

**DWP**

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## Comparative Highlights

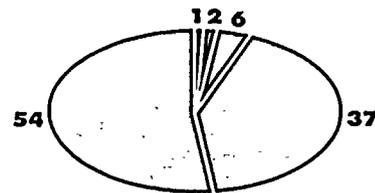
	Water		Power	
	Fiscal Year 1987	Fiscal Year 1986	Fiscal Year 1987	Fiscal Year 1986
<b>Service</b>	(billions of gallons)		(billions of kilowatt hours)	
Sales	210.1	204.3	20.5	20.3
Average number of customers	632,251	630,105	1,275,920	1,261,972
<b>Financial</b>	(in thousands)		(in thousands)	
Revenue from water and electric sales, and other income—Net	\$252,898	\$234,195	\$1,423,195	\$1,386,118
Operation costs of the water and electric systems*	151,896	133,674	1,031,552	991,260
Net income	44,641	61,844	186,847	193,585
Transferred to City of Los Angeles reserve fund	11,301	10,415	67,913	64,353

\*Excluding depreciation expense

## The 1986-1987 Water and Power Dollar

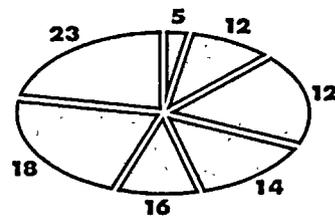
### Water Revenues in Cents

- 1 Other
- 2 Fire hydrant rentals
- 6 Governmental
- 37 Residential
- 54 Commercial and Industrial



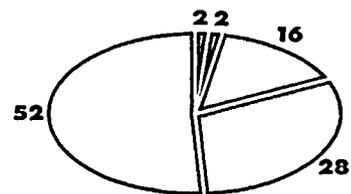
### Water Expenditures in Cents

- 5 Payments to the City
- 12 Retirement Plan costs related to operations
- 12 Other operating expenses
- 14 Purchased water and energy
- 16 Debt service costs
- 18 Capital improvements
- 23 Operating salaries and wages



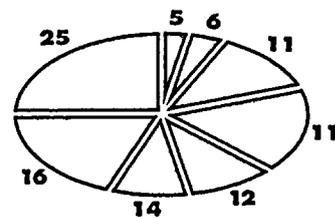
### Power Revenues in Cents

- 2 Street lighting
- 2 Other
- 16 Industrial
- 28 Residential
- 52 Commercial



### Power Expenditures in Cents

- 5 Payments to the City
- 6 Retirement Plan costs related to operations
- 11 Capital improvements
- 11 Debt service costs
- 12 Other operating expenses
- 14 Operating salaries and wages
- 16 Fuel
- 25 Purchased energy



## The Department in Brief

Established at the beginning of the century, the Los Angeles Department of Water and Power (DWP) is the largest municipally owned utility in the country. The Department, a proprietary agency of the Los Angeles city government, has more than 11,000 employees and serves more than 3 million residents in a 465-square mile area.

The Department's operations are financed solely by the sale of water and electricity; they are not tax-supported.

The DWP is administered by the Board of Water and Power Commissioners, whose five members are appointed by the mayor and confirmed by the City Council for terms of five years. The Board establishes the DWP's rates, subject to approval by the Council.

## Mayor and Los Angeles City Council



Tom Bradley  
Mayor

- John Ferraro, Fourth District  
President, City Council
- Gloria Molina, First District
- Joel Wachs, Second District
- Joy Picus, Third District
- Zev Yaroslavsky, Fifth District
- Ruth Galanter, Sixth District
- Ernani Bernardi, Seventh District
- Robert Farrell, Eighth District
- Gilbert Lindsay, Ninth District
- Nate Holden, Tenth District
- Marvin Braude, Eleventh District
- Hal Bernson, Twelfth District
- Michael Woo, Thirteenth District
- Richard Alatorre, Fourteenth District
- Joan Milke Flores, Fifteenth District

\*Member, City Council's Energy and  
Natural Resources Committee.

Rick Tuttle,  
City Controller  
James Kenneth Hahn,  
City Attorney

## **From the Board of Water and Power Commissioners**

It is with great pleasure that we present this 86th annual report which reviews the accomplishments of the Department of Water and Power during the 1986-87 fiscal year.

With Los Angeles being a major world financial and population center, the Department faces a constant challenge to meet the increasing water and electrical needs of residents, businesses and industries. It is a challenge that we welcome.

Water and electricity have been the life force on which Los Angeles has grown to the modern metropolis it is today—a city of 3.3 million.

We are planning now for the Twenty-First Century to ensure that the city of tomorrow will remain a dynamic one in which to live, work and play.

Our success as a utility could not have been achieved without the help of the Mayor and the City Council. We also appreciate the efforts of other elected city officials and city departments.

Our greatest resource is the continued dedication and service of our own management and personnel, without whom it would have been impossible to achieve our goals.



Rick J. Caruso  
President

Board of Water and Power Commissioners



Rick J. Caruso  
*President*



Angel M. Echevarria



Jack W. Leeney  
*Vice President*



Carol Wheeler



Walter A. Zelman

**DWP Management**

Duane L. Georgeson  
*Assistant General Manager — Water*

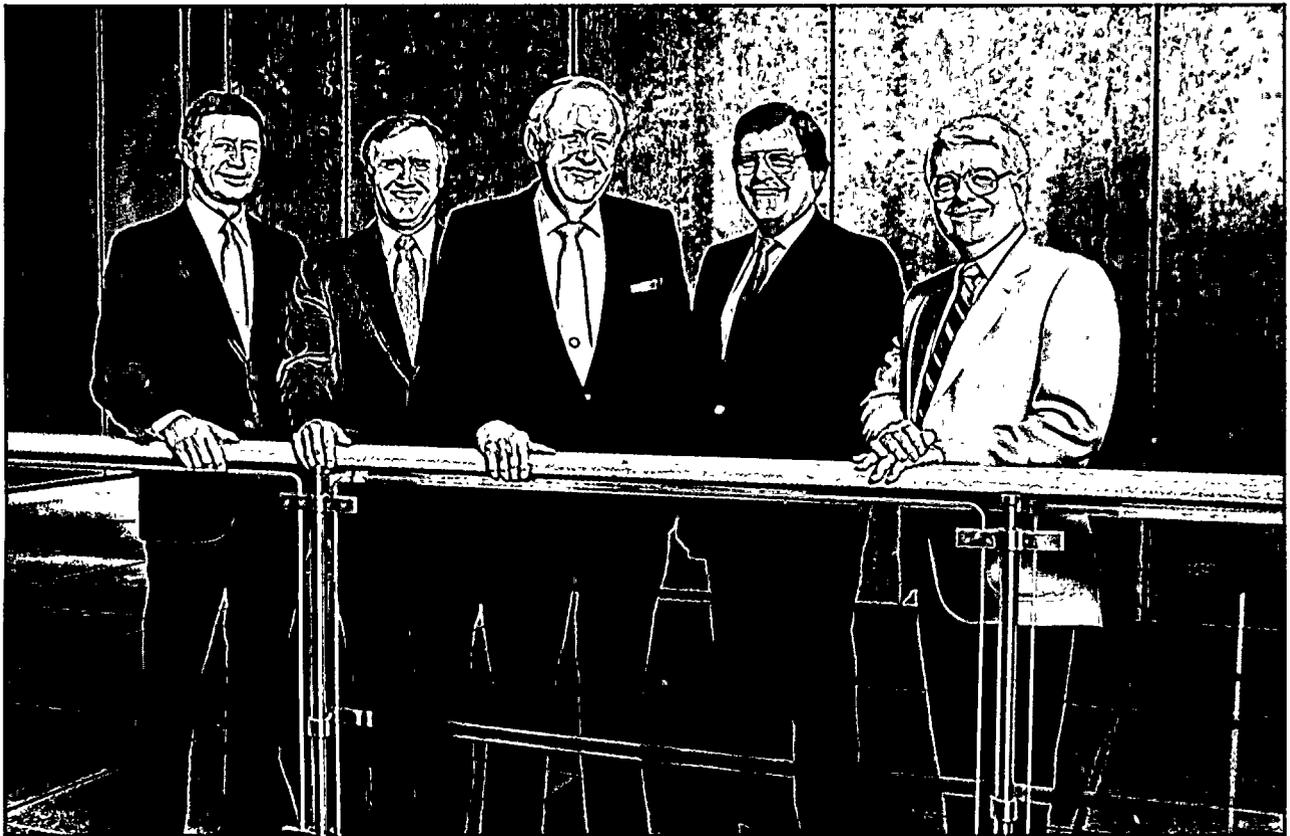
Norman E. Nichols  
*Assistant General Manager — Power*

Paul H. Lane  
*General Manager and Chief Engineer*

Daniel W. Waters  
*Assistant General Manager —  
External and Organizational Services*

Norman J. Powers  
*Chief Financial Officer*

*shown left to right*



## **General Manager's Review**

Fiscal 1987 was a year of major accomplishment for the Department. It saw the completion of two landmark projects—the Los Angeles Aqueduct Filtration Plant and the Intermountain Power Project (IPP)—as well as a host of other programs that will benefit our city's water and power supplies well into the 21st century.

### **Water System Developments**

One of the Department's most pressing concerns during the year was the necessity for increased water conservation.

Last winter's snowfall in the Eastern Sierra Nevada, which provides about 75 percent of our water, was the lowest in a decade. We had sufficient supplies to see us through 1987, but a second consecutive dry winter could produce California's first drought since the severe drought of 1977.

With a watchful eye toward 1988, the DWP intensified its usual conser-

vation practices last summer, which is our period of heaviest water consumption. Those efforts included a substantial advertising campaign urging Los Angeles residents to save water.

The start-up of our new filtration plant in Sylmar last December inaugurated a new order of water treatment and quality in Los Angeles.

One of the largest and most advanced facilities of its kind in the world, the plant treats up to 600 million gallons of water a day from our principal source in the Sierra Nevada.

The plant will sharply reduce the turbidity, or cloudiness, in our drinking water. In addition, because the plant uses ozone as its primary disinfecting agent, we have reduced the amount of chlorine we add to the water, making it safer and better-tasting.

We were pleased to note that "Consumer Reports," the respected magazine published by Consumers

Union, judged Los Angeles tap water as among the best-tasting in the country. The January 1987 issue compared water from six cities and 50 brands of bottled water. Los Angeles received an "excellent" rating, the same awarded to several popular bottled waters.

The Department's activities in the Mono Basin, currently the source of one-sixth of Los Angeles' water supply, continue to be a focus of controversy. Environmental groups have filed multiple lawsuits against the DWP seeking increased water releases into Mono Lake that could reduce or eliminate our diversions.

In the most critical of these cases, the California Supreme Court has ordered a trial balancing the city's needs for clean water and energy against the environmental needs of the Mono Lake ecosystem. This trial appears to be at least two years away.

The Department made excellent progress in its work with Inyo County to develop jointly a groundwater management plan for the Owens Valley. All litigation between Los Angeles and the county has been put on hold as this work proceeds.

### **Power System Developments**

The completion in fiscal 1987 of IPP, a huge coal-fueled power plant in Utah, marks the beginning of a new era in electric power supply for the residents of Los Angeles.

