Administration determines the Clean Water Enterprise's contribution to the Department's overhead costs without the benefit of a full analysis of the Clean Water Enterprise's actual administrative support needs.

- The Clean Water Master Planning process is being managed out of the General Manager's Office and the Infrastructure Division, rather than by the Clean Water Enterprise Program's experts in clean water operations and planning.

- Although the Water Pollution Control Division has its own environmental engineering capacity, the hydraulic engineers responsible for sewer design are managed by the Department of Public Works. As a result, approximately 90 percent of the work performed by the Department of Public Works' Hydraulic Section is for the Public Utilities Commission.

- Management responsibility for compliance with clean water regulations is currently split between the Water Pollution Control Division, the Bureau of Environmental Regulation and Management, and the Planning Bureau. This risks unclear accountabilities.

- After 7.5 years, the Water Pollution Control Division is still not fully integrated into the Department culturally, or in terms of policies and procedures. For example, Water Pollution Control Division staff were not consulted about the decision to withdraw clean water projects from the Department's long-term capital improvement program, the Clean Water Master Planning process is being managed by other parts of the Department, and the division's payroll services are still managed by the Department of Public Works, an arrangement which is finally due to end in December of 2004. A cultural consequence of this is the number of management audit Phase I interviewees who described clean water functions as the Department's "orphan stepchild."

## Current Division of Clean Water Functions

As noted above, the City's clean water functions are divided between the Public Utilities Commission and the Department of Public Works.

Public Utilities Commission

- The Water Pollution Control Division operates and maintains the clean water system's sewers, conveyance system, and treatment plants. This division also provides clean water engineering services, and is responsible for the Southeast Community Facility. The Water Pollution Control Division comprises 415.84 full-time equivalent (FTE) positions and a FY 2004-2005 operating budget of $144,289,726.

- The Pretreatment, Pollution Prevention and Storm Water Program of the Bureau of Environmental Regulation and Management manages initiatives to prevent pollution, control the quality of storm water run-off, and ensure that pretreatment programs

limit certain pollutants from going into the sewer system, and enforces pretreatment permit compliance. This program comprises 32.50 FTE positions and a FY 2004-2005 operating budget of $4,274,712.

- The Southeast and Oceanside Water Pollution Control Plant Laboratories, managed by the Water Quality Bureau, conduct wastewater laboratory analysis.[1] The Southeast and Oceanside Water Pollution Control Plant Laboratories comprise 30.07 FTE positions and a FY 2004-2005 operating budget of $2,762,152.

- The Clean Water Master Planning process is currently staffed by the General Manager's Office and the Infrastructure Division's Program Management Bureau. The Clean Water Master Planning function comprises 2.10 FTE positions at a FY 2004-2005 salary cost of up to $309,247, inclusive of mandatory fringe benefits.[2]

- Clean water regulatory compliance services are provided by the Planning Bureau. This function comprises 2.00 FTE positions, of which the Budget Analyst recommends that 1.00 FTE be transferred to the new Clean Water Enterprise for clean water regulatory compliance services at a FY 2004-2005 salary cost of up to $160,361, inclusive of mandatory fringe benefits.

Department of Public Works

- The Hydraulic Section of the Civil Engineering Division evaluates the sewers, and plans and designs sewer repairs and upgrades. The Hydraulic Section comprises 20.50 FTE positions and a FY 2004-2005 operating budget of $2,330,641.[3]

- The Bureau of Street and Sewer Repair is responsible for performing the sewer repairs and replacements paid for by Public Utilities Commission work order. The Bureau of Street and Sewer Repair dedicates a sewer team and a asphalt patch crew consisting of 35.50 FTE positions to this work order which in FY 2004-2005 is funded at $7,744,699. In FY 2004-2005, the Department of Public Works is also receiving a Public Utilities Commission work order for the first time since the 1980s for street cleaning related to keeping debris out of the sewer system. This work order is in the amount of $3,000,000 in FY 2004-2005.

[1] These laboratories also perform some drinking water laboratory analysis. There is also a laboratory located on Treasure Island which performs clean water laboratory services and which is currently staffed by a 0.50 FTE laboratory position. This separate facility may not continue to operate in the future since the workload could be easily handled by the Southeast and Oceanside Water Pollution Control Plant Laboratories.

[2] In addition, there will be three sets of staff working on specific aspects of the Clean Water Master Plan managed under a "matrix organization" whereby each staff member will report to both the supervisor in his or her own section and to the Clean Water Master Plan project manager. Engineering and plan checker staff will work on the Planning and Engineering Project. Coordinators of citizens' involvement and public information officers will work on the Public Participation Project. Planners will work on the Environmental Review Project.

[3] The amount of $2,330,641 comprises (a) $1,730,641 for personnel costs, and (b) $600,000 for a spot sewer repair contract.

- The Bureaus of Architecture, Engineering, and Construction Management provide specific clean water capital project related work under work orders from the Public Utilities Commission. Whereas the Bureau of Street and Sewer Repair focuses on smaller scale roadway and sewer projects, the Bureau of Engineering's Streets and Highways Division and Project Management Division are responsible for managing the contracts for large scale roadway and sewer projects.

# Potential Consolidation of Clean Water Functions

The above clean water functions could be consolidated into a new Clean Water Enterprise within the Public Utilities Commission. The following section considers the advantages and disadvantages of consolidating six different clean water functions into a new Clean Water Enterprise. Phase IV of the Budget Analyst's management audit will consider the advantages and disadvantages of decentralizing business services currently managed by the Business Services Division to a new Clean Water Enterprise.

## Public Utilities Commission

Water Pollution Control Division

| Restructuring Advantages | Restructuring Disadvantages |
|---|---|
| The Water Pollution Control Division would be the nucleus of the Department's current clean water operations, maintenance, and planning functions. | None because the Water Pollution Control Division would be the essential core of the Clean Water Enterprise. |

*Conclusion*

The Water Pollution Control Division would be the essential core of a new Clean Water Enterprise. Instead of reporting to the Assistant General Manager, Operations, the Water Pollution Control Division Manager should report to the new Assistant General Manager, Clean Water.

Pretreatment, Pollution Prevention and Storm Water Program

| Restructuring Advantages | Restructuring Disadvantages |
|---|---|
| This program focuses completely on clean water regulations and standards. As the "Industrial Waste Group," the pretreatment function was previously part of the Clean Water Program. There would be significant staff support for the intent of this restructuring because this function would provide an important service to the Clean Water Enterprise. | Separating the Pretreatment, Pollution Prevention and Storm Water Program from the rest of the Bureau of Environmental Regulation and Management would break up an interdisciplinary organization which also comprises environmental compliance and health and safety. This interdisciplinary approach can respond rapidly to issues requiring an interdisciplinary response, such as the West Nile Virus prevention efforts at Lake Merced and mercury reduction efforts. Future interdisciplinary initiatives would require coordination across organizational boundaries. |
| Would facilitate executive management team decision-making with regard to pretreatment, pollution prevention, and storm water initiatives. | The Bureau of Environmental Regulation and Management, which staff indicate is working successfully, would be dismantled because after the Pretreatment, Pollution Prevention and Storm Water Program is removed, the remaining functions do not justify retention of a separate Bureau of Environmental Regulation and Management. Programs managed by the current bureau have received national awards. |
| Transfer into a new Clean Water Enterprise would reflect the symbiotic relationship that already exists between the Water Pollution Control Division, the Southeast and Oceanside Water Pollution Control Plant Laboratories, and the Pretreatment, Pollution Prevention and Storm Water Program. | The program's independence as a third party monitor of biosolids and organics in the wastewater treated by the Water Pollution Control Division could be reduced if the program was not kept separate from Operations within the Clean Water Enterprise's organizational structure. |
| Pretreatment, Pollution Prevention and Storm Water Program staff members would have greater input into the Clean Water Master Plan which will determine the concepts to be implemented over the next 30 years by the Clean Water Enterprise. | |
| A closer alignment between the Water Pollution Control Division, the Pretreatment, Pollution Prevention and Storm Water Program, and the Southeast and Oceanside Water Pollution Control Plant Laboratories should result in more efficient wastewater sampling and regulatory compliance monitoring. | |

*Conclusion*

The advantages of restructuring the Pretreatment, Pollution Prevention and Storm Water Program into a new Clean Water Enterprise outweigh the disadvantages, primarily because of that program's total focus on clean water and its close working relationship with other clean water staff.

