Public Utilities Commission

The San Francisco Public Utilities Commission (PUC) oversees three of the City's municipal utilities:

1. The Hetch Hetchy Project, which consists of water supply and power-generating facilities in the Sierra Nevada;
2. The water treatment and distribution system;
3. The wastewater treatment and disposal system, which collects and treats sewage and storm water flows within San Francisco.

Each of these three utilities represents a separate enterprise within the PUC with an independent financial report. Four divisions are responsible for the operation of the utilities.

The PUC's utility system begins in the Sierra Nevada, where the Hetch Hetchy Water and Power Division maintains three reservoirs and more than 650 acres of watershed, much of it located in Yosemite National Park. Water from the reservoirs is conveyed through a series of tunnels and pipelines from the mountains and across the Central Valley. En route, the water passes through four powerhouses, generating electricity for the City's municipal load and other customers.

At Tesla Portal in the East Bay, the Water Supply and Treatment Division takes over. In addition to Hetch Hetchy water, the Water Supply and Treatment Division draws another 15 percent of the total water supply from five reservoirs located in the East Bay and on the Peninsula. Water from these local sources is treated at two plants before it is delivered to Bay Area customers.

At the San Francisco border, the City Distribution Division assumes responsibility for storage and final delivery to San Francisco customers. The Division maintains eleven reservoirs and eight storage tanks within the City, and uses a series of pump stations and more than 1,200 miles of water mains to reach every elevation and corner of the City.

Finally, the City wastewater discharges and storm water runoff are captured by a system of more than 900 miles of sewer and storm drains. The Water Pollution Control Division maintains the wastewater collection system and operates three treatment plants, where chemical and biological treatment processes are used to remove pollutants before the wastewater is discharged into the San Francisco Bay and the Pacific Ocean.

In addition to these four operating divisions, there are nine bureaus that provide technical and administrative support services. This approach, according to the PUC, eliminates duplication of effort and contributes to more efficient operations.

Further information dealing with the operation of the Divisions and Bureaus will be found in subsequent sections of this report, when deemed necessary.

THE INFRASTRUCTURE COMMITTEE

The Infrastructure Committee of the Civil Grand Jury had several meetings with the management and other employees of the Public Utilities Commission (PUC). These

meetings were held, primarily, at the offices of the Public Utilities Commission, 1155 Market Street, San Francisco.

Arrangements were made through the General Manager, Anson B. Moran, to meet with the various division managers and other members of their staff. During our meetings members of the Grand Jury were given an overview of the operations of the various divisions. These meetings proved to be very informative and very comprehensive. Although, at times, the information provided was highly technical and, for the layman, mind-boggling, those presenting the information were patient and able to adjust their remarks (presentation) to our understanding.

Following these briefing sessions members of the Grand Jury requested and were given tours of the various operating facilities, located in San Francisco and San Mateo County. Included in these tours were visits to:

- Water Supply and Treatment Division in Millbrae
- Harry W. Tracy Water Treatment Plant
- Various Reservoirs and Pumping Stations
- Various Waste Water Plants
- Crystal Springs Reservoir and Water Shed Area
- Warehouse and Maintenance Shops

In addition to the above local visits, some of the Infrastructure Committee members made a tour of Hetch Hetchy Water and Power facility, located in Mariposa County and Moccasin Power House, located in Tuolumne County.

The actual visits to various sites and operational facilities provided the Grand Jury with a better understanding and appreciation for the magnitude of the operation. The responsibility placed upon those who are charged with providing and keeping our water supply safe and secure should not be taken lightly. The Clean Water operations, including Sewer System, should likewise be viewed. The members of the Grand Jury were greatly impressed with the professionalism demonstrated during our meetings and visitations.

The premises and condition of the equipment appeared to be well maintained and functioning properly. Members of the Grand Jury were impressed with the safety and backup systems built into the various operations.

Notices of meetings with agenda and minutes of the Public Utilities Commission were provided to the Grand Jury. This material provided an insight to the activities of the PUC.

Four divisions are responsible for the operation of the utilities, namely:

- Hetch Hetchy Water and Power Division
- Water Supply and Treatment Division
- City Distribution Division
- Water Pollution Control Division

In addition to the four operating divisions, there are nine bureaus that provide technical and administration support services.

- Water Quality Bureau
- Bureau of Environmental Regulation and Management

- Systems Planning and Regulation Compliance Bureau
- Utilities Engineering Bureau
- Customer Service Bureau
- Commercial Land Management Bureau
- Bureau of Management Information Systems
- Personnel and Training Bureau
- Finance Bureau

WATER POLLUTION CONTROL AND SEWER OPERATIONS

It is fortunate that the Public Utilities Commission have many talented individuals in management and a work force that is conscientious and dedicated to maintaining and improving existing facilities. The challenges facing this Division are now and have been critical for a long time. Many of the sewer pipes (discharge system) have been in use for more than 150 years.