DWP customers will now receive up to 30 percent of their electric power from IPP as the Department continues to reduce its use of oil and natural gas as power sources.

Work also was completed on the new Victorville-Rinaldi high-voltage transmission line. Stretching 86 miles across the Mojave Desert to the San Fernando Valley, the \$57 million line delivers energy produced in Arizona, Nevada and Utah.

Fiscal 1987 marked the fiftieth anniversary of Los Angeles' use of hydroelectric power from Hoover Dam.

The DWP played an important role in conceiving and building the dam, and it operated 13 of its 17 huge generators under contract to the federal government from 1936 until last May—a period of 51 years—when the U.S. Bureau of Reclamation took over operation of all generating facilities.

The Department is proud of its association with this historic dam, which was vital in helping Los Angeles develop into one of the world's great cities.

### **Financial Matters**

Sales of water and electric power again reached a combined record mark—\$1.7 billion. Net income declined slightly from the 1985-86 level owing to increased costs and abandonment of the Chatsworth Reservoir.

Our transfers to the city reserve fund for 1987-88 will be a record \$82 million—5 percent of our gross revenues for fiscal 1987. With total assets of almost \$5 billion, our financial condition is excellent.

As this is written early in fiscal 1988, we have completed revenue bond issues amounting to \$35 million for the Water System and \$100 million for the Power System. Current plans call for us to sell additional bonds for both systems later in the fiscal year.

### **Executive Appointments**

Three major executive appointments were made last year.

*James F. Wickser*, the Water System's general services manager, was promoted to become one of two assistant chief engineers for the system.

*Michael R. Moore*, staff assistant to the general manager, was promoted to executive assistant to the general

manager with responsibility as the DWP's chief information officer.

*William G. Williams* was named to the newly created position of assistant chief financial officer for the Finance and Accounting System. Before assuming that post, he served as chief accountant.

### **The City in the Future**

Los Angeles is well on its way to becoming a major world financial and population center.

As the city progresses toward that status, the Department will continue to plan for, and to provide, the water and power facilities the city needs. This is a formidable task, but one that the Department has always fulfilled.

I thank Mayor Bradley, the City Council and our board for their valuable counsel and assistance. As always, I am grateful to my fellow employees for their loyalty, competence and dedication.



Paul H. Lane  
General Manager and Chief Engineer

October 15, 1987

## The Water System

Among several major issues facing the Water System in fiscal 1987, two were particularly pressing: improving and maintaining Los Angeles water quality as federal and state water drinking standards became more stringent, and expanding the DWP's conservation programs after a very dry winter.

We completed one of our largest and most important projects in many years, the Los Angeles Aqueduct Filtration Plant. A longer-term concern was lawsuits threatening our Mono Basin water supply.

### **Water Conservation**

With the winter of 1987 the driest one California has experienced in ten years—snowpack in the Eastern Sierra Nevada, the principal source of water for Los Angeles, was only 55 percent of its normal level—conservation became an urgent consideration for the Department.

Another dry winter in 1988 could put Southern California in a drought

and bring about the need for mandatory conservation.

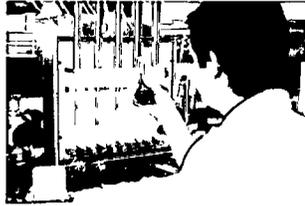
With a clear need to stretch our supplies, we greatly expanded our conservation programs.

A major element of these activities, which will absorb about \$3 million during fiscal 1988, was the largest advertising campaign we have ever mounted. Running from last July through October, and targeted at all classes of customers, it made extensive use of billboards, radio, newspapers and television.

Since much of Los Angeles' water usage is outdoors, our program emphasized ways for customers to save water through efficient gardening, irrigation and landscaping.

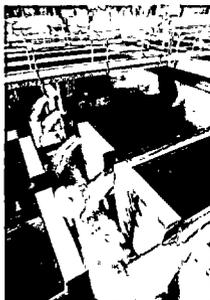
Among our measures in this area were the second annual water conservation garden contest for residential customers, a public education program conducted in cooperation with nurseries, and continued participation in the Large Turf Audit program for golf courses and cemeteries.

**Treatment and testing  
of water transported  
to the L.A. Filtration  
Plant by aqueduct  
from the Eastern  
Sierra ensures the  
highest quality  
possible. More than  
60,000 physical and  
chemical analyses  
were performed in  
water system  
facilities last year.**

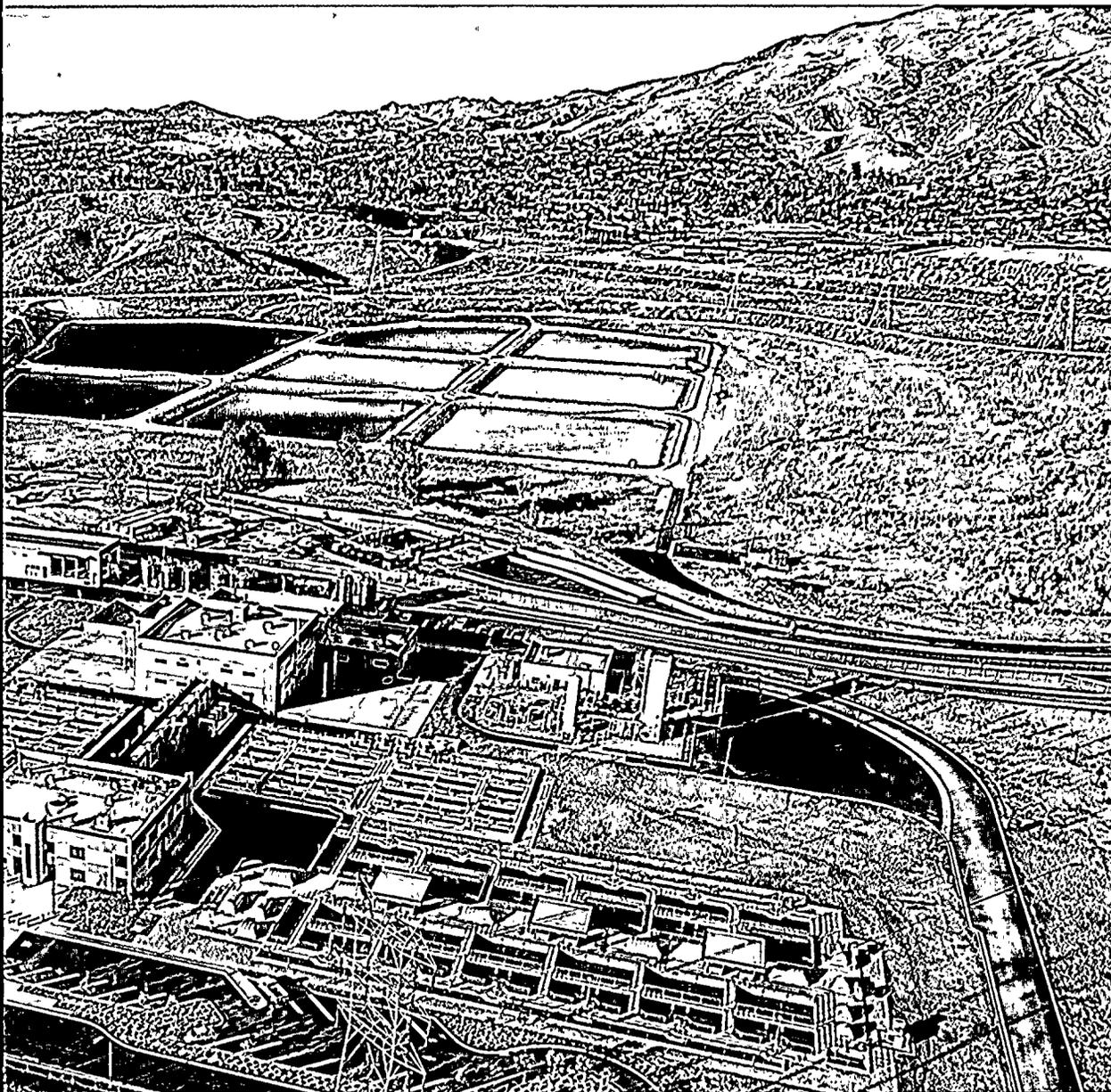
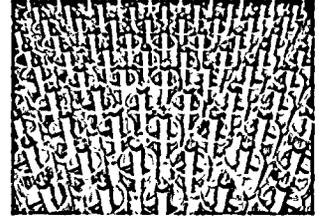
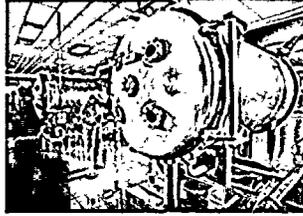


## The Water System

During the filtration process, aqueduct water entering the plant flows by gravity through several treatment processes which disinfect and remove impurities. Ozono, generated on site, is injected in the water as it passes through, reducing the amount of chlorination required.



**Eastern Sierra water constitutes about 75% of the city's supply. Groundwater provides 15%, and Metropolitan Water District, 10% of the balance. The filtration plant began operations during the fiscal year.**



**Water conservation is always important, but especially in a dry year. DWP launched its largest advertising program over in 1987-88, targeted at residential, commercial and industrial customers. It made extensive use of billboards, radio, newspapers and TV.**

**To meet the needs of employees and reduce work absence associated with child care, DWP inaugurated a pilot program at two downtown facilities. It is the first child care program sponsored by a Los Angeles city agency. The program also includes a parent resource center.**



## The Water System

Indoor conservation measures included distribution of water kits that reduce shower and toilet water consumption, and asking restaurants to restrict offering glasses of water to their patrons.

We also worked diligently with our commercial and industrial customers on conservation matters. Among other things, we prepared industry-specific water conservation bulletins, provided on-site consultation, and loaned water meters to customers.

In addition to advertising, we implemented a broad range of public information programs that were directed to every sector of the community.

As part of its ongoing conservation efforts, the DWP is also involved in several water reclamation programs.

### **Filtration Plant Opens**

After three- and a-half years of construction and six months of testing, the Los Angeles Aqueduct Filtration Plant opened last December and brought

clearer, better-tasting water to Los Angeles residents.

Located at the Los Angeles Reservoir complex in Sylmar in the San Fernando Valley, the 25-acre facility can treat up to 600 million gallons of water daily. This represents about 75 percent of the city's water supply, which comes from the Eastern Sierra watershed more than 300 miles away.

The \$146 million facility, one of the largest and most advanced water-treatment plants in the world, was constructed to meet stringent federal and state standards for the level of turbidity, or cloudiness, in drinking water.

The use of ozone, a powerful and quick-acting disinfectant, allows us to use less chlorine and other water treatment chemicals in the water, thereby improving its taste and quality. Another benefit of the ozone is the reduction of trihalomethanes (THMs), which are suspected cancer-causing compounds.

## **The Water System**

The addition of chlorine to water containing organic matter produces THMs. With the use of ozone in our water, lower levels of THMs—up to half the previous levels—are formed. The DWP has always easily met federal standards for these compounds, and now we are surpassing them handily.

### **San Fernando Valley Groundwater**

The San Fernando Valley Groundwater Basin provides about 15 percent of the Los Angeles water supply. It is also an important water source for other communities.