Since the Pretreatment, Pollution Prevention and Storm Water Program represents approximately 71.2 percent of the Bureau of Environmental Regulation and Management's total technical staffing of 45.16 positions, the program would warrant the transfer to the Public Utilities Commission of a proportionate share of the five administrative and clerical support staff funded by the PUC Operating Fund,[4] or 3.50 FTE positions, for a total of 36.00 FTE positions.

Southeast and Oceanside Water Pollution Control Plant Laboratories

| Restructuring Advantages | Restructuring Disadvantages |
|---|---|
| Placing the management of the Southeast and Oceanside Water Pollution Control Plant Laboratories under the Clean Water Enterprise would facilitate the chemists' involvement in wastewater treatment and the laboratory analysis which supports wastewater treatment. | Laboratory testing should not be under the control of operations which is producing the effluent being monitored. Third party testing and reporting prevents fraud. As part of the Water Quality Bureau, the laboratories have a barrier to conflicts of interest which might otherwise arise. However, independence could be assured by maintaining the laboratories as a separate bureau within the Clean Water Enterprise. There is no industry standard or regulatory requirement for separation. |
| More than 50 percent of the work performed by the Southeast and Oceanside Water Pollution Control Plant Laboratories comes from the Bureau of Environmental Regulation and Management. | The *Performance Assessment Phase I: Revised Draft Interim Report* (June 11, 2004) prepared by Red Oak Consulting supported the continued integration of the drinking water and wastewater laboratories. |

[4] This excludes the Classification 5125 Bureau Manager position in the Bureau of Environmental Regulation and Monitoring which might not be necessary if the Pretreatment, Pollution Prevention and Storm water Program, which is the largest portion of the Bureau of Environmental Regulation and Monitoring, is transferred to the new Clean Water Enterprise. The remaining Bureau of Environmental Regulation and Monitoring functions would be environmental compliance and the Health and Safety Program, both of which could be transferred to PUC Administration. The Budget Analyst will review the optimal location for these remaining functions and the need for the Classification 5125 Bureau Manager position in Phase IV of the management audit.

| Restructuring Advantages continued | Restructuring Disadvantages continued |
|---|---|
| The structural reintegration of the Southeast and Oceanside Water Pollution Control Plant Laboratories into the Clean Water Enterprise would reflect the continued workload, administrative, cultural, and physical co-location links the Southeast and Oceanside Water Pollution Control Plant Laboratories have maintained with the clean water system. Staff would feel greater cohesiveness with their major client which would lead to greater job satisfaction. Some staff believe that reintegration with the clean water system would make better use of their long-term knowledge about the clean water system, and would facilitate a more responsive information exchange between clean water operations and the Southeast and Oceanside Water Pollution Control Plant Laboratories. | The Water Quality Bureau has reorganized the laboratories by discipline (for example, inorganic, organic, and bacteriology) rather than by client (drinking water and wastewater). This allows staff to analyze both drinking water and wastewater samples which may result in improved staffing coverage, better utilization of staff, increased cross-training, productivity gains, enhanced customer service, and greater ability to respond to special requests and emergencies. The new structure should also prevents duplication of similar kinds of testing between laboratories. Disaggregation of the laboratories risks losing such benefits. The Budget Analyst notes that the consolidation of trace metals and microbiological testing could remain intact, with the respective labs contracting with each other for those services. However, this would rely on potentially extensive use of work orders. |
| Efficiency improvements are hindered by the laboratories' dispersed locations. | It may be more cost-effective to consider the Department's future laboratory infrastructure needs in terms of one site, rather than the current dispersed locations. |
| Restructuring may reduce the need for senior Water Quality Bureau positions. | The industry model in like organizations is combined laboratories. For example, East Bay Municipal Utility District, the Washington D.C. Suburban Sanitary Commission, and Seattle Public Utilities all have combined laboratories. |
| | While there has been some union resistance and issues related to pay differentials, there have also been personnel transfers and collaborations between the drinking water and wastewater laboratories. |

| Restructuring Advantages continued | Restructuring Disadvantages continued |
|---|---|
| | One Quality Assurance Officer oversees all the laboratories, in place of the former two independent officers, which has resulted in standardized policies and procedures. There is now one Laboratory Information Management System (LIMS) instead of the former two separate systems. One Client Services Manager position, when filled, will provide "one-stop shopping" services for water and wastewater clients. The Budget Analyst notes that such coordinated services could continue to be provided even if the laboratories are disaggregated, by means of contractual agreements or work orders between the laboratories. |

*Conclusion*

The Budget Analyst does not recommend an organizational transfer for the Southeast and Oceanside Water Pollution Control Plant Laboratories at this time. The Budget Analyst will further review the optimal placement of the Water Quality Bureau Laboratories during management audit Phase III which will consider the Water Quality Bureau in its entirety. In terms of clean water functions, Phase III of the management audit will also examine the ten marine biology positions in the Water Quality Bureau's Environmental Services Section which undertake marine and San Francisco Bay monitoring related to wastewater discharges and bioassay testing of effluents.

The Southeast and Oceanside Water Pollution Control Plant Laboratories represent approximately 22.9 percent of the Water Quality Bureau's total technical staffing of 131.26 FTE positions. Therefore, if those laboratories were transferred to a new Clean Water Enterprise, they would warrant the transfer to the Public Utilities Commission of a proportionate share of the Water Quality Bureau's eight administrative and clerical support staff funded by the PUC Operating Fund,[5] or 2.00 FTE positions, for a total of 32.07 FTE positions.

[5] This excludes the Classification 5133 Director of Laboratories position which might not be necessary if the laboratories are separated back into their former wastewater and drinking water functions and transferred to a new Clean Water Enterprise and a new Water Enterprise respectively. The Budget Analyst will review the need for the Classification 5133 Director of Laboratories position in Phase III of the management audit.

Clean Water Master Planning and Planning Bureau Clean Water Regulatory Compliance Staff

| Restructuring Advantages | Restructuring Disadvantages |
|---|---|
| The Clean Water Enterprise would have its own policy, planning, and regulatory compliance resources to manage the Clean Water Master Planning process, to comply with the Federal and State clean water permits, and to support the Assistant General Manager, Clean Water's advocacy role at the executive management team. | Centralized clean water planning would require extra coordination efforts with the other parts of the Department which have planning and capital improvement program responsibilities. |
| These policy and planning staff would be structurally integrated with the engineering and operations staff necessary to vet any Clean Water Master Planning proposals, and could work closely with expert consultants hired by the Clean Water Enterprise. | |
| Restructuring would achieve the recommendation made in *Draft Interim Phase II Report* on the Water Pollution Control Division prepared by Red Oak Consulting (August 10, 2004) that the Water Pollution Control Division should "have a strong leadership role in wastewater planning and in all decisions that impact the Clean Water Enterprise." | |
| These policy and planning staff would provide the Clean Water Enterprise with an important link to the Department's central policy coordination function. | |

*Conclusion*

The advantages of restructuring the Clean Water Master Planning and Planning Bureau Clean Water Regulatory Compliance staff into a new Clean Water Enterprise outweigh the disadvantages because of the need to coordinate important clean water planning efforts.

During the remainder of the management audit, the Budget Analyst will be considering the optimal relationship between planning staff located within the enterprises and any policy and planning coordination function that should continue on a centralized basis.

The clean water regulatory compliance function within the Planning Bureau is currently staffed by a filled 1.00 FTE Classification 0932 Manager IV position and a vacant 1.00 FTE Classification 5620 Regulatory Specialist position. The latter position is not

required because the clean water regulatory compliance role can be adequately performed by one senior position as is the case in the East Bay Municipal Utility District. The Budget Analyst recommends that the vacant 1.00 FTE Classification 5620 Regulatory Specialist, Clean Water Regulatory Compliance position in the Planning Bureau be eliminated.

