IMPERIAL IRRIGATION DISTRICT

1976 ANNUAL REPORT

Less used today . . .

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IMPERIAL IRRIGATION DISTRICT

annual report for the year **1976**

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COMMUNITY AND SPECIAL SERVICES
IMPERIAL IRRIGATION DISTRICT
P. O. BOX 499 • 1284 MAIN STREET
EL CENTRO, CALIFORNIA 92243

COVER PHOTOGRAPHS BY MARVIN L. WIEBEN

The Imperial Irrigation District Board of Directors is shown at a regular session at the Executive Building in El Centro. From left are James H. Carter, assistant counsel; Raymond L. (Lom) Thompson, Director, Division 1; Alfred Singh, Director, Division 5; Paul A. Mitchell, Board President, Division 4; Gerald L. Moore, Vice-President, Division 2; Bernard Galleano, Director, Division 3; and Larry E. Beck, secretary to the board.

PRESIDENT'S MESSAGE

The year 1976 saw the District continually expanding its Water and Power Departments' operations with no increase in personnel. There was no increase in the basic power rate. The basic agricultural water rate remained at $3.50 per acre-foot despite the high cost of repairs to canals and equipment following the devastating storms that struck the Imperial Valley in September; however, effective July 1, an additional charge of 75 cents per acre-foot, committed to the initiation of a water-conservation program, was authorized.

Three new board members completed their first full year of service. The board acted on numerous measures designed to strengthen District operations in all departments and to give better service to consumers. There were some key personnel retirements and the board was able to select qualified applicants to fill these important posts.

The board continued its working relationship with San Diego Gas & Electric Company in the quest for a nuclear power plant which would provide the District with much-needed electricity in the 1980s.

It is with great pride that we bring you this report on our 66th year of operation.

GENERAL MANAGER'S REPORT

Budget Stringent in 1976

America's bicentennial year also marked the 65th anniversary of the formation of Imperial Irrigation District.

District operations in 1976 continued under an austere budget reflected by unchanged power rates and only a 75 cent per acre-foot increase in water rates, specifically for water conservation purposes, not for operations. The number of Imperial Irrigation District employees averaged four less than in 1975, with 923 full-time and 30 temporary or part-time employees. Automotive equipment was used in excess of 100,000 miles rather than being replaced at 80,000 miles, the established practice.

The fuel and energy adjustment charge (Schedule FE) applied to electric power bills continued to increase due to a number of factors. Among them were the ever-rising cost of oil, the drastic curtailment of natural gas, the marked reduction in lower-cost hydro power from the federal government and the fact that 156 million kilowatt-hours of energy purchased in 1975 for 12 mills was replaced in 1976 with energy costing approximately 29 mills per kilowatt-hour.

Power Costs Kept Down

In spite of these factors, though, the average cost per kilowatt-hour to residential users increased by less than two-tenths of a cent over the past year. The District still maintains a position of providing electrical energy to its customers at rates averaging 25 per cent below those charged in the surrounding areas.

Storm Damage to Systems

Tropical storm "Kathleen" on September 10 and another storm two weeks later caused nearly $1 million damage to the District's water and power systems. Interrupted service was restored in a matter of hours or days; however, permanent repairs required several months. After Imperial Valley was declared a disaster area by the state and federal governments, Imperial Irrigation District stood to be reimbursed by the federal disaster assistance program in the amount of $898,910.

Conservation Efforts Renewed

The past year has seen added emphasis placed on beneficial use of water. To this end, Imperial Irrigation District's board of directors initiated a stringent water conservation program which went into effect midyear.

Robert F. Carter
General Manager
28 Years of Service

IID Looks to the Future

Even with power conservation being encouraged and practiced electric energy sales amounted to more than 1.1 billion kilowatt-hours, up 4 per cent from 1975. Thus, the District is aware of the necessity of providing adequate capacity to meet the future needs of its customers in Imperial and Coachella Valleys. For this reason, it continues support of the proposed Sundesert Nuclear Plant and is involved in and due to receive energy from the first geothermal plants scheduled for development in Imperial Valley.

1976--A Year of Progress

Employer/employee relations continued on a high level of mutual understanding. The board of directors authorized a general salary increase and improved vacation and and life insurance benefits effective November 1. Payroll deduction of employee organization dues also was authorized to become effective early in 1977.