In 1980, when sensitive instruments became available for water analysis, trace amounts of two industrial solvents, trichloroethylene (TCE) and perchloroethylene (PCE) were found in many of the basin's wells. These contaminants probably had been present for years but were previously undetectable. The Department has maintained these contaminants

at safe levels in the water we supply, but contamination is spreading in the ground. We have undertaken various measures to deal with this problem.

### *DWP Signs Agreement With EPA*

The Department signed an agreement with the U.S. Environmental Protection Agency (EPA) for a \$7.6 million study involving cleanup of San Fernando Valley groundwater.

Four areas of the Valley's groundwater basin are on the EPA's National Priority List for hazardous waste cleanup, qualifying them for federal Superfund financing.

### *North Hollywood Aeration Tower*

The Department awarded a contract for the North Hollywood Aeration Tower, a facility that will remove contaminants from the groundwater. The 48-foot-high, \$2.5 million tower is expected to begin operations near year-end 1987.

### Water System Facts in Brief

	1986-1987	1985-1986
<b>Use of Water</b>		
Average Los Angeles population served*	3,338,000	3,278,000
Average daily use per capita, gallons	188.6	184.1
Water sales for fiscal year, billion gallons	210.1	204.3
Maximum daily demand, million gallons	873.2	915.2
<b>Water Supply to City Area</b>		
From local supply, cu. ft. per second (c.f.s.)	137.0	144.5
From DWP Aqueduct, c.f.s.	661.4	671.8
From Metropolitan Water District, c.f.s. (California Aqueduct and Colorado River Aqueduct)	177.1	123.9
Gross supply, c.f.s.	975.5	940.2
Diversion from (to) local storage, c.f.s.	(1.7)	(6.6)
Net supply to distribution systems, c.f.s.	973.8	933.6

\*Includes 28,000 people in certain areas contiguous to Los Angeles which are served by the Water System. Excludes 2,000 residents of the City not served by the Water System.

### Water Quality Chemical Analyses of Los Angeles Water Supplies 1986-1987

All concentration values are expressed in milligrams per liter unless otherwise noted NS = No Standard. ND = Not Detected.

	Standard	Owens River Aqueduct	Groundwater	Purchases	
<b>Water served by the Department meets or surpasses all water quality standards set by the U.S. Environmental Protection Agency (EPA) and the State of California Department of Health Services. Many of these current drinking water regulations are being updated by the EPA as a result of legislation passed by Congress in 1986. The Department will take the necessary measures to ensure that the City's water continues to meet all of these new regulations.</b>	<b>Inorganics</b>				
	Arsenic	0.05	0.01	ND	ND
	Barium	1	ND	0.02	0.05
	Cadmium	0.01	ND	ND	ND
	Calcium	NS	20	57	45
	Chloride	250	14	26	62
	Chromium	0.05	ND	ND	ND
	Fluoride	2.4	0.46	0.37	0.23
	Iron	0.3	ND	ND	0.02
	Lead	0.05	ND	ND	ND
	Magnesium	NS	5.8	16	20
	Manganese	0.05	ND	ND	ND
	Mercury	0.002	ND	ND	ND
	Nitrate	45	0.1	8.9	2.1
	Potassium	NS	3.5	3.6	3.1
	Selenium	0.01	ND	ND	ND
	Silver	0.05	ND	ND	ND
	Sodium	NS	29	40	57
	Zinc	5	ND	ND	0.01
	<b>Organics</b>				
	Trichloroethylene (TCE)	0.005	ND	0.003	ND
	Tetrachloroethylene (PCE)	0.004	ND	0.001	ND
	Trihalomethanes, Total	0.100	0.029 system average		
	<b>Radioactivity</b>				
	Gross Alpha (picocuries/liter)	15	2.5	3.5	2.5
	Gross Beta (picocuries/liter)	50	4.8	4.1	4.3
	<b>Bacteriological</b>				
	Coliforms (per 100 milliliters)	1	0.2 system average		
	<b>Physical Characteristics</b>				
	pH (units)	6.5-8.5	8.11	7.68	7.85
	Color (units)	15	2	3	1.5
	Turbidity (NTU)	0.5	0.1	0.2	0.2
	Hardness, Total	NS	74	206	194
	Alkalinity, Total	NS	104	163	110

## The Power System

The completion in fiscal 1987 of the Intermountain Power Project (IPP) and the second unit of the Palo Verde Nuclear Generating Station fulfills one of our long-standing goals: to diversify our energy resources throughout the Southwest, and to become substantially less dependent on oil and natural gas.

In addition, we completed the Victorville-Rinaldi transmission line, which enables us to accept more power from generating stations in the Southwest.

With the addition of these facilities, we have resources that will allow Los Angeles to continue orderly growth well into the future.

### **Intermountain Power Project**

IPP is a 1,600-megawatt, coal-fueled generating station near Delta, Utah.

After 13 years of planning and construction, IPP was completed when its second generating unit went into operation last May, sending coal-

fueled power some 580 miles across the desert to Los Angeles.

The \$5.5 billion project is now supplying up to 30 percent of Los Angeles' electricity needs. Owned and financed by the Intermountain Power Agency, a Utah public authority, IPP eventually will distribute power to 36 utilities in five western states.

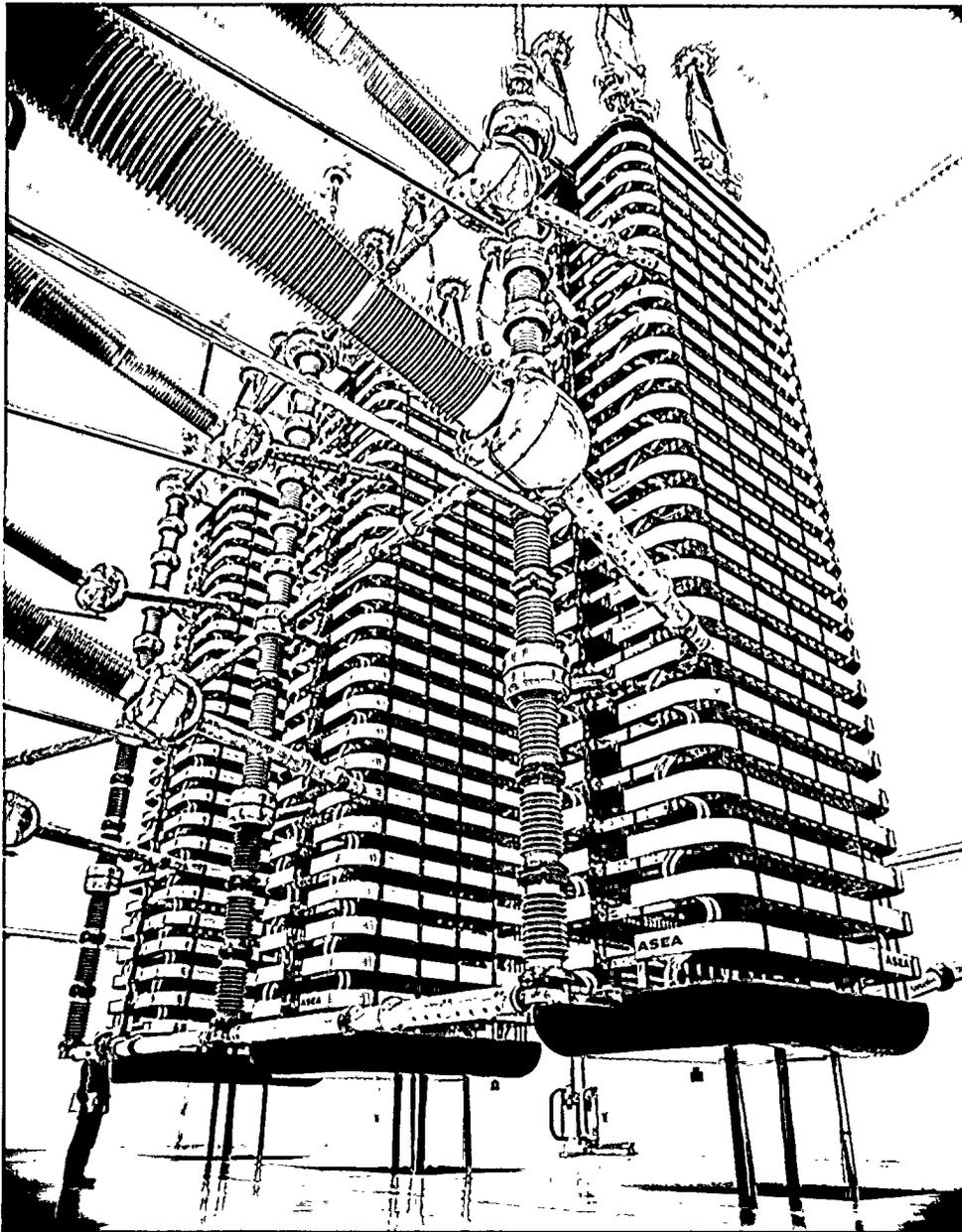
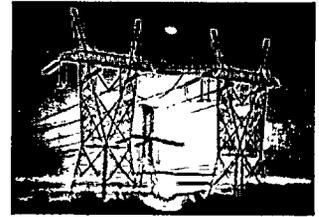
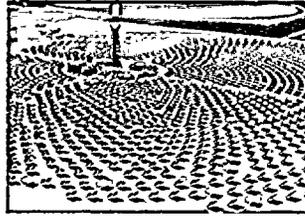
The DWP is the single largest participant in the project and is currently buying about 63 percent of its power.

IPP is a source of pride as well as power for the DWP. We were involved in planning for IPP when it was conceived in the early 1970s, and we were the project manager from the time it actually began 13 years ago, with responsibility for design, construction and operation.

Construction work, planned to take seven years, was completed two months ahead of schedule and substantially under budget.