## Department of Public Works

Hydraulic Section

| Restructuring Advantages | Restructuring Disadvantages |
|---|---|
| Approximately 90 percent of the Hydraulic Section's workload is related to Public Utilities Commission work orders. Hydraulic engineering is an appropriate function for the Public Utilities Commission. Its current location within the Department of Public Works is a legacy of a former organizational structure. | The Department of Public Works has primary responsibility for the right-of-way, and sewer-related work significantly impacts the right-of-way. Transferring the hydraulic engineering function to the Public Utilities Commission could increase coordination issues which, if not successfully managed, could result in schedule delays and cost increases for combined roadway and sewer projects. This poses a particular problem when the roadway portion of a project is more expensive than the sewer portion. |
| Restructuring would increase the new Clean Water Enterprise's management control over, coordination of, and communication about sewer repair program planning. It would strengthen the Public Utilities Commission's capacity to plan and prioritize long-term sewer repair and replacement in relation to the Department of Public Works' repaving program. This would be a particular advantage when the sewer portion of a project is more expensive than the roadway portion. | Due to the loss of direct labor, the overhead rate for the Department of Public Works' Bureaus of Architecture, Engineering, and Construction Management would increase by an estimated 5 percent, from 168 percent to 173 percent. Redistribution of the Department of Public Works' overhead expenditures would increase the burden to the General Fund by an estimated $98,900. These full cost impacts would occur only if the Department of Public Works makes no reductions to its administrative overhead expenses. However, this reduction in administrative overhead should be made to correspond with the transfer of operating responsibilities. |
| Restructuring would increase the engineering capacity of the Water Pollution Control Division. This organizational restructuring would eliminate an artificial boundary between two engineering groups split between two departments. | Restructuring could reduce internal coordination with, and cross-training between, the Department of Public Works engineers responsible for roadway, sewer, and catch basin design. |

| Restructuring Advantages continued | Restructuring Disadvantages continued |
|---|---|
| | The Public Utilities Commission would need to negotiate use of the Geographic Information System "Sewer Base Map" with the Department of Public Works. That system would need to remain in the Department of Public Works because its street, right-of-way, and easement information is used by other Department of Public Works bureaus. |

*Conclusion*

The advantages of restructuring the Department of Public Works' Hydraulic Section into a new Clean Water Enterprise outweigh the disadvantages primarily because 90 percent of that section's workload is related to clean water and paid for by clean water revenues. Nevertheless, the disadvantages of restructuring are serious and would need to be addressed through close program planning between the two departments and the information exchange strategies recommended in Section 8.

The General Manager and the Director of Public Works will need to negotiate the specific Hydraulic Section resources to be transferred to the Public Utilities Commission's new Clean Water Enterprise because approximately 10 percent of the Hydraulic Section's workload is not clean water related. The Department of Public Works will continue to need resources to perform that work, unless it chooses to work order the necessary services back from the Public Utilities Commission.

Bureau of Street and Sewer Repair

| Restructuring Advantages | Restructuring Disadvantages |
|---|---|
| Transferring the 35.50 FTE positions responsible for sewer repair to the Public Utilities Commission would give Sewer Operations a continuum of responsibility for sewers from initial inspection through actual repair and replacement. This would promote coordination and long-term planning from the sewer perspective. | The Department of Public Works has primary responsibility for the right-of-way, and sewer-related work significantly impacts the right-of-way. Transferring the sewer repair function to the Public Utilities Commission could adversely affect the Department of Public Works' ability to manage right-of-way issues. |
| | Reducing the 112.17 FTE positions in the Bureau of Street and Sewer Repair by 35.50 FTE positions, leaving a residual bureau of 76.67 FTE positions, would increase the Department of Public Works' overhead allocation as a percentage of its personnel base unless the department was able to make a commensurate reduction in its overhead costs. This could result in a negative impact on the General Fund. |
| | Transferal of some sewer repair staff to the Public Utilities Commission would reduce staffing flexibility in the residual Bureau of Street and Sewer Repair to cover employees on leave or disability, or meet peak seasonal workload needs. |

*Conclusion*

The advantages of restructuring the sewer repair functions performed by the Department of Public Works' Bureau of Street and Sewer Repairs into a new Clean Water Enterprise may not outweigh the disadvantages. Due to the combined sewer and storm water system, the sewers, catch basins, sidewalks, and roadways are integrally interrelated and, therefore, both the Public Utilities Commission and the Department of Public Works have a legitimate role to play with regard to sewers. Every sewer project involves roadway repair and potential sidewalk repair. Every pavement project involves sewer assessment and, possibly, repair. The need for roadway and sidewalk repair is often due to subsidence caused by aging sewers or the installation of new sewers. As a result, the two departments will always have to manage the problematic interface between the needs of the sewer system, with its average 80 year life span, which can extend to 200 years for storage and transportation boxes, and the street system, which has a 25 year repaving cycle. Given this disparity in the life spans of the two systems, managing the interface poses challenges, particularly when it is difficult to diagnose the origin of the problem. For example, is the problem caused by a clogged sewer (Public Utilities Commission responsibility) or a collapsed sewer (Department of Public Works responsibility) and

which organization, therefore, should pay to solve the problem? There are approximately eight to ten major combined sewer and repaving projects per year.

Due to the shorter life span of roadways in comparison with sewers, and the pronounced public interest in the physically more obvious benefits of roadway maintenance and repair, there is a strong argument for the performance of sewer repair and replacement work impacting the right-of-way to remain within the purview of the Department of Public Works. However, the Budget Analyst will comment on this more definitively once Phase III of the management audit has reviewed the interface between the Public Utilities Commission and the Bureau of Street and Sewer Repair in relation to water main repair and replacement within the right-of-way, and the possibility of greater coordination of the sewer and water main repair and replacement programs.

## Advantages and Disadvantages of Consolidation

Based on the above conclusions, Table 9.1 summarizes the functions that a new Clean Water Enterprise could include.

### Table 9.1

### A Consolidated Clean Water Enterprise

| Function | Current No. of FTE Positions | FY 2004-2005 Operating Budget |
|---|---|---|
| Water Pollution Control Division | 415.84 | $144,289,726 |
| Pretreatment, Pollution Prevention and Storm Water Program | 36.00 | $4,274,712 |
| Southeast and Oceanside Water Pollution Control Plant Laboratories | 32.07 | $2,762,152 |
| Clean Water Planning and Regulatory Compliance | 3.10 | $469,608 |
| Hydraulic Section from the Department of Public Works | 20.50 | $2,330,641 |
| **TOTAL:** | **507.51** | **$154,126,839** |

Source: Public Utilities Commission and Department of Public Works

Creating a new Clean Water Enterprise comprised of the above operating entities, managed by the Assistant General Manager, Clean Water position recommended in Section 10, would achieve the following:

- A unified business identity for clean water staff that is characterized by shared goals, shared long-term planning capacity, functional coordination, and efficiency. It would facilitate clean water staff members' input into the Clean Water Master Planning process, the product of which will determine the concepts that need to be implemented over the next 30 years by clean water operations and environmental monitoring staff.

- Improved decision-making among staff working on clean water issues, and clear accountability lines.

- Increased stature for the Clean Water Enterprise within the organization by assigning it management accountability and responsibility equal to that assigned to the other business enterprises, and by ensuring adequate representation and advocacy at the executive management team level.

- Implementation of the Commission's stated policy preference for the Public Utilities Commission to be structured organizationally into business enterprises.

- Remedies for a number of the deficiencies related to the disaggregated structure of clean water functions cited by the *Draft Interim Phase II Report* on the Water Pollution Control Division prepared by Red Oak Consulting (August 10, 2004).

- Congruence with the organizational structure of the most similar Bay Area public utility. The East Bay Municipal Utility District, which is responsible for both water and waste water services, organizationally groups together the following: wastewater treatment; wastewater plant operations and maintenance; engineering, design, and construction management for wastewater facilities; laboratory services; related environmental services; and related financial management and administrative support services.