Considering the proliferation of economic pressures brought on by the energy crisis and the programs for the preservation of natural resources, the District team-- composed of its governing board, management and employees -- was able to fulfill its obligation of providing adequate water and power service to its customers during 1976 at a minimum increase in cost.

EXECUTIVE AND MANAGEMENT


J. Fred Hesse
Power Manager
37 Years of Service
(Retired)


J. Robert Wilson
Water Manager
33 Years of Service


Richard W. Wheeler
Finance and Accounting Manager
16 Years of Service


Robert D. Reynolds
Operations Services Manager
40 Years of Service


J. Melvin Sheldon
Water Consultant
50 Years of Service
(Deceased)


Lawrence S. Eager
Personnel Manager
35 Years of Service


D. A. Twogood
Assistant General Manager
5 Years of Service


L. R. McGlocklin
Assistant to General Manager
35 Years of Service


R. L. Knox, Jr.
Chief Legal Counsel
28 Years of Service


Rosemary Henderson
Deputy Treasurer
23 Years of Service


Helen French
Assistant Director,
Community and Special Services
43 Years of Service


Jamie Hartshorn
Publications Assistant
1 Year of Service

TREASURER'S REPORT

Anna T. McManus
Treasurer
50 Years of Service

The District's 1976 cash receipts totaled $43,353,100, an increase of $4,780,698 over 1975. This additional revenue, resulting from increased water rates and the fuel energy factor, was required to maintain appropriate revenues to offset expenditures for 1976 which were $45,263,402. These expenditures, which were greater than those in 1975 by $10,014,826, covered the payment of bond principal and interest, payrolls, repairs of water and power systems damaged by tropical storm Kathleen, work performed by others including payment on purchase of fourth gas turbine unit at Coachella, the cost of purchased power, and $12,631,568 spent locally for supplies (including fuel) and for other services. The difference between the $10,014,826 increase in expenditures over the $4,780,698 increase in receipts in 1976, was made up from reserves.

All funds not required for immediate cash disbursement are deposited in interest bearing accounts in local banks. The resulting earned-interest income of $687,139 was accrued to the respective accounts making the same available for operating purposes.

Electric revenue bonds, issued from 1937 to 1954 to aid in financing the District's long-range power development program, including additions and improvements to its expanding power system, amounted to $37,963,000. The total remaining unpaid on December 31, 1976, was $7,511,000 as shown in the following tabulation:

ELECTRIC REVENUE BONDED INDEBTEDNESS

Year	*Indebtedness Beginning of Year*	*Bonds Retired*	*Indebtedness End of Year*
1972	$14,792,000	$1,570,000	$13,222,000
1973	13,222,000	1,587,000	11,635,000
1974	11,635,000	1,345,000	10,290,000
1975	10,290,000	1,315,000	8,975,000
1976	8,975,000	1,464,000	7,511,000

CASH RECEIPTS AND EXPENDITURES

Year	*Receipts*	*Expenditures*
1972	$24,200,438	$23,645,444
1973	25,845,444	29,468,004
1974	31,854,429	33,538,742
1975	38,572,402	35,248,576
1976	43,353,100	45,263,402

JOSEPH O. COLTON & COMPANY
CERTIFIED PUBLIC ACCOUNTANTS

1030 BROADWAY - SUITE 106
EL CENTRO, CALIFORNIA 92243
352-3520

February 28, 1977

Board of Directors
Imperial Irrigation District
El Centro, California

We have examined the combining balance sheet of the departments of Imperial Irrigation District (a political subdivision of the State of California) as of December 31, 1976, and the related combining statements of net revenues and changes in financial position for the year then ended. Our examination was 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.

In our opinion, the financial statements referred to above present fairly (1) the financial position of Imperial Irrigation District as of December 31, 1976, the results of its operations and the changes in its financial position for the year then ended, and (2) the assets, capitalization and liabilities of the individual departments of the District as of December 31, 1976, and their net revenues and the changes in their financial position for the year then ended, all in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Joseph O. Colton & Company
Certified Public Accountants