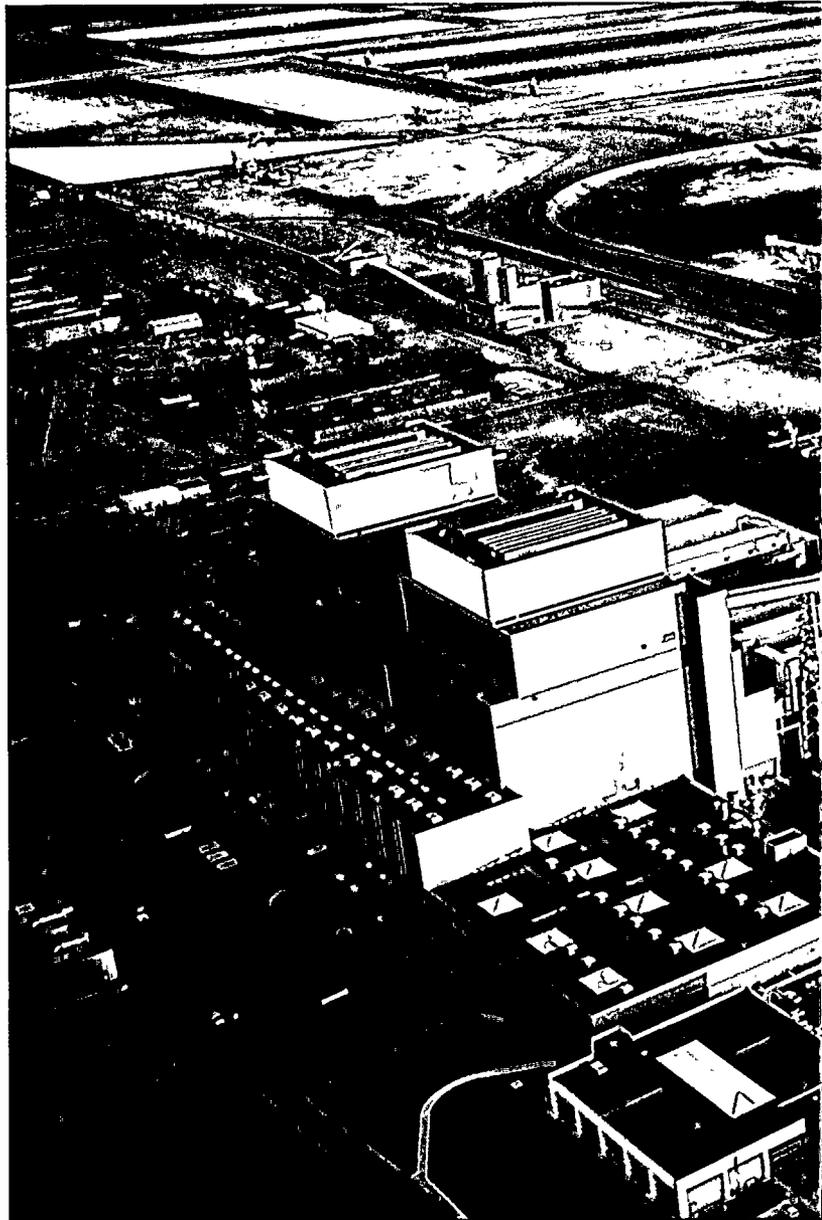
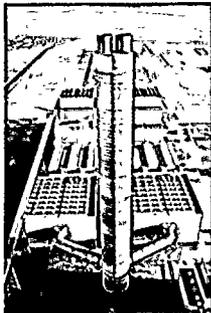
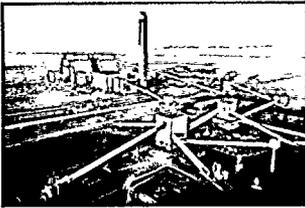
The IPP facility covers 4,600 acres, burns more than 4 million tons of coal a year, and uses 18,500 acre-feet of

**Giant thyristor valves are key components in solid-state technology which permits conversion of alternating and direct current that is moved over hundreds of miles on a vast network of transmission lines. Experimental Solar One, right, now operates on reduced schedule.**

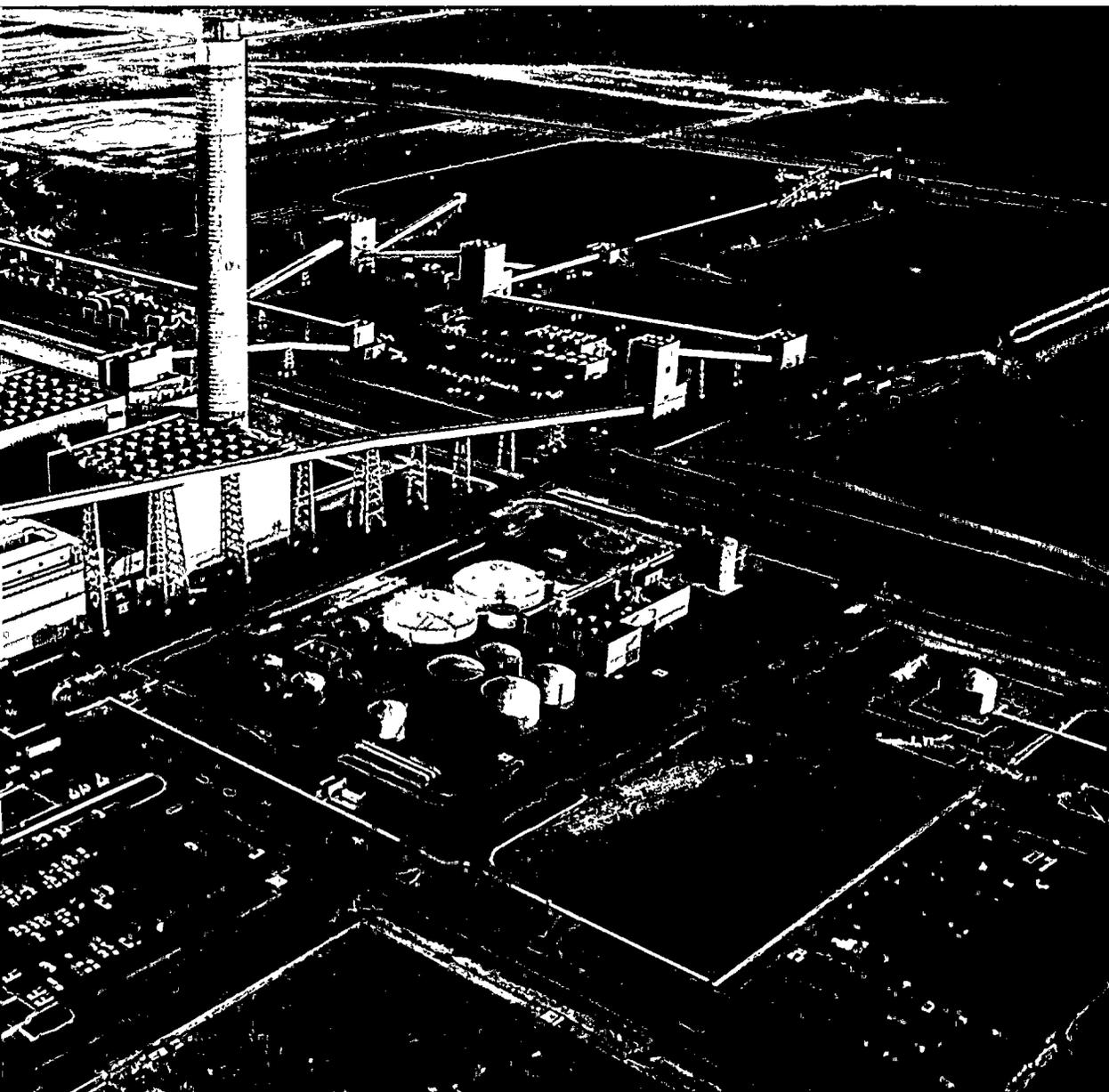
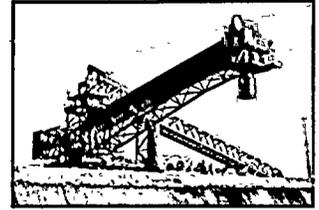
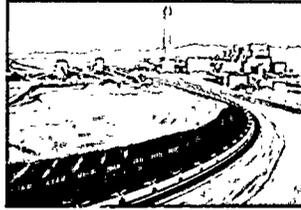


**Coal-fueled generating stations, such as IPP in Utah, supplied Los Angeles with 41.7% of its energy needs. The remainder came from oil/gas-fueled plants in the L.A. basin, 23.8%; hydroelectric, 12.4%; nuclear, 3.4%; and purchased power, 18.7%.**

## The Power System



**An all-time high electric demand of 4922 megawatts (mw) was reached Sept. 2, 1987, which represents considerable growth over ten years ago, when it was 3778 mw. Five years from now, it is anticipated that peak usage will approximate 5800 mw.**



**Electric distribution mechanics are called upon to make repairs in all weather conditions. The overall safety record of DWP continued to improve last year as various operating divisions implemented new and innovative safety programs.**

**Two-way radios, for communication with central offices, greatly speeds up response to service requests. Additionally, drivers are able to relay emergency calls from the road for 911 assistance for the public.**



## The Power System

water yearly. Its boiler structures are 301 feet high, and its 710-foot-high chimney is the tallest structure in Utah.

The plant is maintained by a workforce of more than 600, with the DWP managing operations.

### **Nuclear Power for Los Angeles**

Los Angeles began receiving larger amounts of nuclear power last year as the second of three generators at the Palo Verde Nuclear Generating Station in Arizona became fully operational.

At the close of fiscal 1987, DWP customers were receiving about 4 percent of their electricity from Palo Verde, which is located about 50 miles west of Phoenix, and is operated by Arizona Public Service Company. By early 1988, we expect to get 8 percent of our power from the project.

The DWP has a 5.7 percent ownership in Palo Verde, equivalent to about 217 megawatts. We hold an additional 3.5 percent participant

interest in the project through our membership in the Southern California Public Power Authority (SCPPA).

Palo Verde's power is produced by three identical 1,270-megawatt generators. Units One and Two went on-line in January and September 1986, respectively. Unit Three is expected to go into service early in 1988.

### *Victorville-Rinaldi Line*

The Power System's transmission capabilities were augmented considerably with the completion of a new high-voltage line last June. Eighty-six miles long, the 500-kilovolt line connects our power switching station in Victorville, California, in the Mojave Desert with the Rinaldi Receiving Station in Granada Hills in the San Fernando Valley.

The \$57 million facility delivers energy produced by generating plants in Arizona, Nevada and Utah. Since the line crosses rugged terrain, freeways, state highways and other

## The Power System

high-voltage lines, it presented unusual problems of design and construction.

Construction began in June 1986, and the final transmission tower was erected last April.

Victorville-Rinaldi was completed ahead of schedule and on budget. Its 800-megawatt capacity eventually will be doubled with the addition of more transformers at Rinaldi.

### **DWP Buys Nevada Railroad**

To enhance its plans for a coal-fueled power plant in White Pine County, Nevada, the Department bought a railroad that would carry coal to the facility. The line, acquired from Kennecott Corporation last April at the salvage cost of \$1 million, is the Nevada Northern Railway.

Under the agreement with Kennecott, we purchased most of the line's assets—including rolling stock and rails—and the rights-of-way along its 128-mile portion between Cobre

Junction in Elko County and McGill Junction in White Pine County. (Those assets we did not acquire will be restored and operated as a tourist attraction.)

Although development studies continue on White Pine, actual construction is not expected to begin until the mid-1990s.

### **Research and Development**

In keeping with the DWP's long-term view of Los Angeles' power requirements, we allocate some of our resources to researching alternatives to conventional energy sources and applications.

Last year we spent more than \$6 million on projects involving geothermal energy, landfill gas recovery, small hydroelectric plants and solar energy.

One of our newer projects in this area involves testing a five-passenger electric vehicle.

The Department actively promotes efficient utilization of its energy resources by encouraging conservation and developing demand-side management (DSM) programs, including cash incentives. The implementation of DSM programs enables

us to directly influence the level of electricity demand.

These programs involve commercial and industrial thermal storage; commercial and industrial heat pump installation; residential heat pump installation, and lighting efficiency.

<b>Power System Facts in Brief</b>	1986-1987	1985-1986
<b>Power Use*</b>		
Domestic Customers	1,092,912	1,078,074
Commercial Customers	160,239	157,484
Industrial Customers	20,006	20,233
Total Customers — All Classes	1,275,920	1,261,972
Sales to Ultimate Consumers —		
Kilowatt-hours	20,162,537,000	20,034,676,000
Sales to Other Utilities —		
Kilowatt-hours	377,876,000	215,819,000
Average Annual Kilowatt-hours per Domestic Customer	5,004	5,102
<b>Status of System</b>		
Utility Plant (Less Accumulated Provision for Depreciation)	\$3,133,454,000	\$2,943,900,000
<b>Generating Stations</b>		
Net Dependable Capability, Kilowatts	7,584,000**	7,309,000*

\*Power production in kilowatt-hours (including all generation of Hoover units connected to DWP system)

\*\*Includes purchased capacity; does not deduct short-term sales of excess capacity.