- Personnel and efficiency gains should be achievable from restructuring functions under the Assistant General Manager, Clean Water. For example, like functions could be integrated, spans of management control could be resized appropriately, and administrative support staff could be rationalized by centralizing administration for all the components of the new Clean Water Enterprise.

There are, however, risks associated with consolidation of all clean water functions which would need to be carefully managed:

- The new Clean Water Enterprise might tend to operate as a stand-alone entity, relying on the executive management team as the Department's sole coordination point with the rest of the Department, when in fact its staff should be working with staff from the other enterprises and the central policy and planning coordination function to

prevent fragmented policy development and planning. For example, there are likely to be significant synergies between the Clean Water Master Plan and the Water System Capital Improvement Program which will need to be fostered. To ensure that the necessary coordination happens, the executive management team needs to develop interdepartmental protocols specifying when Clean Water Enterprise staff need to work with other parts of the Department. These protocols could include internal memorandums of understanding and interdepartmental working groups to deal with specific policy and procedure issues.

- Difficulty in allocating Business Services Division staff support. During the course of the management audit, the Budget Analyst will be considering the recommendation made by Red Oak Consulting in its *Performance Assessment Phase I: Revised Draft Interim Report* (June 11, 2004) to:

  > "implement a matrix organization for support personnel where staff from purchasing, personnel, finance, and related support departments who are paid out of [clean water] funds are directly accountable to both the department for which they work and the [Clean Water Enterprise] which funds their position."

  Under this model, Business Services Division purchasing, personnel, finance, information technology, and related support staff would be dedicated to the Clean Water Enterprise and co-located on site, thereby providing Clean Water Enterprise staff with direct access to Business Services Division staff who have a greater awareness of the enterprise departments' needs. While this theory has merit, the Budget Analyst notes that (a) dual reporting lines can create conflicts for both staff and managers, and (b) Water Pollution Control Division managers report a mixed experience with support staff decentralization.

# Implementation

The Budget Analyst is cognizant that the Public Utilities Commission's recently appointed General Manager is actively looking at reorganizing the Department, with the ultimate goal of reorganizing the Department into its business lines. To achieve that, the General Manager has appointed new senior personnel, including a Deputy General Manager, to assist her to coordinate across the existing divisions on key issues. During this transition period, the General Manager does not support the flat organizational structure being recommended by the Budget Analyst, whereby an Assistant General Manager, Clean Water would report directly to the General Manager. However, the General Manager has indicated that she is prepared to examine a flatter management structure in the medium term. Therefore, if the Board of Supervisors approves the Budget Analyst's recommendations, the Budget Analyst would assess, in the medium term, the Department's progress towards the recommended organizational structure. While the Budget Analyst acknowledges that, in the short-term, the Department's budget will be accommodating senior personnel to manage the transition period, the Budget Analyst will be reviewing their justification in the medium term.

# Conclusion

The structural disaggregation of clean water functions creates a number of deficiencies, most notably a lack of a unified business identity, inadequate advocacy at the executive management team, dispersal of functional responsibilities, and inadequate integration into the Public Utilities Commission as a whole.

Consolidation of the Water Pollution Control Division, the Pretreatment, Pollution Prevention and Storm Water Program, clean water planning staff, and the Department of Public Works' Hydraulic Section, and potentially the Southeast and Oceanside Water Pollution Control Plant Laboratories (subject to further review in Phase III of the management audit), could address these deficiencies.

The Public Utilities Commission and the Department of Public Works will always have to manage the problematic interface between the needs of the sewer system, with its average 80 year life span, and the street system's 25 year repaving cycle. Given this disparity in the life spans of roadways compared with sewers, and the pronounced public interest in the physically more obvious benefits of roadway maintenance and repair, there is a strong argument for the performance of sewer repair and replacement work impacting the right-of-way to remain within the purview of the Department of Public Works. However, the Budget Analyst will comment on this more definitively once Phase III of the management audit has reviewed the interface between the Public Utilities Commission and the Bureau of Street and Sewer Repair in relation to water main repair and replacement within the right-of-way, and the possibility of greater coordination of the sewer and water main repair and replacement programs.

Care will need to be taken to ensure that a new Clean Water Enterprise does not operate as a stand-alone entity when, in fact, it needs to be coordinating with the Department's other enterprises and its central policy and planning coordination function.

# Recommendations

The Public Utilities Commission General Manager should:

9.1 Reassign management responsibility for the Water Pollution Control Division from the Assistant General Manager, Operations to the new Assistant General Manager, Clean Water position.

9.2 Reassign management responsibility for the Pretreatment, Pollution Prevention and Storm Water Program from the Manager, Bureau of Environmental Regulation and Management, to the new Assistant General Manager, Clean Water position.

9.3 Reassign management responsibility for the Clean Water Master Plan from the General Manager's Office and the Infrastructure Division to the new Assistant General Manager, Clean Water position.

9.4 Transfer the Classification 0932 Manager IV, Clean Water Regulatory Compliance position from the Planning Bureau to the new Clean Water Enterprise.

9.5 Eliminate the vacant Classification 5620 Regulatory Specialist, Clean Water Regulatory Compliance position in the Planning Bureau.

9.6 Assign management responsibility for the incoming Hydraulic Section to the Principal Engineer of the Water Pollution Control Division.

9.7 Direct the Assistant General Manager, Clean Water, as recommended in Section 10, to develop an optimal organizational structure to integrate like functions, create appropriate spans of management control, rationalize the administrative support positions, and manage the risks associated with the consolidation.

9.8 Direct the executive management team to develop intradepartmental protocols that ensure that the executive management team is not the sole policy and planning coordination point in the Department.

The Public Utilities Commission General Manager and the Director of Public Works should:

9.9 Negotiate the specific Hydraulic Section resources to be transferred to the Public Utilities Commission.

# Costs and Benefits

The transfer of the Department of Public Works' Hydraulic Section to the Public Utilities Commission would incur the following costs or cost shifts:

- A transfer of $2,330,641 in Hydraulic Section staff salaries and operating costs from the Department of Public Works to the Public Utilities Commission.

- Due to the loss of direct labor, the overhead rate for the Department of Public Works' Bureaus of Architecture, Engineering, and Construction Management would increase by an estimated 5 percent, from 168 percent to 173 percent. Redistribution of the Department of Public Works' overhead expenditures would increase the burden to the General Fund by an estimated $98,900. These full cost impacts would occur only if the Department of Public Works makes no reductions to its administrative overhead expenses.

- Relocation costs if the Hydraulic Section staff were physically moved, or a shift in the lease costs between the two departments if the Hydraulic Section remained in its current accommodation.

All the other staffing changes would result in cost neutral transfers of salary dollars within the Public Utilities Commission's existing clean water personnel budget.

Elimination of the vacant Classification 5620 Regulatory Specialist, Clean Water Regulatory Compliance, position in the Planning Bureau would save between $66,920 and $81,354, plus mandatory fringe benefits, for a total savings of up to $101,286 annually. Further salary savings may accrue from rationalizing administrative support positions.

Consolidation of clean water functions would foster a unified business identity for clean water staff characterized by shared goals, shared long-term planning capacity, functional coordination, and efficiency. It will improve decision-making among staff working on clean water issues, and ensure clear accountability lines. Therefore, the proposed structural changes would facilitate important cultural changes.

# 10. Assistant General Manager, Clean Water

- **No one position under the General Manager has management oversight over all clean water operations, clean water planning, and Clean Water Enterprise Fund expenditures.**

## Inadequate Clean Water Representation at the Executive Management Team

The Department's former Executive Leadership Team consisted of the following seven members:

- The Classification 1172 General Manager who has overall management responsibility for the collective output of the Department's 2,212.37 full-time equivalent (FTE) positions and a FY 2004-2005 operating budget of $515,489,384. Of this, the General Manager's Office comprises 28.30 FTE positions, with a FY 2004-2005 operating budget of $9,507,939.