Meetings were held with management personnel to discuss the present sewer system and future programs and plans for the replacement of the older systems. For several years it has been hoped that a long-range plan could be worked out for the systematic, much needed replacement of the system.

We requested and were given reports, dated 6/7/99, showing:

- SEWER REPAIR BACKLOG REPORT-ALL JOBS-SORTED BY PRIORITY

Summary:

Total number of jobs on backlog:	1581 jobs
Average days waiting on backlog	658 days
Longest wait on backlog:	2624 days
Shortest wait on backlog:	0 days

- SEWER REPAIR BACKLOG REPORT-SSR DIG UPS AND INSPECTIONS NEEDED OR NEXT-SORTED BY PRIORITY-FIRST 75 JOBS

Summary:

Total number of jobs on backlog:	1451 jobs
Average days waiting on backlog:	688 days
Longest wait on backlog:	2624 days
Shortest wait on backlog:	0 days

- SEWER REPAIR BACKLOG SENT TO DPW REPORT-FIRST 75 JOBS- SORT BY PRIORITY

Summary:

Total number of jobs on backlog:	148 jobs
Average days waiting on backlog:	353 days
Longest wait on backlog:	1643 days
Shortest wait on backlog:	5 days

With the summary information and by way of explanation the additional information was provided:

Currently, the 1581 locations backlogged across both departments PUC & DPW can be split into 1528 SPOT REPAIR locations and 53 EMERGENCY CAPITOL (i.e., full block replacement) locations. As the SPOT REPAIR locations increase in Priority, they are TV'ed to determine the extent of the repair. At that time, a SPOT REPAIR location can become a CAPITOL location.

Using DPW/BCM's average cost of a CONTRACT SPOT REPAIR of $8,486, the approximate cost to complete all 1528 SPOT REPAIRS is about 12.9 MILLION DOLLARS. This would be a one-time cost.

Last year, PUC also transmitted about 905 locations to DPW for SPOT REPAIR. The approximate cost to complete all of these repairs (both completed and currently on DPW's own backlog (i.e., pending) is about 7.7 MILLION DOLLARS. This would be assumed to be an annual cost.

At the present time, due to a lack of funding, it has not been possible to develop a long-term replacement program for the City Sewer System.

It is the opinion of the Grand Jury that the City cannot continue to use a BAND-AID approach to such a vital and necessary service.

WATER DEPARTMENT CITY DISTRIBUTION DIVISION

As with other Divisions of the Public Utilities Commission, the City Distribution Division appears to be staffed with individuals who are dedicated and conscientious in the performance of their duties and responsibilities. It is this Division's responsibility to distribute high quality water, operate and maintain storage and distribution facilities, and maintain in-City lands and property under the operation and control of the Public Utilities Commission.

The Water Department City Distribution Division, like the Water Pollution Control Division, is faced with the fact that many of the City's water pipes are 100 years or older. A five-year plan has been developed for replacement of water pipes throughout the City. This, however, is an ever-changing schedule and is modified or changed as

circumstances dictate. It is their goal to replace 100 blocks a year. This is in addition to the emergency and Band-Aid repairs that need to be made.

It is the opinion of the Grand Jury that the replacement of water pipes is also a critical issue and one that has to be addressed without further delay.

WATER SUPPLY AND TREATMENT DIVISION

The Water Supply and Treatment Division assumes responsibility for water from Hetch Hetchy at the Tesla Portal in Alameda County. From there, the water is conveyed through four pipelines to customers located in Alameda, Santa Clara, and San Mateo Counties, as well as San Francisco. The Division provides another 15 percent of the total water supply from reservoirs located in the East Bay and on the Peninsula. These local water sources require filtration and treatment at two points.

Recently the Division had modified the treatment process at Sunol to enhance flocculation and sedimentation; modified the chemical feed system at Harry Tracy Water Treatment Plant; installed remote controls for the Thomas Shaft disinfection station; inspected and repaired 19 miles of transmission pipelines; initiated a valve exercising and maintenance program, which is intended to operate, inspect, and maintain each valve in the transmission system every two years.

As with the other Divisions, there is an ever-increasing need to upgrade the present infrastructure. With new technology and the ever-changing state and federal regulations, this Division continues to be alert for ways to improve and increase the water supply to its customers.