COMBINING BALANCE SHEET

DECEMBER 31, 1976

ASSETS

	Water Department	*Power Department*	*Combined*
UTILITY PLANT, at cost:			
Plant in service (Note 1) -			
Electric	$	$111,390,932	$111,390,932
Water	92,423,301		92,423,301
Total plant in service	92,423,301	111,390,932	203,814,233
Less - Accumulated depreciation reserves (Note 1)	(10,488,405)	(56,038,058)	(66,526,463)
	81,934,896	55,352,874	137,287,770
Construction work in progress	68,525	2,458,728	2,527,253
Total utility plant	82,003,421	57,811,602	139,815,023
RESTRICTED FUNDS (Note 1):			
Debt service funds (Note 3)		2,331,165	2,331,165
Construction funds	3,844,343	2,305,731	6,150,074
Other restricted funds	3,685,903	1,353,165	5,039,068
	7,530,246	5,990,061	13,520,307
CURRENT ASSETS:			
Operating funds borrowed from restricted funds (Note 1)	(2,408,976)		(2,408,976)
Operating funds		713,537	713,537
Accounts receivable, less reserves for doubtful accounts	1,815,380	2,257,887	4,073,267
Inventories, at cost (Note 1) -			
Fuel oil		2,589,177	2,589,177
Materials and supplies	461,397	1,320,895	1,782,292
Prepaids	604,969	201,224	806,193
Total current assets	472,770	7,082,720	7,555,490
OTHER ASSETS	960,000		960,000
	$ 90,966,437	$ 70,884,383	$161,850,820

COMBINING BALANCE SHEET

DECEMBER 31, 1976

CAPITALIZATION AND LIABILITIES

CAPITALIZATION:	*Water Department*	*Power Department*	*Combined*
Accumulated net revenues - Balance at beginning of year	$ 64,647,164	$ 57,057,015	$121,704,179
Net revenues for year	2,643,670	3,131,092	5,774,762
Balance at end of year	67,290,834	60,188,107	127,478,941
Contributions received in aid of construction	7,090,637		7,090,637
Long-term debt, less current portion - Electric revenue bonds (Note 3)		6,205,000	6,205,000
All-American Canal obligation (Note 4)	12,066,588	693,612	12,760,200
	12,066,588	6,898,612	18,965,200
Total capitalization	86,448,059	67,086,719	153,534,778
CURRENT LIABILITIES:			
Current portion of long-term debt - Electric revenue bonds (Note 3)		1,306,000	1,306,000
All-American Canal obligation (Note 4)	709,799	40,801	750,600
Accrued interest on electric revenue bonds		123,461	123,461
Accounts payable	1,342,671	1,430,688	2,773,359
Accrued salaries, wages and payroll taxes (Note 2)	778,926		778,926
Accrued vacation pay	334,903	257,049	591,952
Advances from other agencies for operation of the All-American Canal	205,000		205,000
Customers' service deposits and advances	27,716	231,642	259,358
Total current liabilities	3,399,015	3,389,641	6,788,656
DEFERRED CREDITS AND OTHER LIABILITIES:			
Deferred revenues (Note 1)	938,652		938,652
Advances for construction		408,023	408,023
Other liabilities	180,711		180,711
	1,119,363	408,023	1,527,386
	$ 90,966,437	$ 70,884,383	$161,850,820

(1)
SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Accounting Records

Separate accounting records are maintained for the Water and Power Departments of the Imperial Irrigation District. The account classifications used by the District for accounting and financial reporting purposes are comparable to those used by other irrigation districts and electric utility companies. With respect to the Power Department, the account classifications used are those specified by the Uniform System of Accounts prescribed by the Federal Power Commission, which system of accounts was adopted to facilitate computations required by a provision of the All-American Canal contract discussed in Note 4. The effects of interdepartmental transactions have not been eliminated because it is the intention of the Board of Directors of the District that the operating results of such departments be segregated and because such segregation is required for compliance with covenants relating to the issuance of electric revenue bonds.

Utility Plant

Utility plant is stated at cost, which includes labor, materials, purchased services and, in the case of the Water Department, general and administrative expenses. General and administrative expenses related to construction activities of the Power Department are not charged to utility plant since such allocated amounts would not be significant. Water plant retirements are removed from the accounts at cost, together with related accumulated depreciation balances, and any resultant gains or losses are recorded in miscellaneous income. Electric plant retirements are charged to the reserve for depreciation at cost, less net salvage, and no gains or losses are recognized on ordinary retirements.