## **1986-1987 Financial Statements**

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#### **The Power System**

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## **Financial Review**

Operations for fiscal year 1986-87 produced increases of 2.9 percent in water sales and 1.4 percent in the sales of electric energy.

Operating revenues of the Department's Water and Power Systems totaled more than \$1.65 billion, a gain of \$67 million over the previous fiscal year. The Water System accounted for \$22 million of the increase due to record high sales combined with higher energy and purchased water costs billed to customers. The Power System added \$45 million to the total. This came mainly from an increase in energy costs billed to customers combined with the full year effect of the November 1985 rate increase.

Higher Water System operating revenues partially offset by an increase in operating and maintenance expenses coupled with the Chatsworth Reservoir writeoff resulted in net income of \$44.6 million.

A total of \$96.2 million was spent by the Water System on capital construction, most of which went towards the improvement of the water distribution system and completion of the Los Angeles Aqueduct Filtration Plant. This \$146 million facility was constructed to comply with stringent federal drinking water quality regulations.

The operating revenue of the Power System increased by 3.3 percent from 1985-86 to a total of \$1.40 billion. Net income amounted to \$186.8 million.

The Power System invested \$313.5 million in capital construction for the year. Major expenditures were for additions and modifications to electrical distribution and transmission facilities, and the Coronado/Palo Verde power generation project.

Total assets of the Department at June 30, 1987, were approximately \$4.89 billion. Of this amount, \$3.70 billion was recorded in the Power System and the remainder in the Water System.

### **Financing activities**

During the year, the Power System sold a \$47.8 million advance refunding bond issue. Proceeds from the sale were pledged to retire the higher-interest cost Power System Revenue Bonds issued in 1984. The advance refunding bonds were sold at an interest rate of 6.78 percent, which is the lowest since April of 1979 for the Department's long-term debt. This transaction will yield interest cost savings of approximately \$25 million over the life of the refunding issue.

Outstanding bonds, notes and revenue certificates on June 30, 1987, totaled \$1.57 billion for the Power System and \$305.2 million for the Water System. Both systems met their maturing payments on bonds and notes.

### **Operation financed by revenues**

In accordance with its basic fiscal policy, the Department pays all costs of operation, debt service and part of the cost of capital improvements from current revenues. The remainder of the cost of capital improvements is met through sales of revenue bonds or notes and from contributions in aid of construction.

Besides meeting all costs of operation from current revenues, the Department paid more than \$79 million into the Reserve Fund of the city in support of general city government.

Approximately 85 percent of that amount came for the Power Revenue Fund. Operations of the Water and Power Systems are entirely self-supporting and no financial obligation or tax burden is placed on the citizens of Los Angeles.

**Water System Statement of Income**

(In Thousands)	Year ended June 30	1987	1986	1985
<b>Operating Revenues</b>				
Residential		\$ 92,436	\$ 84,147	\$ 78,960
Commercial and industrial		135,163	122,917	111,082
Other		20,775	18,955	18,258
Total operating revenues		<u>248,374</u>	<u>226,019</u>	<u>208,300</u>
<b>Operating Expenses</b>				
Purchased water		26,765	17,192	9,139
Purchased energy		8,806	8,050	7,524
Purchased water and energy costs		35,571	25,242	16,663
Other operation		84,843	78,715	72,308
Maintenance		28,691	27,145	27,351
Depreciation		26,586	22,983	21,844
Taxes on property outside the City		2,791	2,572	2,375
Total operating expenses		<u>178,482</u>	<u>156,657</u>	<u>140,541</u>
<b>Operating Income</b>				
Other income—net		69,892	69,362	67,759
Loss on Abandonment of Chatsworth Reservoir		(10,675)	—	—
Income before debt expenses		<u>63,741</u>	<u>77,538</u>	<u>79,899</u>
<b>Debt Expenses</b>				
Interest on debt		22,039	23,239	23,254
Allowance for borrowed funds used during construction		(2,939)	(7,545)	(6,677)
Total debt expenses		<u>19,100</u>	<u>15,694</u>	<u>16,577</u>
<b>Net Income</b>		<u>\$ 44,641</u>	<u>\$ 61,844</u>	<u>\$ 63,322</u>

**Water System Statement of Retained Income Reinvested in the Business**

(In Thousands)	Year ended June 30	1987	1986	1985
Balance at beginning of year		\$409,186	\$357,757	\$304,320
Net income for the year		44,641	61,844	63,322
		453,827	419,601	367,642
Less—Payments to the reserve fund of the City		11,301	10,415	9,885
Balance at end of year		<u>\$442,526</u>	<u>\$409,186</u>	<u>\$357,757</u>

The accompanying notes are an integral part of these financial statements.

**Water System Balance Sheet**

(In Thousands)		June 30	1987	1986
<b>Assets</b>	<b>Utility Plant</b> , at original cost			
	Source of water supply		\$ 230,343	\$ 223,350
	Pumping		48,203	23,656
	Purification		129,874	9,654
	Distribution		964,205	904,277
	General		94,309	97,614
			<u>1,466,934</u>	<u>1,258,551</u>
	Less— Accumulated depreciation		480,483	453,695
			<u>986,451</u>	<u>804,856</u>
	Construction work in progress		59,697	183,941
	Net utility plant		<u>1,046,148</u>	<u>988,797</u>
	<b>Current Assets</b>			
	Deposits with City Treasurer		37,136	66,999
	Customer and other accounts receivable, less \$600 allowance for losses		45,520	35,009
	Accrued unbilled revenue		25,654	17,890
	Materials and supplies, at average cost		14,490	13,423
	Prepayments and other current assets		14,841	15,867
Total current assets		<u>137,641</u>	<u>149,188</u>	
Total assets		<u>\$1,183,789</u>	<u>\$1,137,985</u>	
<b>Capitalization and Liabilities</b>	<b>Capitalization</b>			
	Equity			
	Retained income reinvested in the business		\$ 442,526	\$ 409,186
	Contributions in aid of construction		325,951	302,946
			<u>768,477</u>	<u>712,132</u>
	Long-term debt		285,599	305,037
	Total capitalization		<u>1,054,076</u>	<u>1,017,169</u>
	<b>Current Liabilities</b>			
	Long-term debt due within one year		19,560	19,370
	Accrued interest		6,465	6,746
	Accounts payable and accrued expenses		69,447	66,873
Customer deposits		34,241	27,827	
Total current liabilities		<u>129,713</u>	<u>120,816</u>	
Commitments and Contingencies				
Total capitalization and liabilities		<u>\$1,183,789</u>	<u>\$1,137,985</u>	

The accompanying notes are an integral part of these financial statements.

**Water System Statement of Changes in Financial Position**

(In Thousands)	Year ended June 30	1987	1986	1985
<b>Financial resources provided by:</b>				
Operations—				
Net income		\$ 44,641	\$ 61,844	\$ 63,322
Charges and credits to income not affecting working capital—				
Depreciation		31,112	26,291	25,793
Loss on Abandonment of Chatsworth Reservoir		10,675	—	—
Allowance for borrowed funds used during construction		<u>(2,939)</u>	<u>(7,545)</u>	<u>(6,677)</u>
Total from operations		83,489	80,590	82,438
Sale of revenue notes		—	—	34,706
Sale of advance refunding bonds		—	65,928	18,597
Amount received from escrow account		—	13,025	20,600
Contributions in aid of construction		<u>23,005</u>	<u>18,062</u>	<u>18,945</u>
		<u>106,494</u>	<u>177,605</u>	<u>175,286</u>
<b>Financial resources used for:</b>				
Expenditures for plant and equipment		96,199	105,296	94,805
Reduction of long-term debt		19,438	19,556	19,163
Amount deposited in escrow account and offset against advance refunding bonds		—	65,928	18,597
Long-term debt redeemed, including call premium		—	13,025	20,600
Payments to the reserve fund of the City		<u>11,301</u>	<u>10,415</u>	<u>9,885</u>
		<u>126,938</u>	<u>214,220</u>	<u>163,050</u>
Increase (decrease) in working capital		<u>\$ (20,444)</u>	<u>\$ (36,615)</u>	<u>\$ 12,236</u>
<b>Increase (decrease) in components of working capital:</b>				
Deposits with City Treasurer		\$ (29,863)	\$ (43,352)	\$ 24,931
Customer and other accounts receivable		10,511	2,778	4,853
Accrued unbilled revenue		7,764	2,073	647
Materials and supplies		1,067	119	2,350
Prepayments and other current assets		<u>(1,026)</u>	<u>10,910</u>	<u>(415)</u>
Net change in current assets		<u>(11,547)</u>	<u>(27,472)</u>	<u>32,366</u>
Long-term debt due within one year		(190)	80	(7,075)
Accrued interest		281	(520)	(144)
Accounts payable and accrued expenses		(2,574)	(5,592)	(10,110)
Customer deposits		<u>(6,414)</u>	<u>(3,111)</u>	<u>(2,801)</u>
Net change in current liabilities		<u>(8,897)</u>	<u>(9,143)</u>	<u>(20,130)</u>
Increase (decrease) in working capital		<u>\$ (20,444)</u>	<u>\$ (36,615)</u>	<u>\$ 12,236</u>

The accompanying notes are an integral part of these financial statements.

## Water System Notes to Financial Statements

### Note A—Summary of Significant Accounting Policies

**The Department**—The Department of Water and Power of the City of Los Angeles exists under and by virtue of the City Charter enacted in 1925 as a separate proprietary agency of the City. The Water System is responsible for the quality and distribution of water for sale in the City.

**Financial statement presentation**—The financial statements of the Water System are presented in conformity with generally accepted accounting principles, and substantially in conformity with accounting principles prescribed by the California Public Utilities Commission except for the method of accounting for contributions in aid of construction described below. The Department is not subject to regulations of such commission.

**Utility plant and depreciation**—The costs of additions to utility plant and replacements of retired units of property are capitalized. Costs include labor, materials and allocated indirect charges such as engineering, supervision, transportation and construction equipment, retirement plan contributions and other fringe benefits, and certain administrative and general expenses.

The Water System also capitalizes an allowance for funds used during construction equivalent to the cost of long-term debt incurred to finance plant under construction. Research and development costs directly related to current and future construction projects are capitalized and all other such costs are expensed as incurred. The cost of relatively minor replacements is included in maintenance expense. The original cost of property retired, together with removal cost, less salvage, is charged to accumulated depreciation.

Utility plant depreciation is provided by the straight-line method based on estimated service lives. The depreciation expense was 2.4%, 2.3% and 2.3% of average depreciable plant for the fiscal years 1987, 1986 and 1985.

**Deposits with City Treasurer**—Of the deposits with the City Treasurer, \$31 million and \$58 million at June 30, 1987 and 1986, were invested in short-term securities under the City Treasurer's pooled investment program, whereby available funds of the City and its independent operating departments are invested on a combined basis. These investments are valued at cost, which approximates market. At June 30, 1987, deposits with the City Treasurer included \$2 million restricted for bond redemption and interest.