HETCH HETCHY WATER AND POWER DIVISION

The Hetch Hetchy Water and Power Division is responsible for more than 85% of San Francisco's water supply and for the generation of electricity from that resource. Approximately one third of the electricity is used by the City's municipal customers (e.g., the Municipal Railway, the Recreation and Parks Department, the Port, City hospitals, street lighting, the Moscone Center, and the water and sewer utilities). The balance of the power is sold to other publicly owned utilities, such as the Modesto and Turlock Irrigation Districts. The Hetch Hetchy Projects consists of reservoirs, hydroelectric power plants, aqueducts, pipelines, and transmission lines. This system carries water and power from the Sierra Nevada more than 165 miles to customers in San Francisco and the Bay Area.

Hetch Hetchy operates as two related but separate water systems and associated power components. The primary system diverts domestic water from the Hetch Hetchy Reservoir to the Water Supply and Treatment Division through the Kirkwood and Moccasin Power Plants. The second system diverts water from Lake Lloyd and Lake Eleanor to the Don Pedro Reservoir through Holm Power Plant. Water impounded in the Don Pedro Reservoir satisfies the Raker Act entitlements of the Modesto and Turlock Irrigation Districts.

Electric power generated at the four power plants is conveyed through approximately 165 miles of high voltage transmission lines to delivery points for the Modesto and Turlock Irrigation Districts, and through interconnection with Pacific Gas and Electric's system for transmission to San Francisco for municipal purposes.

As the result of an agreement reached with Pacific Gas and Electric Company last year, a number of municipal and large industrial customers would be turned over to Hetch Hetchy Water and Power. Power sales to these customers are projected to produce net revenues of approximately $37 million over the next four-and-a-half years.

Through its Bureau of Energy Conservation, Hetch Hetchy has further developed its in-house capability to provide a broad array of energy services, including design consultations, construction, operations, and maintenance of electric distribution facilities. The Bureau of Energy Conservation has completed design reviews for several important City projects, that are expected to result in substantial savings in energy costs.

THE RAKER ACT

It is fitting that this report should contain excerpts from the Raker Act without which the present water and power facilities, governed by the Public Utilities Commission, would not have been created.

On April 7, 1913, Representative John Edward Raker of Manteca, California, introduced HR 112, the first of several bills to be presented to the House of Representatives for the establishment of the Hetch Hetchy water project. HR 112 was defeated, as were 3 other bills introduced that same year. Finally, after months of negotiations involving a myriad of interested parties, on August 1, 1913, Representative Raker introduced the Hetch Hetchy Act, more commonly referred to as the Raker Act. The Raker Act was passed by the House of Representatives on September 3, 1913, by the Senate on December 2, 1913, and was signed by President Woodrow Wilson on December 6, 1913. The Board of Supervisors ratified the Raker Act the following spring.

The Raker Act was one of the most unusual pieces of legislation to be enacted by Congress. It is the foundation for the water system that serves San Francisco and various neighboring areas of San Mateo, Santa Clara, and Alameda Counties.

The Raker Act granted to the City and County of San Francisco lands and rights of way in Yosemite National Park, Stanislaus National Forest and other federal land in nearby areas of California for the purpose of constructing, maintaining and operating "aqueducts, canals, ditches, pipes, pipe lines, tunnels and conduits for the conveying water" to the City and County of San Francisco and to certain other areas in the vicinity which would share in the water. The City was also permitted to construct, operate and maintain plants for the generation of electricity and facilities for the distribution and sale of electricity. The City was authorized to build, operate and maintain reservoirs and dams, to build roads and other means of "locomotion, transportation, and communication." It was authorized to use materials from the lands which might be necessary for the project. The grant by the United States was very broad.

Pursuant to this grant, the City first built a railroad necessary for the transporting materials, men and equipment into this underdeveloped area. Telephone lines were established for communications. A road network was built, as were the reservoirs and dams which Congress had authorized, and the conduits, pipes and facilities for conveying the water to the San Francisco Bay Area. The City also built treatment facilities to ensure the purity of the water.

The City was prohibited from ever selling water to any entity other than a municipality or municipal water district or irrigation district. From the outset the City has provided water to the Turlock and the Modesto Irrigation Districts, which had prior rights to receive water and those rights are protected by the legislation. The Act sets forth the formula for determining the amounts and priority of water to be delivered to the Districts.

Under the Raker Act, the City may only sell water to the Districts at a price which will return to the City its actual costs. No such limitation is placed on the City's sale of electricity. The State of California is allowed to set the rates the City may charge for the sale of electricity. If the State does not regulate such rates, the Secretary of the Interior may do so.

RESPONSES REQUIRED

Mayor

Board of Supervisors

PUC

DPW

Purchasing