Depreciation

Buildings, vehicles, equipment, drainage structures, canal linings, and canal structures owned by the Water Department are depreciated on a straight-line basis over their estimated useful lives. The provision for depreciation for 1976 was equivalent in the aggregate to an annual rate of approximately 1.3 percent of the average gross investment in all water plant in service, other than land and land rights. Electric plant is depreciated on the composite method using an overall rate of 3 percent per annum. The costs of repairs and replacements of minor items of utility plant are charged to maintenance expense.

Inventories

Inventories of fuel oil and materials and supplies are recorded at cost, on a first-in, first-out basis.

Revenues

The principal water customers of the Water Department are farmers and cities. These customers are billed at the end of each month for sales made during the month. Each landowner, including cities, pays an annual water availability fee which is based upon his acreage within the District. All customers of the Power Department are billed on a cycle basis. Water and power revenues are recorded when billed, except for the water availability fee which is billed in December but recorded as revenue when earned in the following year.

Restricted Funds

Restricted funds represent allocations of cash balances pursuant to provisions of the All-American Canal contract and the covenants of the electric revenue bonds and for other purposes specified by the Board of Directors.

Operating Funds, Water

During 1976, cash allocated to the operating fund was depleted and the fund had a deficit cash balance at year end. This was due primarily to cash required for storm damage repairs of approximately $760,000, an increase in insurance costs of approximately $460,000, and approximately $1,500,000 of net operating revenue allocated to restricted funds by the Board of Directors. As a result, it was necessary for the operating fund to use $2,408,976 of cash allocated to restricted funds.

(2)
SIGNIFICANT INTERDEPARTMENTAL TRANSACTIONS

Although the Water and Power Departments of the District maintain separate accounting records, there are significant interdepartmental transactions. The more significant of these transactions involve charges by the Water Department to the Power Department for the use of water to generate electricity on the canal system and for use of buildings, vehicles and equipment.

The interdepartmental charge for use of water in the All-American Canal to generate electricity is based upon amounts authorized by the Board of Directors. In 1976, the Board changed its method of determining the interdepartmental charge as originally set forth in its resolution dated January 12, 1960. The effect of the change was to reduce the charge by approximately $345,000. Such amounts are not supported by a formal current study.

Charges for use of buildings, vehicles and equipment are based upon pro rata distribution of costs of related maintenance, operation and depreciation. In accordance with covenants of electric revenue bonds, the Water Department is charged for electric service furnished by the Power Department.

General and administrative expenses incurred by the District are allocated between departments, with the majority of the allocations being 50 percent to the Power Department and 50 percent to the Water Department. These allocations are not supported by a formal current study.

The combined accrued salaries, wages and payroll taxes of the District are reflected as a current liability of the Water Department in the accompanying financial statements because funds had previously been transferred to the Water Department by the Power Department to provide for its portion of these payments.

(3)
ELECTRIC REVENUE BONDS

Electric revenue bonds outstanding at December 31, 1976 and their future maturities are as follows:

	Issue			
	Ninth	Tenth	Eleventh	Total
Interest rates	1-¾%	2-¾% to 3%	3-½%	
Due -				
1977	$	$ 750,000	$ 500,000	$1,250,000
1978		820,000	500,000	1,320,000
1979		890,000	500,000	1,390,000
1980		460,000	500,000	960,000
1981		485,000	475,000	960,000
Thereafter			1,575,000	1,575,000
Matured - Current Issues	5,000	50,000	1,000	56,000
Outstanding at December 31, 1976	$5,000	$3,455,000	$4,051,000	$7,511,000

The electric revenue bonds are secured by a pledge of all of the net revenues derived from the operation of the electric system of the District, after deducting reasonable costs for operations and maintenance, but excluding any allowance for depreciation or obsolescence and the cost of betterments charged against net revenues.

(4)
ALL-AMERICAN CANAL CONTRACT

Pursuant to the terms of the Boulder Canyon Project, All-American Canal contract dated December 1, 1932 and the amendment and supplement to that contract dated March 4, 1952, the District assumed an obligation of $25,020,000 to the United States. This amount represents the District's share of the cost of construction of the All-American Canal system, which obligation has been allocated to the Water and Power Departments based on the relative cost of their plant located on the All-American Canal system.

The District receives its entire water supply for its irrigation system from the United States under this contract. The deliveries of water and use in perpetuity of the All-American Canal are guaranteed to the District as long as the provisions of the contract are met. Except for the combined annual payments of $750,600 through 1994, no other amounts are due to the United States for water supplied to the District.