**Contributions in aid of construction**—Under the provisions of the City Charter, amounts received from customers and others for constructing utility plant are combined with retained income reinvested in the business to represent equity for purposes of computing the Water System's borrowing limits. Accordingly, contributions in aid of construction are shown in the accompanying balance sheet as an equity account and are not offset against utility plant; depreciation provided for the related utility plant is expensed.

**Revenues**—Revenues consist of billings to customers for water consumption and include amounts resulting from a purchased water and energy cost adjustment formula designed to permit the full recovery of purchased water and energy costs. The Department projects these costs to establish the cost recovery component of customer billings and any difference between billed and actual costs, resulting in over- or under-recovery of purchased water and energy costs, is adjusted in subsequent billings.

The Water System recognizes purchased water and energy costs in the period incurred and, to provide effective matching of costs and revenues, accrues for estimated unbilled revenues for water sold but not billed at the end of a fiscal year.

The Water System's rates are established by rate ordinance approved by the City Council. The Water System sells water to other Departments of the City at regular rates provided in the ordinance.

**Shared operating expenses**— The Water System shares certain administrative functions with the Department's Power System. Generally, the cost of these functions is allocated on the basis of benefits provided to the Systems.

**Debt expenses**— Debt premium, discount and issue expenses are deferred and amortized to income over the lives of the related issues.

**Reclassification**— Certain financial statement items for fiscal years 1986 and 1985 have been reclassified to conform to the 1987 presentation.

**Note B — Loss on Abandonment of Chatsworth Reservoir**

From 1969 to 1972, the Water System incurred costs totaling \$10.7 million to enlarge and improve the Chatsworth Reservoir. Following the 1971 earthquake in the Los Angeles area, the State of California enacted more stringent safety standards for earth filled dams which would have required the replacement of the Chatsworth Reservoir Dams at significant additional costs prior to refilling. During 1987, the Water System completed various studies and concluded that the additional costs of upgrading the dams and complying with increased water quality standards precluded refilling the reservoir. Therefore, the project was formally abandoned, resulting in a utility plant write off of \$10.7 million as of June 30, 1987.

**Note C — Long-term Debt**

Long-term debt outstanding at June 30, 1987, consisted of revenue bonds and notes due serially in varying annual amounts through 2024. Interest rates, which vary among individual maturities, averaged approximately 7.2% and 7.1% at June 30, 1987 and 1986. The revenue bonds generally are callable ten years after issuance. Scheduled annual principal maturities during the five years succeeding June 30, 1987 are \$20 million, \$20 million, \$20 million, \$12 million and \$12 million, respectively.

In fiscal years 1986 and 1985, the Water System sold advance refunding bonds totaling \$85 million. Until the bonds to be refunded are called, interest on the advance refunding bonds is payable from interest earned on securities of the United States government purchased out of the proceeds of the sales and held in escrow accounts with Citibank, N.A., New York. At June 30, 1987, \$85 million of these escrow accounts have been offset against the advance refunding bonds in the accompanying balance sheet. After the monies in the escrow accounts are applied to redeem the bonds to be called (\$83 million face value to be redeemed through 1994), interest on the advance refunding bonds will be payable from Water System revenues.

**Note D — Shared Operating Expenses**

Operating expenses shared with the Power System were \$235 million, \$216 million and \$197 million for fiscal years 1987, 1986 and 1985, of which \$82 million, \$74 million and \$67 million were allocated to the Water System.

**Note E—Employees' Retirement Plan**

The Department has a funded contributory retirement, disability and death benefit insurance plan covering substantially all of its employees. The Water System was allocated approximately 24% of the plan's total costs for fiscal year 1987 and 26% for fiscal years 1986 and 1985 amounting to \$33 million, \$32 million and \$29 million. These costs include amortization of prior service costs generally over a 30-year period ending June 30, 2003. The Department funds retirement plan costs in accordance with the recommendations of the plan's independent actuary.

The actuarially computed present value of accumulated retirement plan benefits attributable to the Water System aggregated \$494 million and \$461 million at June 30, 1987 and 1986, of which substantially all were vested. An assumed rate of return of 8% was used in determining these actuarially computed values. The retirement plan's assets at market value allocated to the Water System were \$447 million and \$397 million at such dates:

The Department will adopt the provisions of the recently issued Statement of Financial Accounting Standards No. 87 in the fiscal year ending June 30, 1988 and does not expect the resultant change in the method of accounting for retirement plan costs to have a material effect on net income for fiscal year 1988.

**Note F—Commitments and Contingencies**

**Payments to the reserve fund of the City**—Under the provisions of the City Charter, the Water System transfers funds at its discretion to the reserve fund of the City. Such payments are not in lieu of taxes and are recorded as distributions of retained income. The Department expects to make payments of \$12 million in fiscal year 1988 from the Water System to the reserve fund of the City.

**Litigation**—A number of claims and suits are pending against the Department for alleged damages to persons and property and for other alleged liabilities arising out of its operations. In the opinion of management, the uninsured liability under these actions would not materially affect the Water System's financial position as of June 30, 1987.

**Report of Independent Accountants**

To the Board of Water and Power Commissioners  
Department of Water and Power  
City of Los Angeles

In our opinion, the accompanying balance sheet and the related statements of income, of retained income reinvested in the business and of changes in financial position present fairly the financial position of the Water System of the Department of Water and Power of the City of Los Angeles at June 30, 1987 and 1986, and the results of its operations and the changes in its financial position for each of the three years in the period ended June 30, 1987, in conformity with generally accepted accounting principles consistently applied. Our examinations of these statements were made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

Los Angeles, California  
August 28, 1987

*Price Waterhouse  
Simpson & Simpson*

**Power System Statement of Income**

(In Thousands)	Year ended June 30	1987	1986	1985
<b>Operating Revenues</b>				
Residential		\$ 388,730	\$ 379,488	\$ 372,959
Commercial and industrial		963,151	932,187	859,200
Other		51,560	46,459	55,808
Total operating revenues		<u>1,403,441</u>	<u>1,358,134</u>	<u>1,287,967</u>
<b>Operating Expenses</b>				
Fuel for generation		219,944	348,069	347,591
Purchased power		355,975	203,116	181,961
Energy costs		575,919	551,185	529,552
Other operation		299,408	288,954	240,090
Maintenance		147,673	142,461	129,425
Depreciation		115,629	107,419	105,483
Taxes on property outside the City		8,552	8,660	8,896
Total operating expenses		<u>1,147,181</u>	<u>1,098,679</u>	<u>1,013,446</u>
<b>Operating Income</b>		256,260	259,455	274,521
Other income—net		19,754	27,984	31,976
Income before debt expenses		<u>276,014</u>	<u>287,439</u>	<u>306,497</u>
<b>Debt Expenses</b>				
Interest on debt		96,926	97,464	96,075
Allowance for borrowed funds used during construction		(7,759)	(3,610)	(3,208)
Total debt expenses		<u>89,167</u>	<u>93,854</u>	<u>92,867</u>
<b>Net Income</b>		<u>\$ 186,847</u>	<u>\$ 193,585</u>	<u>\$ 213,630</u>

**Power System Statement of Retained Income Reinvested in the Business**

(In Thousands)	Year ended June 30	1987	1986	1985
Balance at beginning of year		\$1,561,388	\$1,432,156	\$1,277,393
Net income for the year		<u>186,847</u>	<u>193,585</u>	<u>213,630</u>
		1,748,235	1,625,741	1,491,023
Less—Payments to the reserve fund of the City		<u>67,913</u>	<u>64,353</u>	<u>58,867</u>
Balance at end of year		<u>\$1,680,322</u>	<u>\$1,561,388</u>	<u>\$1,432,156</u>

The accompanying notes are an integral part of these financial statements.

**Power System Balance Sheet**

(In Thousands)		June 30	1987	1986
<b>Assets</b>	<b>Utility Plant</b> , at original cost			
	Production		\$1,539,610	\$1,379,279
	Transmission		545,821	501,453
	Distribution		1,704,800	1,571,148
	General		<u>256,124</u>	<u>235,012</u>
			4,046,355	3,686,892
	Less— Accumulated depreciation		<u>1,252,336</u>	<u>1,157,138</u>
			2,794,019	2,529,754
	Construction work in progress		311,640	383,904
	Nuclear fuel, at amortized cost		<u>27,795</u>	<u>30,242</u>
	Net utility plant		<u>3,133,454</u>	<u>2,943,900</u>
	<b>Current Assets</b>			
	Deposits with City Treasurer		174,430	372,791
	Customer and other accounts receivable, less \$3,900 and \$3,300 allowance for losses		140,287	140,043
	Accrued unbilled revenue		84,535	83,729
	Materials and supplies, at average cost		63,009	61,820
	Fuel for generation		65,897	61,819
	Deferred energy costs		8,928	26,784
	Prepayments and other current assets		<u>30,267</u>	<u>11,608</u>
	Total current assets		<u>567,353</u>	<u>758,594</u>
Total assets		<u>\$3,700,807</u>	<u>\$3,702,494</u>	
<b>Capitalization and Liabilities</b>	<b>Capitalization</b>			
	Equity			
	Retained income reinvested in the business		\$1,680,322	\$1,561,388
	Contributions in aid of construction		<u>91,352</u>	<u>84,708</u>
			1,771,674	1,646,096
	Long-term debt		<u>1,408,914</u>	<u>1,476,139</u>
	Total capitalization		<u>3,180,588</u>	<u>3,122,235</u>
	<b>Current Liabilities</b>			
	Long-term debt due within one year		67,916	61,526
	Revenue certificates		90,000	90,000
	Accrued interest		26,457	26,504
	Accounts payable and accrued expenses		242,973	315,519
	Over-recovered energy costs		73,196	69,261
Extension and other deposits		<u>19,677</u>	<u>17,449</u>	
Total current liabilities		<u>520,219</u>	<u>580,259</u>	
Commitments and Contingencies				
Total capitalization and liabilities		<u>\$3,700,807</u>	<u>\$3,702,494</u>	

The accompanying notes are an integral part of these financial statements.