- The Classification 5166 Assistant General Manager, Operations who manages the 1,494.32 FTE positions responsible for the operation of the water, clean water, and power generation systems. This position's incumbent represents approximately 67.5 percent of the Department's positions, spread across its three main operating systems. This position is responsible for a FY 2004-2005 operating budget of $424,124,474, or approximately 82.3 percent of the Department's total operating budget.

- The Classification 5166 Assistant General Manager, Infrastructure who manages the 334.94 FTE positions implementing the $3.6 billion Water System Capital Improvement Program. The Infrastructure Division's Program Management Bureau is currently responsible, with assistance from the General Manager's Office, for the Clean Water Master Planning process. The Infrastructure Bureau's FY 2004-2005 operating budget is $39,133,309.

- The Classification 0955 Assistant General Manager, Business Services who manages the 301.61 FTE positions providing financial, real estate, information technology, and human resources services to the Department as a whole, and customer services to the public. The Business Services' FY 2004-2005 operating budget is $36,234,864.

- The Classification 0955 Assistant General Manager, Power Policy and Resource Planning who manages the 16.23 FTE positions responsible for power planning and administration, energy efficiency, renewable energy technologies, and power legislation. The FY 2004-2005 operating budget for these functions is $3,710,283.

- The Classification 0954 Planning Bureau Manager who manages the 36.97 FTE positions responsible for water and clean water planning, and environmental

regulatory compliance. The Planning Bureau's FY 2004-2005 operating budget is $2,778,515.

- The Classification 1340 Executive Assistant to the General Manager.

Therefore, the clean water system was represented at the Executive Leadership Team by (a) the Assistant General Manager, Operations who is simultaneously charged with representing the power generation and water systems' operations, (b) the Assistant General Manager, Infrastructure who has staff working on the Clean Water Master Plan, and (c) the Planning Bureau Manager who has staff working on clean water environmental regulation compliance and planning. While there is merit in having multiple perspectives within the Department's executive management team on clean water issues, this divided management representation, particularly taking into account the sheer scope of the Classification 5166 Assistant General Manager, Operations' responsibilities, makes it difficult for any one executive management team member to be a strong advocate for clean water policy, program operations, and capital investments. Further, no one position under the General Manager has management oversight over all clean water operations and expenditures. As a result, as noted in Sections 4 and 9:

- There is no integrated business plan for the Clean Water Enterprise which sets annual and long-term business goals and the investment decisions necessary to achieve them. One consequence of this are the significant unmet capital improvement needs related to the clean water system's infrastructure.

- The Clean Water Master Planning process is not being managed by the Clean Water Enterprise Program's experts in clean water operations and planning.

- Management responsibility for compliance with clean water regulations is currently split between the Water Pollution Control Division, the Bureau of Environmental Regulation and Management, and the Planning Bureau. This risks unclear accountabilities.

- After 7.5 years, the Water Pollution Control Division is still not fully integrated into the Department culturally, or in terms of policies and procedures.

## Leadership Needs of a New Clean Water Enterprise

In Section 9, the Budget Analyst recommends the establishment of a Clean Water Enterprise which could encompass up to 507.51 FTE positions and an annual operating budget of up to $154,126,839. As shown in Table 10.1 below, this scope of management responsibility is greater than the management responsibilities of most other former Executive Leadership Team members who reported directly to the General Manager and, therefore, warrants Classification 5166 Assistant General Manager, PUC status.

# Table 10.1

## Former Executive Leadership Team Members' Salaries, and Staff and Budget Responsibilities

| Job Classification | Minimum Salary | Maximum Salary | No. of Direct Staff (% of Total) | FY 2004-2005 Operating Budget (% of Total) |
|---|---|---|---|---|
| 1172 PUC General Manager | $164,952 | $216,943[1] | 28.30 (1.3%) | $9,507,939 (1.8%) |
| 5166 Assistant General Manager, PUC (Assistant General Manager, Operations) | $121,678 | $147,909 | 1,494.32 (67.5%) | $424,124,474 (82.3%) |
| ***5166 Assistant General Manager, Clean Water*** | ***$121,678*** | ***$147,909*** | ***Up to 507.51 (22.9%)*** | ***Up to $154,126,839 (29.9%)*** |
| 5166 Assistant General Manager, PUC (Assistant General Manager, Infrastructure) | $121,678 | $147,909 | 334.94 (15.1%) | $39,133,309 (7.6%) |
| 0955 Deputy Director V (Assistant General Manager, Business Services) | $117,032 | $156,861 | 301.61 (13.6%) | $36,234,864 (7.0%) |
| 0955 Deputy Director V (Assistant General Manager, Power Policy and Resource Planning) | $117,032 | $156,861 | 16.23 (0.7%) | $3,710,283 (0.7%) |
| 0954 Deputy Director IV (Planning Bureau Manager) | $109,777 | $147,126 | 36.97 (1.7%) | $2,778,515 (0.5%) |
| 1340 Assistant to the General Manager, PUC – Public Relations (Executive Assistant to the General Manager) | $73,994 | $89,941 | 0 | $0 |
| **TOTAL:** | | | **2,212.37** | **$515,489,384** |

Sources: City and County of San Francisco, *Annual Salary Ordinance for Fiscal Year Ending June 30, 2005* and the Public Utilities Commission's Financial Services.

[1] The new incumbent of the General Manager position agreed to a voluntary $36,000 or 15 percent give-back on an annual base salary of $240,000 approved by the Public Utilities Commission which is greater than the salary levels specified in the Annual Salary Ordinance. The resulting salary of $204,000 falls within the Classification 1172 PUC General Manager salary range.

## Congruence with Other Initiatives and Organizational Structures

The Budget Analyst recommends that an Assistant General Manager, Clean Water position be established as a direct report to the General Manager. This recommendation is congruent with:

- The Commission's stated policy preference that the Department be structured by business enterprise.

- The *Draft Interim Phase II Report* on the Water Pollution Control Division prepared by Red Oak Consulting (August 10, 2004). This report identified a number of deficiencies related to the lack of an executive management team member solely responsible for clean water. These deficiencies include (a) no one manager being directly responsible for managing all clean water operations and planning to ensure the clean water system's long-term sustainability, and (b) clean water not being fully integrated into the Department in terms of clear lines of responsibility, formal and informal communications, integration of policies and procedures, and support from Business Services. To remedy this, Red Oak Consulting recommended the creation of an Assistant General Manager, Clean Water position so that an experienced clean water professional can be responsible for Clean Water Enterprise operations and planning.

- The organizational structure of the most similar Bay Area public utility. The East Bay Municipal Utility District, which is responsible for both water and waste water services, has a Director of Wastewater position responsible for the following: wastewater treatment; wastewater plant operations and maintenance; engineering, design, and construction management for wastewater facilities; laboratory services; related environmental services; and related financial management and administrative support services.

## Implementation

In order to establish a new Assistant General Manager, Clean Water position reporting directly to the General Manager, the General Manager should, subject to Department of Human Resources approval:

- Establish a new Classification 5166 Assistant General Manager, PUC position for the Assistant General Manager, Clean Water, at an annual salary cost of between $121,678 and $147,909, plus mandatory fringe benefits. This position should be a direct report to the General Manager to ensure sufficiently senior representation of the Clean Water Enterprise within the Department.

- Conduct an extensive internal and external recruitment process for the new Assistant General Manager, Clean Water position to ensure the selection of a highly qualified

industry specialist with the necessary level of management experience. The successful candidate will need to possess a range of skills in order to evaluate policy proposals and operational options from technical, policy, regulatory, financial, and management perspectives.

The Budget Analyst is cognizant that the Public Utilities Commission's recently appointed General Manager is actively looking at reorganizing the Department, with the ultimate goal of reorganizing the Department into its business lines. To achieve that, the General Manager has appointed new senior personnel, including a Deputy General Manager, to assist her to coordinate across the existing divisions on key issues. During this transition period, the General Manager does not support the flat organizational structure being recommended by the Budget Analyst, whereby an Assistant General Manager, Clean Water would report directly to the General Manager. However, the General Manager has indicated that she is prepared to examine a flatter management structure in the medium term. Therefore, if the Board of Supervisors approves the Budget Analyst's recommendations, the Budget Analyst would assess, in the medium term, the Department's progress towards the recommended organizational structure. While the Budget Analyst acknowledges that, in the short-term, the Department's budget will be accommodating senior personnel to manage the transition period, the Budget Analyst will be reviewing their justification in the medium term.