Under the All-American Canal contract and certain other agreements, the District has the right to avail itself of hydroelectric generation from the water flow through the Canal, subject to the sharing with other water districts of "net power proceeds" (as defined in the contract derived from the sale of this generation). The most important sharing arrangement is with the Coachella Valley County Water District, which, under an arrangement made in 1934, leased its power rights on the Canal to the District for a period of 99 years for an amount equal to 8 percent of "net power proceeds." In the opinion of the District's management, the District has fulfilled all its obligations under this arrangement, including making all required payments.

(5)
RETIREMENT PLAN

The District has maintained a voluntary contributory retirement plan for its employees since 1947. Under the terms of the plan, as modified in 1969, employees are eligible to participate in the plan after completing six months of continuous service. Employee contributions to the plan and retirement benefits vary depending upon the age of the employee at the date of entry into the plan, the average basic monthly salary attained, and the employee's retirement age. Additional amounts required to fund the actuarially computed benefits ultimately payable to participating employees are paid by the District and amounted to $395,790 in 1976. The excess of the present value of vested benefits of participants over fund assets as of January 1, 1976 was $80,308.

(6)
CONTINGENCIES

There is the possibility that pending claims and suits against the District may result in judgements and settlements that exceed the amount of insurance coverage.

Legal counsel for the District and the insurance companies are not able to determine the outcome of the various actions.

COMBINING STATEMENT OF NET REVENUES

FOR THE YEAR ENDED DECEMBER 31, 1976

OPERATING REVENUES (Notes 1 and 2):	*Water Department*	*Power Department*	*Combined*
Sales of -			
Power		$30,330,128	$30,330,128
Water	$ 9,512,051		9,512,051
Water availability charge	803,631		803,631
Rentals	205,078	47,899	252,977
Interdepartmental charge for use of All-American Canal (Note 2)	334,499		334,499
Other	25,542	173,533	199,075
	10,880,801	30,551,560	41,432,361
OPERATING EXPENSES (Note 1):			
Cost of fuel		11,670,207	11,670,207
Purchased power		5,655,619	5,655,619
Other power expenses (Note 4)		4,827,914	4,827,914
Interdepartmental charge for use of All-American Canal (Note 2)		334,499	334,499
Operation and maintenance of All-American Canal	701,750		701,750
Operation and maintenance of water system and dams	5,442,752		5,442,752
General and administrative expense (Note 5)	1,369,626	1,877,734	3,247,360
Provision for depreciation	1,014,049	3,164,218	4,178,267
	8,528,177	27,530,191	36,058,368
Net operating revenues	2,352,624	3,021,369	5,373,993
OTHER REVENUES (EXPENSES):			
Interest income	307,644	329,025	636,669
Interest expense on electric revenue bonds		(252,163)	(252,163)
Other, net	(16,598)	32,861	16,263
	291,046	109,723	400,769
NET REVENUES RETAINED TO FINANCE OPERATIONS AND PLANT ADDITIONS	$ 2,643,670	$ 3,131,092	$ 5,774,762

COMBINING STATEMENT OF CHANGES IN FINANCIAL POSITION

FOR THE YEAR ENDED DECEMBER 31, 1976

	Water Department	*Power Department*	*Combined*
CASH BALANCES, beginning of year	$ 7,097,406	$ 6,642,223	$13,739,629
SOURCES OF CASH:			
Net revenues from operations	2,643,670	3,131,092	5,774,762
Add non-cash items:			
depreciation expense charged to -			
Net revenues	1,014,049	3,164,218	4,178,267
Clearing accounts	356,617		356,617
Provided by operations	4,014,336	6,295,310	10,309,646
Increase (decrease) in -			
Accounts payable	670,026	(554,305)	115,721
Customers' service deposits, advances and contributions in aid of construction	327,840	44,766	372,606
Deferred credits and other, net	(129,849)		(129,849)
Accrued vacation pay	10,467	(32,860)	(22,393)
Advances from other agencies for operation of All-American Canal	9,200		9,200
	4,902,020	5,752,911	10,654,931
USES OF CASH:			
Net plant additions	4,727,129	4,049,173	8,776,302
Increase (decrease) in -			
Accounts receivable, net	35,787	8,412	44,199
Inventories	61,692	(81,279)	(19,587)
Prepaids	458,652	189,258	647,910
Other assets	885,097		885,097
Payments on electric revenue bonds		1,464,000	1,464,000
Payment on All-American Canal obligation	709,799	40,801	750,600
Decrease in accrued interest payable		21,171	21,171
	6,878,156	5,691,536	12,569,692
INCREASE (DECREASE) IN CASH	(1,976,136)	61,375	(1,914,761)
CASH BALANCES, end of year	$ 5,121,270	$ 6,703,598	$11,824,868