**Power System Statement of Changes in Financial Position**

(In Thousands)	Year ended June 30		
	1987	1986	1985
<b>Financial resources provided by:</b>			
Operations—			
Net income	\$ 186,847	\$ 193,585	\$213,630
Charges and credits to income not affecting working capital—			
Depreciation	125,734	115,599	113,328
Amortization of nuclear fuel	5,936	925	—
Allowance for borrowed funds used during construction	(7,759)	(3,610)	(3,208)
Total from operations	310,758	306,499	323,750
Sale of revenue bonds	—	98,566	49,586
Sale of advance refunding bonds	47,312	—	—
Amount received from escrow account	—	72,920	88,786
Contributions in aid of construction	6,644	5,083	15,489
	<u>364,714</u>	<u>483,068</u>	<u>477,611</u>
<b>Financial resources used for:</b>			
Expenditures for plant and equipment	313,465	400,758	174,466
Reduction of long-term debt	67,225	62,631	85,519
Amount deposited in escrow account and offset against advance refunding bonds	47,312	—	—
Long-term debt redeemed, including call premium	—	72,920	88,786
Payments to the reserve fund of the City	67,913	64,353	58,867
	<u>495,915</u>	<u>600,662</u>	<u>407,638</u>
Increase (decrease) in working capital	<u>\$ (131,201)</u>	<u>\$ (117,594)</u>	<u>\$ 69,973</u>
<b>Increase (decrease) in components of working capital:</b>			
Deposits with City Treasurer	\$ (198,361)	\$ 48,801	\$103,534
Customer and other accounts receivable	244	(8,709)	44,738
Accrued unbilled revenue	806	26,246	(4,397)
Materials and supplies	1,189	4,671	1,919
Fuel for generation	4,078	(22,032)	6,174
Deferred energy costs	(17,856)	(13,753)	(10,481)
Prepayments and other current assets	18,659	(1,301)	(438)
Net change in current assets	<u>(191,241)</u>	<u>33,923</u>	<u>141,049</u>
Long-term debt due within one year	(6,390)	23,470	(5,870)
Accrued interest	47	(2,758)	(169)
Accounts payable and accrued expenses	72,546	(105,585)	(49,352)
Over-recovered energy costs	(3,935)	(56,159)	(13,102)
Customer deposits	(2,228)	(10,485)	(2,583)
Net change in current liabilities	<u>60,040</u>	<u>(151,517)</u>	<u>(71,076)</u>
Increase (decrease) in working capital	<u>\$ (131,201)</u>	<u>\$ (117,594)</u>	<u>\$ 69,973</u>

The accompanying notes are an integral part of these financial statements.

## **Power System Notes to Financial Statements**

### **Note A—Summary of Significant Accounting Policies**

**The Department**—The Department of Water and Power of the City of Los Angeles exists under and by virtue of the City Charter enacted in 1925 as a separate proprietary agency of the City. The Power System is responsible for the generation, transmission and distribution of electric power for sale in the City.

**Financial statement presentation**—The financial statements of the Power System are presented in conformity with generally accepted accounting principles, and substantially in conformity with accounting principles prescribed by the Federal Energy Regulatory Commission and the California Public Utilities Commission except for the method of accounting for contributions in aid of construction described below. The Department is not subject to regulations of such commissions.

**Utility plant and depreciation**—The costs of additions to utility plant and replacements of retired units of property are capitalized. Costs include labor, materials and allocated indirect charges such as engineering, supervision, transportation and construction equipment, retirement plan contributions and other fringe benefits, and certain administrative and general expenses.

The Power System also capitalizes an allowance for funds used during construction equivalent to the cost of long-term debt incurred to finance plant under construction. Research and development costs directly related to current and future construction projects are capitalized and all other such costs are expensed as incurred. The cost of relatively minor replacements is included in maintenance expense. The original cost of property retired, together with removal cost, less salvage, is charged to accumulated depreciation.

Utility plant depreciation is provided for a large portion of the facilities by the 5% sinking fund method based on estimated service lives. The straight-line method is used for major projects completed after July 1, 1973 and for all office and shop structures, related furniture and equipment and transportation and construction equipment. The aggregate provision was 3.2%, 3.3% and 3.2% of average depreciable plant for fiscal years 1987, 1986 and 1985.

Nuclear fuel is amortized and charged to Fuel for Generation in the Statement of Income on the basis of actual thermal energy produced relative to total thermal energy expected to be produced over the life of the fuel. A contract has been entered into with the United States Department of Energy for the disposal of the spent fuel.

**Nuclear decommissioning**—Decommissioning of the Palo Verde Nuclear Generating Station, in which the Power System has an ownership interest, is projected to commence in approximately 35 to 40 years. The Power System is providing for its share of the estimated future decommissioning costs over the life of the nuclear power plant through annual charges to expense.

**Deposits with City Treasurer**—Of the deposits with the City Treasurer, \$150 million and \$337 million at June 30, 1987 and 1986 were invested in short-term securities under the City Treasurer's pooled investment program, whereby available funds of the City and its independent operating departments are invested on a combined basis. These investments are valued at cost, which approximates market. At June 30, 1987, deposits with the City Treasurer included \$10 million restricted for bond redemption, interest and construction.

**Fuel for generation**— Coal inventories are stated at average cost. Fuel oil inventories are stated at cost, using the last-in, first-out method.

**Contributions in aid of construction**— Under the provisions of the City Charter, amounts received from customers and others for constructing utility plant are combined with retained income reinvested in the business to represent equity for purposes of computing the Power System's borrowing limits. Accordingly, contributions in aid of construction are shown in the accompanying balance sheet as an equity account and are not offset against utility plant; depreciation provided for the related utility plant is expensed.

**Revenues**— Revenues consist of billings to customers for consumption of electric energy and include amounts resulting from an energy cost adjustment formula designed to permit the full recovery of energy costs. The Department projects these costs to establish the energy cost recovery component of customer billings and any difference between billed and actual energy costs, resulting in over- or under-recovery of energy costs, is adjusted in subsequent billings.

The Power System recognizes energy costs in the period incurred and, to provide effective matching of costs and revenues, accrues for estimated unbilled revenues for energy sold but not billed at the end of a fiscal year.

The Power System's rates are established by rate ordinance approved by the City Council. The Power System sells electric energy to other Departments of the City at regular rates provided in the ordinance.

**Shared operating expenses**— The Power System shares certain administrative functions with the Department's Water System. Generally, the cost of these functions is allocated on the basis of benefits provided to the Systems.

**Debt expenses**— Debt premium, discount and issue expenses are deferred and amortized to income over the lives of the related issues.

**Reclassification**— Certain financial statement items for fiscal years 1986 and 1985 have been reclassified to conform to the 1987 presentation.

#### **Note B— Revenue Certificates**

At June 30, 1987 and 1986, the average interest rate of revenue certificates payable was 4.6% with various maturities of up to 152 days. The Department has an unsecured standby line of credit of \$90 million which can be used if the certificates cannot be refinanced as they mature.

#### **Note C— Jointly-owned Utility Plant**

The Power System has an undivided interest in several electrical generating stations and transmission systems which are jointly-owned with other utilities. Each participant provides its own construction financing.

The Power System's proportionate share of construction and improvement costs is included in its balance sheet at June 30, 1987 as follows (in \$ millions):

<b>Projects</b>	Department Ownership Interest	Department Share of Capacity (megawatts)	Plant In Service Cost	Accumulated Depreciation	Construction Work In Progress
Palo Verde Nuclear Generating Station (Note G)	5.7%	217	\$313	\$ (9)	\$166
Navajo Steam Generating Station	21.2%	550	177	(60)	4
Mohave Coal Generating Station	20.0%	316	<u>72</u>	<u>(19)</u>	<u>7</u>
			<u>562</u>	<u>(88)</u>	<u>177</u>
Pacific Intertie DC Transmission System	40.0%	800	92	(11)	11
Other transmission systems	Various	—	<u>66</u>	<u>(12)</u>	<u>1</u>
			<u>158</u>	<u>(23)</u>	<u>12</u>
			<u>\$720</u>	<u>\$(111)</u>	<u>\$189</u>

The Power System will incur certain minimum operating costs on the jointly-owned facilities, whether or not it is able to take delivery of its share of energy generated. The proportionate share of these expenses incurred is included in the appropriate categories of operating expenses.

#### **Note D—Long-term Debt**

Long-term debt outstanding at June 30, 1987, consisted of revenue bonds and notes due serially in varying annual amounts through 2026. Interest rates, which vary among individual maturities, averaged approximately 6.5% and 6.6% at June 30, 1987 and 1986. The revenue bonds generally are callable ten years after issuance. Scheduled annual principal maturities during the five years succeeding June 30, 1987 are \$68 million, \$54 million, \$52 million, \$53 million and \$55 million, respectively.

In the fiscal year ended June 30, 1987, the Power System sold advance refunding bonds totaling \$48 million. Until the bonds to be refunded are called, interest on the advance refunding bonds is payable from interest earned on securities of the United States Government purchased out of the proceeds of the sales and held in escrow accounts with Citibank, N.A., New York. At June 30, 1987, \$48 million of these escrow accounts have been offset against the advance refunding bonds in the accompanying balance sheet (during the year ended June 30, 1987 there were no refunded bonds redeemed). After the monies in the escrow accounts are applied to redeem the bonds to be called (\$46 million face value to be redeemed through 1994), interest on the advance refunding bonds will be payable from Power System revenues.

#### **Note E—Shared Operating Expenses**

Operating expenses shared with the Water System were \$235 million, \$216 million and \$197 million for fiscal years 1987, 1986 and 1985, of which \$153 million, \$142 million and \$130 million were allocated to the Power System.

**Note F—Employees' Retirement Plan**

The Department has a funded contributory retirement, disability and death benefit insurance plan covering substantially all of its employees. The Power System was allocated approximately 76% of the plan's total costs for fiscal year 1987 and 74% for fiscal years 1986 and 1985 amounting to \$102 million, \$91 million and \$83 million. These costs include amortization of prior service costs generally over a 30-year period ending June 30, 2003. The Department funds retirement plan costs in accordance with the recommendations of the plan's independent actuary.

The actuarially computed present value of accumulated retirement plan benefits attributable to the Power System aggregated \$1,233 million and \$1,151 million at June 30, 1987 and 1986, of which substantially all were vested. An assumed rate of return of 8% was used in determining these actuarially computed values. The retirement plan's assets at market value allocated to the Power System were \$1,115 million and \$992 million at such dates.

The Department will adopt the provisions of the recently issued Statement of Financial Accounting Standards No. 87 in the fiscal year ending June 30, 1988 and does not expect the resultant change in the method of accounting for retirement plan costs to have a material effect on net income for fiscal year 1988.

**Note G—Commitments and Contingencies**

**Payments to the reserve fund of the City**—Under the provisions of the City Charter, the Power System transfers funds at its discretion to the reserve fund of the City. Such payments are not in lieu of taxes and are recorded as distributions of retained income. The Department expects to make payments of \$70 million in fiscal year 1988 from the Power System to the reserve fund of the City.

**Long-term purchased power and transmission contracts**—The Department has entered into a number of energy and transmission service contracts which involve substantial commitments. These include an agreement with the Intermountain Power Agency, a Utah State Agency, for purchase of energy from the Intermountain Power Project (IPP) for which the Power System has served as the project manager and operating agent, and two agreements with the Southern California Public Power Authority (SCPPA), a California Joint Powers Agency, for a portion of SCPPA's entitlement to the energy generated at the Palo Verde Nuclear Generating Station and for capacity of the Southern Transmission System, which transmits energy from IPP. Significant data related to these agreements, which are scheduled to expire from 2022 to 2027, at June 30, 1987 are as follows:

<b>Contracts</b>	Department Interest	Total Bonds Outstanding (millions)	Department Share of Capacity (megawatts)
Palo Verde Nuclear Generating Station (through SCPPA)	67.0% (a) (b)	\$1,039	151
Intermountain Power Project	62.8% (c)	\$4,928	1,004
Southern Transmission System (for IPP power through SCPPA)	59.5%	\$1,000	1,142

(a) The Power System's 67.0% interest in SCPPA's 5.9% entitlement represents a 4.0% energy interest for the Department in Palo Verde.

(b) The Power System also has a 5.7% ownership interest in Palo Verde (See Note C).

(c) Includes 44.6% "take or pay" obligation and an excess power contract for 18.2%.

All these agreements require the Power System to make certain minimum payments whether or not power is produced or it is able to take delivery of the power. Although minimum payments are based upon debt service requirements plus production and maintenance costs, these major projects have only recently commenced full operations and, therefore, the amount of the Power System's share of future payments is not presently determinable.