# Conclusion

There is inadequate clean water representation at the executive management team because no one executive management team member has a holistic view of clean water or has responsibility for all clean water operations, planning, and financial management.

As explained in Section 9, the consolidation of clean water functions would result in a new Clean Water Enterprise of up to 507.51 FTE positions and an annual operating budget of up to $154,126,839. An organization of this scope would justify management by a Classification 5166 Assistant General Manager, PUC position. This position should ultimately be a direct report to the General Manager.

An Assistant General Manager, Clean Water should be an highly qualified industry specialist with a high level of policy, regulatory, financial, and management skills.

# Recommendations

The Public Utilities Commission General Manager should:

10.1 Establish a new Classification 5166 Assistant General Manager, PUC position for the new Assistant General Manager, Clean Water. This position should be a direct report to the General Manager.

10.2 Conduct an extensive internal and external recruitment process for the new Assistant General Manager, Clean Water position to ensure the selection of a

highly qualified industry specialist with the necessary level of management experience.

# Costs and Benefits

The costs of the above recommendations include (a) the annual salary for the new Classification 5166 Assistant General Manager, PUC position for the Assistant General Manager, Clean Water of between $121,678 and $147,909, plus mandatory fringe benefits, for a total cost of up to $184,147 annually, and (b) the estimated one-time cost of up to $50,000 for an extensive internal and external recruitment process.

The benefits of implementing these recommendations include improved clean water representation at the executive management team and an appropriate level of top management for the new Clean Water Enterprise.

**San Francisco Public Utilities Commission**
**Audit Response**

# 1. Designing the Sewer Service Charge

## Recommendations

The Public Utilities Commission Financial Service Division should:

1.1 Continue to analyze and present information to the Rate Fairness Board on the impact of alternative sewer service rate designs on residential sewer service customers, sewer service charge revenues, and water conservation, including:

(i) the relative advantages and disadvantages of fixed rates based on equivalent dwelling units that incorporate different consumption blocks, volume-based uniform rates, and volume-based inclining rates in providing stable revenues and promoting conservation, and

(ii) the relative impact, including projected combined monthly water and sewer service bill increases, of fixed rates based on equivalent dwelling units that incorporate different consumption blocks, volume-based uniform rates, and volume-based inclining rates on sewer service customers.

**SFPUC response:** Agree.

1.2 Continue to evaluate and present to the Rate Fairness Board alternative scenarios for phasing-in new rate structures to mitigate the impact of future combined water and sewer service charges.

**SFPUC response:** Agree.

1.3 Continue to assess and present to the Rate Fairness Board the option of reclassifying the Single Residence Occupancy hotels as residential customers during the FY 2004-2005 Rate Fairness Board discussions of alternative sewer service rate structures.

**SFPUC response:** Agree; this is one of several options we are considering.

1.4 Continue to assess and present to the Rate Fairness Board alternative structures for storm water charges, including the relative advantages and disadvantages (i) of the current storm water structure and of dis-aggregating storm water and sewer system charges, and (ii) of including storm water charges on the sewer service bill or the property tax bill, including the impact of shifting the frequency of charges from bi-monthly sewer service bills to annual property tax bills and shifting charges from sewer service customers to property owners, to the extent that the two are not the same.

**SFPUC response:** Agree.

# 2. Allocating Costs of Sewer Services to Customer Classes

## Recommendations

The Public Utilities Commission General Manager should:

2.1 Adopt a formal, written policy to sample wastewater strengths for residential and nonresidential customer classes every ten years and assign new wastewater strengths as appropriate.

**SFPUC response:** Agree; may require modification to sampling points.

2.2 Direct the Business Services Division to reconcile Customer Services billing system data for nonresidential customers with the Schedule of Sewer Service Charges, including:

(a) Clearly defining the categories of nonresidential customers who are sampled for purposes of setting sewer service charges under Schedule B;

(b) Clearly defining criteria for assigning nonresidential customers to Standard Industrial Classification codes under Schedule C; and

(c) Reviewing all existing Standard Industrial Classification codes in the Customer Services billing system to determine which Standard Industrial Classification codes correspond to nonresidential property uses in San Francisco, eliminate unneeded Standard Industrial Classification codes, and reconcile Standard Industrial Classification codes in Schedule C of the Schedule of Sewer Service Charges and in the Customer Services billing system.

**SFPUC response:** Agree.

2.3 Continue implementation of the proposed work plan to sample the wastewater strengths of residential and nonresidential customers to determine the source of the discrepancy between expected and actual wastewater strengths.

**SFPUC response:** Agree; however, the "discrepancy" came from a flawed consultant study that did not provide accurate estimates.

2.4 Continue implementation of the proposed work plan to test existing customer accounts against Tax Collector and Assessor records to verify the correct use of properties.

**SFPUC response:** Agree.

2.5 Establish a protocol to (a) identify which commercial and industrial property uses are high risk for discharging pollutants into the sewer system, and (b) establish a periodic review of Tax Collector and other documents to identify high risk commercial and industrial users who do not have customer accounts.

**SFPUC response:** Agree; we will review permitting requirements governing this issue.

2.6 Direct the Business Services Division, in conjunction with the Bureau of Environmental Regulation and Management, to develop formal, written policies defining the role of Customer Services in identifying the property use of new accounts and notifying the Pretreatment, Pollution Prevention, and Storm Water Program of new accounts.

**SFPUC response:** Agree.

2.7 Direct the Bureau of Environmental Regulation and Management to develop formal, written policies regarding identification and inspection of properties with new sewer service accounts or changes in use for existing accounts.

**SFPUC response:** Agree.

# 3. Opportunities to Improve Management Control of Clean Water Enterprise Fund Expenditures

**SFPUC Overall Comments:** While Water Pollution Control division monitors its costs closely, and the SFPUC wants to mitigate further rate increases, we are committed to minimizing odors in communities surrounding our plants. Implementing the Budget Analyst's recommendations regarding possible savings in electrical and chemical treatment costs would increase the burden on our neighbors to an unacceptable level.

## Recommendations

The Public Utilities Commission General Manager should:

3.1 Direct the development of service measures for each of the Administration functions in conjunction with the three enterprises, which determine (a) the level of services provided by the Administration functions and (b) the funding levels, and should include deliverables and performance evaluations. Preparation of each year's budget for Administration functions should include an assessment of the current year's deliverables and performance.

**SFPUC response:** Agree.

The Director of Financial Services should:

3.2 In conjunction with the Water Pollution Control Division Manager, assess the options for reducing or limiting increases in chemical costs, such as revised vendor contracts, prior to the Public Utilities Commission's FY 2005-2006 budget preparation and review.

**SFPUC response:** As noted above, we are deeply committed to odor control, and that is the primary reason for budget increases. Our Southeast and North Point plant facilities are in residential areas, and many of our transports run through high occupancy areas such as the Embarcadero and SBC Park, so chemical addition is needed to mitigate the odors. The Red Oak conclusion was based on a comparison with EBMUD and on an increase in WPCD's chemical budget in recent years. However, comparisons to other districts can be misleading, and the comparison to previous WPCD expenses assumed that the unit price was constant, which is unlikely.

We monitor chemical expenses closely and have been very aggressive on this issue over the years, finding creative ways to reduce annual expenses. We are still working to optimize the new odor control systems for the collection system and may be able to reduce consumption somewhat as we fine tune those systems. That process is part of our normal operating procedures. It has been under way for some months and will continue until we are sure that we have reached the optimum point.

3.3. In conjunction with the Water Pollution Control Division Manager, evaluate the feasibility of operating the treatment plants during off-peak hours, which includes an assessment of storage capacity and odor control at different levels of storage and off-peak operations and the potential associated cost savings. This analysis should be part of the FY 2005-2006 budget preparation and review.