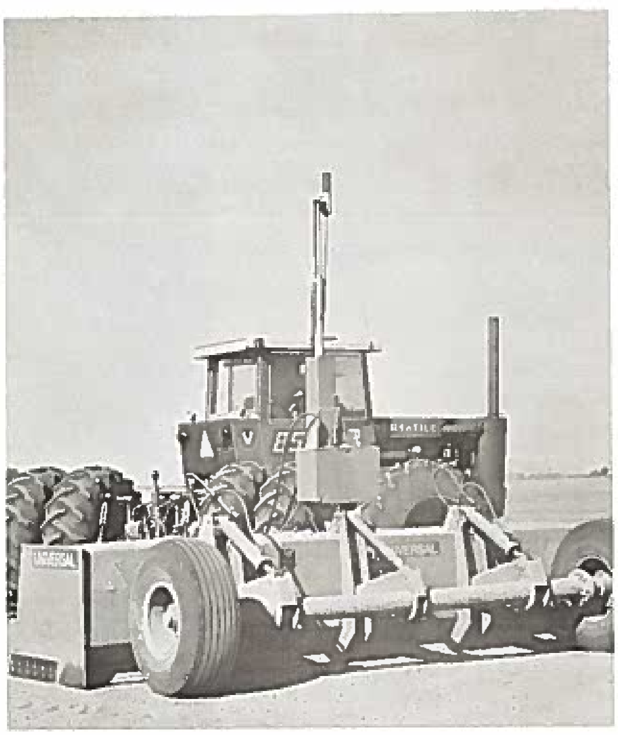
WATER CONSERVATION

Water

It's a precious resource, one which transformed Imperial Valley from a barren desert into the vast agricultural empire it is today. Now, more than ever, it must not be wasted.

Ample storage on the Colorado River has protected Imperial Valley water users from the severe drought experienced by the rest of the state. California's Constitution, however, requires that "the water resources of the State be put to beneficial use to the fullest extent of which they are capable," and that the waste or "unreasonable use" of water be prevented.

Although the Salton Sea is dedicated by presidential proclamation as a repository for agricultural sewage, its continued rise, aggravated by an additional nine inches contributed by September storms, acts of God, has made it necessary to exert every reasonable effort to reduce its level as much as possible.



Imperial Valley farmers are doing their part toward water conservation by installing sprinkler systems, concrete lining their own head ditches, and releveling their land with such accurate and sophisticated devices as the laser land leveler, pictured.

13-Point Conservation Program Initiated

To accomplish these objectives, Imperial Irrigation District authorized and funded a 13-point water conservation program, effective July 1, 1976.

The program, among other things, provided for construction of a 600-acre-foot water conservation storage reservoir, the second of its kind on the main canal system. It is designed to store water above the No. 8 Heading on the Westside Main Canal for release as needed for beneficial use by farmers below the heading. The major portion of this structure will be constructed during 1977. A third reservoir is included in the program for construction sometime in the future.

The program also applies a triple charge assessment for all water ordered and received in a 24-hour period where 15 per cent or more of that water was measured as runoff from the field under irrigation. Two separate measurements are taken at least nine hours apart.

Seven additional water-regulating personnel were provided for by the program, and they and regular zanjeros and hydrographers began checking field surface spill August 9, 1976. For the remainder of the year, of the 10,018 heads of water checked for excessive runoff, there were 1,809 heads found to be running off 15 per cent or more of the water delivered. After the second check, 505 heads were assessed the triple charge.

The water conservation program was discontinued from September 10 to October 1, 1976, because of the two storms in September.

All but two of the items in the program were put into operation and were being carried on at the end of the year.

Pump-Back Systems, Evaporation Ponds Planned

On May 18, 1976, the board of directors authorized $95,000 to begin a systematic program for pump-back systems, including design and installation, and to pond drainage water on certain river bottom lands as a means of increasing evaporation rate of drainage water.