The Department also has a contract through 2017 with the U.S. Department of Energy for the purchase of available energy generated at the Hoover Power Plant. The Department's share of capacity at Hoover approximates 500 megawatts.

**Nuclear insurance**— As a participant in the Palo Verde Nuclear Generating Station, the Department could be subject to assessment of retrospective insurance premium adjustments in the event of a nuclear incident at Palo Verde or at any licensed nuclear reactor in the United States.

**Litigation**— A number of claims and suits are pending against the Department for alleged damages to persons and property and for other alleged liabilities arising out of its operations. In the opinion of management, the uninsured liability under these actions would not materially affect the Power System's financial position as of June 30, 1987.

### **Report of Independent Accountants**

To the Board of Water and Power Commissioners  
Department of Water and Power  
City of Los Angeles

In our opinion, the accompanying balance sheet and the related statements of income, of retained income reinvested in the business and of changes in financial position present fairly the financial position of the Power System of the Department of Water and Power of the City of Los Angeles at June 30, 1987 and 1986, and the results of its operations and the changes in its financial position for each of the three years in the period ended June 30, 1987, in conformity with generally accepted accounting principles consistently applied. Our examinations of these statements were made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

Los Angeles, California  
August 28, 1987

*Price Waterhouse  
Simpson & Simpson*

**Water Sales**

	Residential	Commercial & Industrial	Irrigation	Power System	City Governmental	Other Governmental	All Classes Combined
<b>Revenue from sales of water:</b>							
Year ended June 30-							
1987	\$92,436,000	\$135,163,000	\$305,000	\$593,000	\$4,703,000	\$9,195,000	\$242,395,000
1986	84,147,000	122,917,000	305,000	783,000	5,321,000	6,960,000	220,433,000
Increase (decrease)	8,289,000	12,246,000	0	(190,000)	(618,000)	2,235,000	21,962,000
Percent increase (decrease)	9.85	9.96	0.00	(24.27)	(11.61)	32.11	9.96
<b>Unit of 100 cubic feet sold:</b>							
Year ended June 30-							
1987	106,033,497	154,449,040	738,715	656,757	7,667,096	11,329,893	280,874,998
1986	102,935,903	150,414,530	783,087	1,001,851	8,789,111	9,178,955	273,103,437
Increase (decrease)	3,097,594	4,034,510	(44,372)	(345,094)	(1,122,015)	2,150,938	7,771,561
Percent increase (decrease)	3.01	2.68	(5.67)	(34.45)	(12.77)	23.43	2.85
<b>Average billing price per 100 cubic feet:</b>							
Year ended June 30-							
1987	0.8718	0.8751	0.4129	0.9029	0.6134	0.8116	0.8630
1986	0.8175	0.8172	0.3895	0.7816	0.6054	0.7583	0.8071
Increase (decrease)	0.0543	0.0579	0.0234	0.1213	0.0080	0.0533	0.0559
Percent increase (decrease)	6.64	7.09	6.01	15.52	1.32	7.03	6.93
<b>Average number of customers (calculated on no. of billings):</b>							
Year ended June 30-							
1987	456,355	170,386	34	385	2,299	2,792	632,251
1986	455,553	169,388	32	366	3,031	1,735	630,105
Increase (decrease)	802	998	2	19	(732)	1,057	2,146
Percent increase (decrease)	0.18	0.59	6.25	5.19	(24.15)	60.92	0.34
<b>Average annual consumption per customer (in units of 100 cubic foot):</b>							
Year ended June 30-							
1987	232	906	21,727				
1986	226	888	24,471				
Increase (decrease)	6	18	(2,744)				
Percent increase (decrease)	3.00	2.03	(11.21)				

**Power Sales**

	Residential	Commercial	Industrial	Public Street and Highway Lighting	Water System	Other Electric Utilities	All classes Combined
<b>Revenue from sales of electric energy:</b>							
Year ended June 30-							
1987	\$388,730,000	\$732,860,000	\$230,291,000	\$21,955,000	\$8,806,000	\$7,422,000	\$1,390,064,000
1986	379,488,000	691,897,000	240,290,000	22,120,000	8,050,000	7,734,000	1,349,579,000
Increase (decrease)	9,242,000	40,963,000	(9,999,000)	(165,000)	756,000	(312,000)	40,485,000
Percent increase (decrease)	2.44	5.92	(4.16)	(0.75)	9.39	(4.03)	3.00
<b>Kilowatt hours sold (in thousands):</b>							
Year ended June 30-							
1987	5,469,312	10,628,309	3,629,903	298,768	136,245	377,876	20,540,413
1986	5,499,851	10,279,185	3,818,084	308,167	129,389	215,819	20,250,495
Increase (decrease)	(30,539)	349,124	(188,181)	(9,399)	6,856	162,057	289,918
Percent increase (decrease)	(0.56)	3.40	(4.93)	(3.05)	5.30	75.09	1.43
<b>Average billing price per kilowatt hour:</b>							
Year ended June 30-							
1987	0.0711	0.0690	0.0634	0.0735	0.0646	0.0196	0.0677
1986	0.0690	0.0673	0.0629	0.0718	0.0622	0.0358	0.0666
Increase (decrease)	0.0021	0.0017	0.0005	0.0017	0.0024	(0.0162)	0.0011
Percent increase (decrease)	3.01	2.53	0.81	2.38	3.89	(45.19)	1.65
<b>Average number of customers (calculated on no. of billings):</b>							
Year ended June 30-							
1987	1,092,912	160,239	20,006	2,368	389	6	1,275,920
1986	1,078,074	157,484	20,233	5,806	369	6	1,261,972
Increase (decrease)	14,838	2,755	(227)	(3,438)	20	0	13,948
Percent increase (decrease)	1.38	1.75	(1.12)	(59.21)	5.42	0.00	1.11
<b>Average annual consumption per customer (in kilowatt hours):</b>							
Year ended June 30-							
1987	5,004	66,328	181,441				
1986	5,102	65,271	188,706				
Increase (decrease)	(98)	1,057	(7,265)				
Percent increase (decrease)	(1.92)	1.62	(3.85)				

## **Organizational Overview**

### **Board of Water and Power Commissioners**

#### **General Manager and Chief Engineer**

##### **Assistant General Manager-Water**

*Divisions of the Water System:*

Aqueduct  
Water Operating  
Water Engineering Design  
General Services  
Water Quality

##### **Assistant General Manager-Power**

*Divisions of the Power System:*

Power Operating and Maintenance  
Power Design and Construction  
System Development  
Power System Services  
Power Distribution  
Real Estate

##### **Assistant General Manager-External and Organizational Services**

*Divisions of External and Organizational Services:*

Legislative Affairs  
Public Affairs  
Customer Services  
Commercial  
Management Services  
Human Resources

##### **Chief Financial Officer**

*Divisions of Finance and Accounting:*

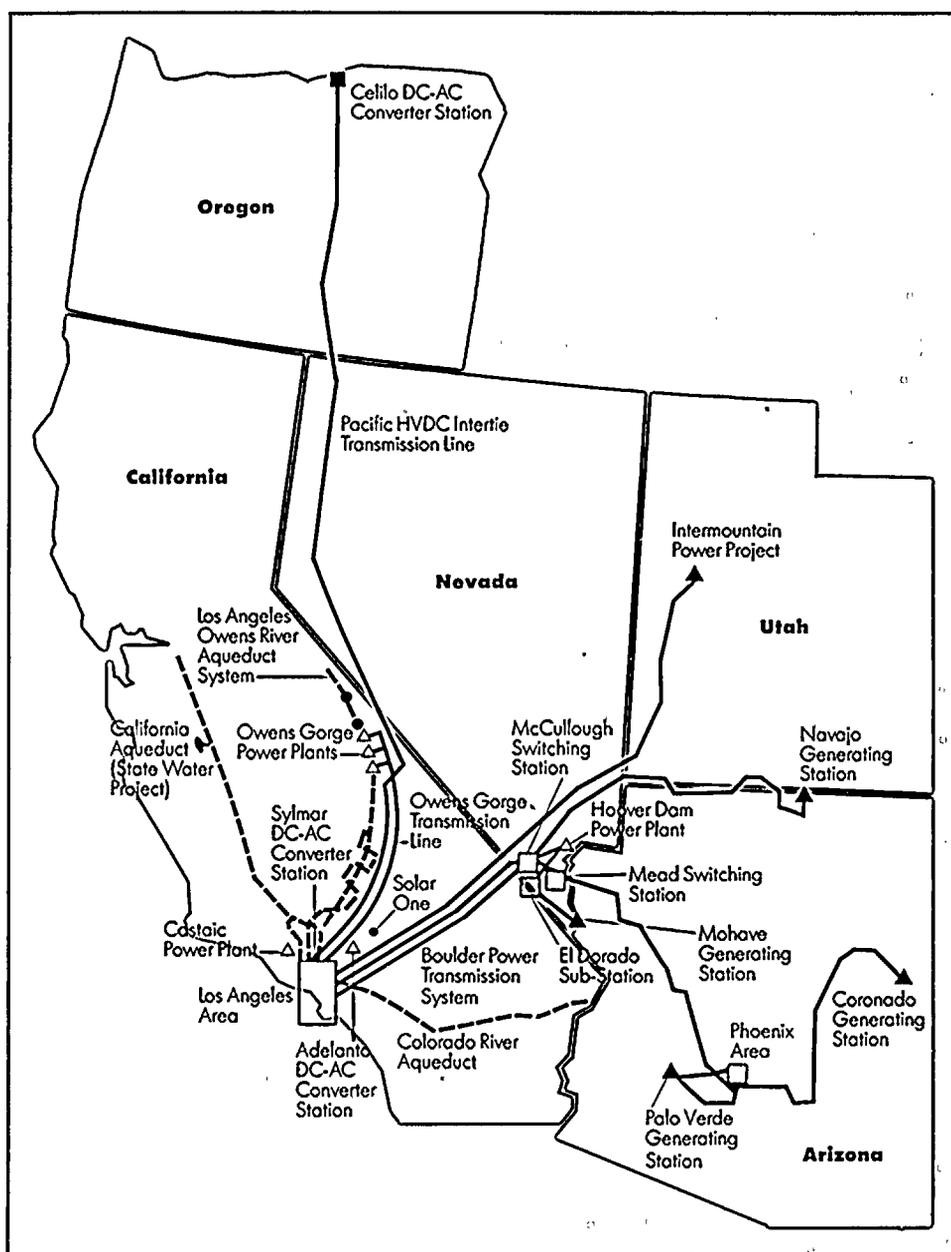
Accounting  
Internal Auditing  
Financial Planning

##### **Chief Assistant City Attorney for Water and Power**

## Water/Power Network

Generating facilities in other western states are playing larger roles in the city's power supply. Water, also imported from hundreds of miles away, is brought to L.A. by aqueduct to serve the needs of the 3.3 million population.

--- Water System  
 — Power System



For additional copies contact:  
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 Telephone 213-481-6414



**City of Los Angeles Board of Water and Power Commissioners**

Los Angeles Department of Water and Power  
General Office Building  
111 N. Hope Street  
Los Angeles, California 90012  
Telephone 213-481-4211

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