**SFPUC response:** Disagree; the shutdown of these facilities could not be done daily without increasing odors in the collection system. Approximately 20 million gallons of sewage would need to be stored, and there is no effective way to mix the oxidizing chemical in the transport box that will provide contact with all the wastewater. If the boxes are filled up and drawn down on a daily basis, they will develop a slime layer above the normal operating depth in which sulfide bacteria will grow and produce hydrogen sulfide. Stored sewage will be septic and produce highly odorous hydrogen sulfide gas. The warmer the sewage, the faster hydrogen sulfide gas will be produced. As a result, over time more odor will be present in the boxes.

The rise in power noted in the report is due to the increase in the PG&E schedule E-20 rates. We were directed to increase our power budget from $6,267,769 in FY 2000-01 to $9,985,992 in FY 2001-02 with little or no projected change in consumption. The analysis of potential savings in electricity is based on the times when the Southeast and Oceanside Plants and some major pump stations were

shutdown during the 2001 power crisis. At that time, the Independent System Operator offered incentives for customers who could provide a firm capacity to go offline when called on short notice. This was not to occur more than once or twice in any week, and was, in general, to be a limited number of times overall. WPCD complied and exceeded its commitment to the ISO. However, this was done with great effort. In both the shutdown and restart of the treatment plants and pump stations, considerable extra operator effort is required.

Finally, it should be noted that:

1. The peak period is from 12pm to 6pm.
2. The peak demand charge is based on any single day. Therefore, the plant must be offline everyday from 12 to 6 to save the peak demand charge; otherwise the plant is charged according to its highest peak day for the whole month.
3. The cogeneration plant offers significant savings on power demand that was not available at the time of the shutdowns in 2001.
4. For the Oceanside plant there was an EIR agreement that the plant will not be used in this way on a regular basis. Only in case of emergency can we store the raw wastewater and treat it at a later time during dry weather.

3.4. In conjunction with the Water Pollution Control Division Manager, the Pretreatment, Pollution Prevention, and Storm Water Manager, and the Water Quality Bureau Laboratories Manager, develop budgetary benchmarks for the Clean Water Enterprise Fund.

**SFPUC response:** Performance measures are submitted to the Controller's Office as part of the annual efficiency plan and budget process.

# 4. Clean Water Capital Improvement Planning

## Recommendations

The General Manager should:

4.1 Hold Department staff and third party contractors accountable for meeting critical path milestones in the Clean Water Master Planning process.

**SFPUC response:** Agree.

4.2 Consider a five year interim capital improvement program for immediately needed projects which would not jeopardize the Clean Water Master Planning process or result in investing in facilities which would be quickly redundant.

**SFPUC response:** Agree.

# 5. Public Participation in Clean Water Policy and Planning

**SFPUC Overall Comments:** Section 5 focuses on a specific public participation process undertaken by a former General Manager and former consultants on the City's clean water infrastructure and capital programs. It is a historical account of that process and its strengths and weaknesses. As the Budget Analyst is aware, there is a new General Manager and a new Director of Communications at the SFPUC. They are reviewing the status of the Clean Water Master Plan and public participation proposals. The Clean Water Master Plan and a public participation process that fully engages both the community as well as technical advisors in policy planning and decisions are priorities for the new General Manager.

## Recommendations

The General Manager should:

5.1 Ensure that the Department utilizes established community and technical advisory groups in policy and planning decisions.

**SFPUC response: 5.1-5.7** The new General Manager is already working with the Clean Water Master Plan project team and the new Director of Communications to review the status of the Clean Water Master Plan and be sure that the plan includes detailed proposals to work with relevant community stakeholders and advisory groups. We will ensure appropriate coordination, oversight of consultants, consistency of SFPUC staff participation, extensive public participation and transparency.

5.2 Direct the Project Manager of the Clean Water Master Planning process to establish a system of documentation in which the planning and engineering program and the environmental review program clearly record how recommendations from established community and technical advisory groups influence technical decisions.

**SFPUC response:** See above.

5.3 Ensure that the internal Communications Division staff is fully utilized to do public outreach work, and that expenditures for the proposed public participation program reflect the appropriate mix of internal and contractual resources.

**SFPUC response:** See above.

5.4 Direct the Communications Division to develop a detailed plan for the public participation program following the policy guidance of the Citizens' Advisory Committee.

**SFPUC response:** See above.

5.5 Ensure that the Communications Division does not "reinvent the wheel". Instead, the Communications Division should further the development of the existing consultant stakeholder lists, evaluations, and recommendations from the earlier process.

**SFPUC response:** See above.

5.6 Ensure that the detailed plan for public participation includes (1) the identification of who is representative of a cross section of the community, (2) an ongoing forum for public input to policy and planning, (3) a method to incorporate community input into the Clean Water Master Plan and new Clean Water Capital Improvement Program, and (4) a plan for community outreach.

**SFPUC response:** See above.

5.7 Ensure consistent and appropriate staff representation in the community planning process.

**SFPUC response:** See above.

The Public Utilities Commission should:

5.8 Review and approve the plan for public participation.

**SFPUC response:** This will be done as part of the Clean Water Master Plan process.

5.9 Require the General Manager to report the status of the public participation program quarterly.

**SFPUC response:** Already in process as part of General Manager's reports to the Commission.

5.10 Ensure that the Public Utilities Citizens' Advisory Committee is fully utilized in policy and planning.

**SFPUC response:** Agree.

# 6. Managing Debt and Funding Future Capital Projects

**Overall Comment:** While we do not disagree with the idea of small, regular rate increases, the audit implies that such increases are a possibility right now, which they are not. Eleven percent increases will not bring the department to proper reserve levels, and we may need more funds for maintenance and capital projects.

## Recommendations

The General Manager should:

6.1 Present an annual report prepared by Financial Services staff pursuant to Proposition E prior to May 31 each year, that includes (i) current Clean Water Enterprise program revenue and expenditure projections, (ii) the projected need for sewer service charge increases, the impact of smaller incremental sewer service charge increases compared to larger periodic increases, and the impact of combined water and sewer service charge increases, (iii) the status of implementation of the asset management program and an evaluation of the asset management program's effectiveness, and (iv) the status of the capital planning process and proposed funding for both interim capital projects and Clean Water Capital Improvement Program projects.

**SFPUC response:** To comply with Charter requirements established by Proposition E, the department prepares an annual rate report that contains all of the above items. The report is also submitted to the Rate Fairness Board and the Public Utilities Commission. We will present the report to the Board of Supervisors as well.

# 7. Water Pollution Control Division Division's Personnel and Maintenance Management

## Recommendations

The General Manager should:

7.1 Assess the February 2004 concerns of Water Pollution Control Division employees regarding unfair treatment, including disparate treatment in promotional opportunities and the administration of discipline, and propose appropriate follow-up actions as needed.

**SFPUC response:** Agree.

7.2 Direct the Director of Financial Services to evaluate the availability and the cost effectiveness of alternative providers for the after-hour, call-taking service required for Sewer Operations services.

**SFPUC response:** Agree.

The Manager, Water Pollution Control Division should:

7.3 Revise the administrative Policies and Procedures Manual to include all current Public Utilities Commission policies as a priority.

**SFPUC response:** Agree; this is underway.

7.4 Revise the Materials Management Policies and Procedures Manual to include all current Public Utilities Commission policies as a priority.

**SFPUC response:** Agree; this is underway.

7.5 Revise the Maintenance Management Policies and Procedures Manuals as necessary to include all current Public Utilities Commission policies and to reflect current Maintenance Division practices.

**SFPUC response:** Agree; WPCD Administration staff members have started to convert the manuals to digital form and are updating where needed.

7.6 Require compliance with the Maintenance Management Policies and Procedures including:

- Developing and implementing the "Weekly Work Schedule";
- Investigating the feasibility of implementing "job cards" or other bar chart procedures in Maximo, Microsoft Project, or other systems;
- Implementing the "warranty" module in Maximo, including a system to track preventive maintenance on equipment under warranty.

**SFPUC response:** Agree; we expect the "Weekly Work Schedule" to be in the fall upgrade to Maximo.

7.7 Require all Water Pollution Control Division managers and supervisors to complete performance evaluations for all staff annually.