WATER CONSERVATION

Irrigation Efficiency Studied

Imperial Irrigation District and the U. S. Department of Agriculture, Imperial Valley Research Center, Brawley, entered into a cooperative project to evaluate on-farm irrigation efficiency under conventional soil and water mangement and the effect and applicability of new soil and water mangement practices.

Not only will this study help determine how to use water more efficiently, it will also determine how much water various crops need. A water quality and soils specialist was hired to coordinate the program on behalf of the District.

This type of study has not been made previously in Imperial Valley, and the District plans to make the information available to farmers to help them adjust their irrigation management practices for more efficient water use.

District personnel check a recorder at the tail end of a field as part of the irrigation efficiency study. The recorder keeps a seven-day record of surface field discharge.

The District's water conservation program provided for construction of a second large reservoir on the main canal system. This reservoir, the J. M. Sheldon Water Conservation Storage Reservoir, is pictured on the horizon; remote control facilities, which prevent operational spill, are in the foreground.

WATER

Beneficial Use--A Must

"Beneficial use" has become a key phrase today in discussing matters pertaining to water.

To promote beneficial use and conservation of water, the Imperial Irrigation District board of directors in June increased water rates by 75 cents per acre-foot, effective July 1, 1976, with the funds so derived to be used to implement a water-conservation program.

Tropical Storm "Kathleen"

Of all the events which took place in 1976, the most devastating was tropical storm "Kathleen," which hit Imperial Valley September 10 with strong winds and heavy rainfall.

The worst storm in decades, it roared in from the west and caused extensive damage to the Westside Main Canal and laterals in the El Centro-Calexico, Imperial and Westmorland Divisions. District crews worked around the clock rebuilding the Westside Main Canal and had service restored to the City of Westmorland by September 16. The District had storage facilities to provide ample water supply for the city during the period the Westside Main was out.

The rainstorm which struck the north end of Imperial Valley on September 23, coupled with the runoff from rain in the mountains above the Coachella Canal, caused extensive damage in the Niland-Calipatria area. The East Highline Canal from "N" Check to Lateral 6 was completely destroyed. District crews, using rented equipment, rebuilt this section of the East Highline and restored water service by September 28. There was sufficient storage to provide water during the interim.

By the end of the year, it was estimated that 90 per cent of the repair work to the irrigation system had been completed.

Salton Sea

Salton Sea rose 8.50 inches as a result of the two September storms, wiping out the progress made in lowering the elevation during the first two months of the water-conservation program.

Located in Riverside and Imperial Counties, Salton Sea is the repository of drainage and storm runoff water from both counties and from the Mexicali Valley, Baja California, Mexico. The present salinity of the sea is slightly greater than ocean water, with 52.40 tons of salt per acre-foot of water compared to the ocean's 47.80 tons.

The continued rise in the surface elevation of Salton Sea is causing serious drainange problems in the cultivated areas adjacent to the sea. The lowest water-surface elevation for the year was -230.05 on January 1 and the highest was -228.65 on October 1.

Favorable Salt Balance Maintained

For the 26th consecutive year, a favorable salt balance was maintained in Imperial Valley soils as 33.65 per cent more salt was discharged through the District's drainage system than was brought into the Valley by Colorado River water. This favorable salt balance results from the installation of 22,934 miles of underground drain tile in individual fields since 1929, 1,531 miles of which were installed in 1976, an all-time record.

About the System

The District's gravity-flow canal and drainage system serves an area of 502,248 acres of irrigated farmland. The total gross area within the District's boundaries is 1,062,290 acres, including undeveloped area; cities, towns, airports, feed lots, etc.; area below the -230 contour Salton Sea Reserve boundary and areas covered by Salton Sea; and area in canals, drains, rivers and railroads.

The Water Department's responsibilities include operation and maintenance of the 80-mile-long All-American Canal, 49 miles of the Coachella Branch of the All-American Canal, 3 miles of New Briar Canal, a 1,629-mile network of other main canals and laterals, 52 miles of drains in the All-American Canal Section and 1,401 miles of main and lateral drains in the Imperial Unit.

Water is diverted from the Colorado River at Imperial Dam through the All-American Canal for transporting to Imperial, Yuma and Coachella Valleys. All water passing below Drop No. 1 in the All-American Canal is for use by Imperial Irrigation District.