**SFPUC response:** Agree; this will be implemented department-wide.

7.8 Include completion of staff performance evaluations annually as a goal and objective in the Water Pollution Control Division managers' and supervisors' performance evaluations.

**SFPUC response:** Agree; this will be implemented department-wide.

7.9 Establish policies and practices, in conjunction with the Director of Human Resources, to improve morale within the Maintenance Division, including setting acceptable work standards, recognizing good work performance, and taking appropriate action when performance standards are not met.

**SFPUC response:** Agree; "appropriate action" will be established by Human Resources Services in conjunction with WPCD managers.

7.10 Establish procedures for and monitor compliance with the "Entrance-Exit Form", including ensuring the correct use of the form and forwarding the forms to the Bureau of Human Resources.

**SFPUC response:** Agree.

7.11 Comply with Policy 3.9 of the Water Pollution Control Division's Policies and Procedures Manual, which requires that annually no Water Pollution Control Division employee may work overtime hours in excess of 16 percent of his or her regularly scheduled hours without the prior approval of the Appointing Officer, or obtain a waiver from the Appointing Officer excluding pre-scheduled overtime hours from the 16 percent hurdle calculation.

**SFPUC response:** Agree.

7.12 Direct the Maintenance Manager to continue developing the "Management by Objectives" report as a management tool to monitor the performance of the maintenance crews.

**SFPUC response:** Agree.

7.13 Direct the Maintenance Manager and Materials Coordinator to inventory all items in Lot B, assess the usefulness of each item, bring the items selected for retention under inventory control, and dispose of surplus items in accordance with Public Utilities Commission policy.

**SFPUC response:** Agree.

7.14 Direct the Maintenance Manager to establish procedures to inventory all tools and equipment in the Southeast Water Pollution Control Plant tool room annually and to ensure that all items are marked.

**SFPUC response:** Agree.

7.15 Direct the Maintenance Manager to establish written policies and procedures regarding inventory and accountability of all tools and equipment, including identification of staff members responsible for location of tools and equipment at all times and sign-out procedures for tools and equipment.

**SFPUC response:** Agree.

7.16 Develop performance objectives that are stated in measurable terms for each of the Division's Key Results Areas.

**SFPUC response:** Agree.

# 8. Managing the Interface Between the Public Utilities Commission and the Department of Public Works

## Recommendations

The Public Utilities Commission General Manager and the Director of Public Works (DPW) should jointly:

8.1 Determine if there is additional cost and schedule information which needs to be electronically shared between the parties.

**SFPUC response:** Agree; information should also be shared via regular written reports.

8.2 Ensure that all reporting systems permit appropriate information exchange and results verification.

**SFPUC response:** Agree; we will work with the Director of DPW.

8.3 Determine how data protocols can be structured so that personnel in both departments can view the management reporting databases operated by the Department of Public Works.

**SFPUC response:** Agree; we will work with the Director of DPW.

8.4 Ensure that all field operations information is stored electronically, rather than having some information held in paper-based document form.

**SFPUC response:** Agree; we will work with the Director of DPW.

8.5 Ensure accurate data exchange between Department of Public Works databases and the FPS payroll and FAMIS financial management systems to capture all project expenditures.

**SFPUC response:** Agree; we will work with the Director of DPW.

8.6 Ensure, to the degree possible, that all data exchange is in the form of user-friendly information.

**SFPUC response:** Agree; we will work with the Director of DPW.

8.7 Commission a comparative analysis of the cost of sewer repair services provided by the Bureau of Street and Sewer Repair and third party contractors.

**SFPUC response:** Will consider.

8.8 Conduct a joint space needs analysis of the City and County of San Francisco Yard and adjacent Public Utilities Commission space to ensure the two departments' optimal usage of those sites, and to clarify property ownership issues within the City and County of San Francisco Yard.

**SFPUC response:** Partially agree; the Yard is a joint PUC/DPW property. PUC and DPW highest-level management met recently and made a tentative plan to relocate all SFPUC needs within one contiguous area within the yard. The Sewer Operations trailer will be moved to the front gate area by the end of the year with costs shared by both agencies. Discussions of space use also need to include Hydraulic Engineering.

# 9. The Clean Water Enterprise's Organizational Structure

## Recommendations

The General Manager should:

9.1 Reassign management responsibility for the Water Pollution Control Division from the Assistant General Manager, Operations to the new Assistant General Manager, Clean Water position.

**SFPUC response:** The new SFPUC General Manager is currently reorganizing the agency and is discussing and reviewing the responsibilities of each division with SFPUC leadership. All recommendations, from both internal and external sources, will be taken into account.

9.2 Reassign management responsibility for the Pretreatment, Pollution Prevention and Storm Water Program from the Manager, Bureau of Environmental Regulation and Management, to the new Assistant General Manager, Clean Water position.

**SFPUC response:** The new SFPUC General Manager is currently reorganizing the agency and is discussing and reviewing the responsibilities of each division with SFPUC leadership. All recommendations, from both internal and external sources, will be taken into account.

9.3 Reassign management responsibility for the Clean Water Master Plan from the General Manager's Office and the Infrastructure Division to the new Assistant General Manager, Clean Water position.

**SFPUC response:** The new SFPUC General Manager is currently reorganizing the agency and is discussing and reviewing the responsibilities of each division with SFPUC leadership. All recommendations, from both internal and external sources, will be taken into account.

9.4 Transfer the Classification 0932 Manager IV, Clean Water Regulatory Compliance position from the Planning Bureau to the new Clean Water Enterprise.

**SFPUC response:** The new SFPUC General Manager is currently reorganizing the agency and is discussing and reviewing the responsibilities of each division with SFPUC leadership. All recommendations, from both internal and external sources, will be taken into account.

9.5 Eliminate the vacant Classification 5620 Regulatory Specialist, Clean Water Regulatory Compliance position in the Planning Bureau.

**SFPUC response:** The new SFPUC General Manager is currently reorganizing the agency and is discussing and reviewing the responsibilities of each division with SFPUC leadership. All recommendations, from both internal and external sources, will be taken into account.

9.6 Assign management responsibility for the incoming Hydraulic Section to the Principal Engineer of the Water Pollution Control Division.

**SFPUC response:** Agree.

9.7 Direct the Assistant General Manager, Clean Water, as recommended in Section 10, to develop an optimal organizational structure to integrate like functions, create appropriate spans of management control, rationalize the administrative support positions, and manage the risks associated with the consolidation.

**SFPUC response:** The new SFPUC General Manager is currently reorganizing the agency and is discussing and reviewing the responsibilities of each division with SFPUC leadership. All recommendations, from both internal and external sources, will be taken into account.

9.8 Direct the executive management team to develop intradepartmental protocols that ensure that the executive management team is not the sole policy and planning coordination point in the Department.

**SFPUC response:** The new SFPUC General Manager is currently reorganizing the agency and is discussing and reviewing the responsibilities of each division

with SFPUC leadership. All recommendations, from both internal and external sources, will be taken into account.

The General Manager and the Director of Public Works should:

9.9 Negotiate the specific Hydraulic Section resources to be transferred to the Public Utilities Commission.

**SFPUC response:** Agree.

# 10. Assistant General Manager, Clean Water

## Recommendations

The Public Utilities Commission General Manager should:

10.1 Establish a new Classification 5166 Assistant General Manager, PUC position for the new Assistant General Manager, Clean Water. This position should be a direct report to the General Manager.

**SFPUC response:** The new SFPUC General Manager is currently reorganizing the agency and is discussing and reviewing the responsibilities of each division with SFPUC leadership. All recommendations, from both internal and external sources, will be taken into account.

10.2 Conduct an extensive internal and external recruitment process for the new Assistant General Manager, Clean Water position to ensure the selection of a highly qualified industry specialist with the necessary level of management experience.

**SFPUC response:** The new SFPUC General Manager is currently reorganizing the agency and is discussing and reviewing the responsibilities of each division with SFPUC leadership. All recommendations, from both internal and external sources, will be taken into account.