The total diversion through the All-American Canal headworks was 4,879,512 acre-feet, including 183,159 acre-feet used in desilting operations and returned to the Colorado River. Water diversions for all agencies served by the All-American Canal totaled 4,696,353 acre-feet, a decrease of 225,385 acre-feet from 1975.

Diversions to the District below Drop 1 totaled 2,783,630 acre-feet. Comparable figures for 1975 and 1974 were 3,001,207 and 3,072,327 acre-feet, respectively.

AGRI-BUSINESS

Crops flourish in Imperial Valley, but so do pests. Control of these pests through such means as crop dusting makes Imperial Valley's abundant harvest possible.

RECAPITULATION

	1976	1975
APIARY	$ 960,000	$ 1,047,000
SEED AND NURSERY CROPS	15,355,000	10,780,000
LIVESTOCK AND DAIRY	113,432,000	127,224,000*
FIELD CROPS	265,783,000	215,967,000
VEGETABLE CROPS	121,806,000	142,288,000
FRUIT AND NUT CROPS	3,380,000	2,896,000
TOTAL	$520,716,000	$500,202,000

**Revised*

MILLION DOLLAR CROPS

	1976	1975
CATTLE	$107,038,000	$122,027,000
ALFALFA	100,327,000	57,474,000
LETTUCE	69,365,000	75,180,000
COTTON	50,988,000	25,641,000
WHEAT	50,801,000	43,560,000
SUGAR BEETS	37,800,000	57,296,000
CANTALOUPES	14,071,000	11,069,000
PASTURE	10,876,000	6,908,000
TOMATOES	9,836,000	13,892,000
ASPARAGUS	8,685,000	8,822,000

	1976	1975
SORGHUM	$ 5,214,000	$ 5,674,000
SUDAN GRASS	5,169,000	3,075,000
CARROTS	5,062,000	13,630,000
SHEEP	4,459,000	3,938,000
SQUASH	3,518,000	1,157,000
ONIONS	2,553,000	4,521,000
WATERMELONS	1,861,000	2,911,000
LEMONS	1,662,000	773,000
ALFALFA SEED	1,606,000	1,346,000
BARLEY	1,094,000	1,100,000

Data supplied by Imperial County Agricultural Commissioner's Office.

POWER

Demand for Power Increases

After two years of near-zero growth due to conservation efforts, 1976 saw power system increase in demand for energy return almost to its historic level of 7 per cent a year.

The peak demand for energy in 1975 was 301,500 kilowatts and in 1976 was 321,200 kilowatts, an increase of 19,700 kilowatts.

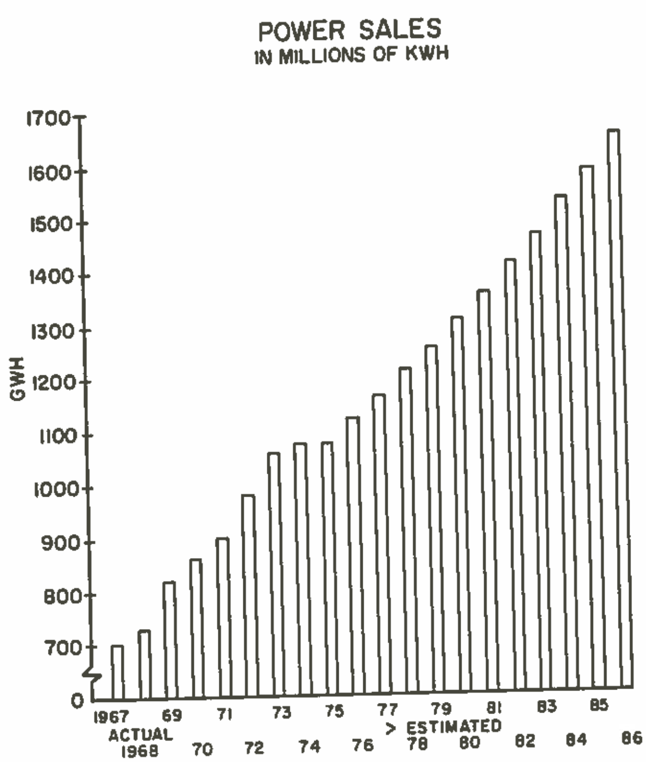
System Improved

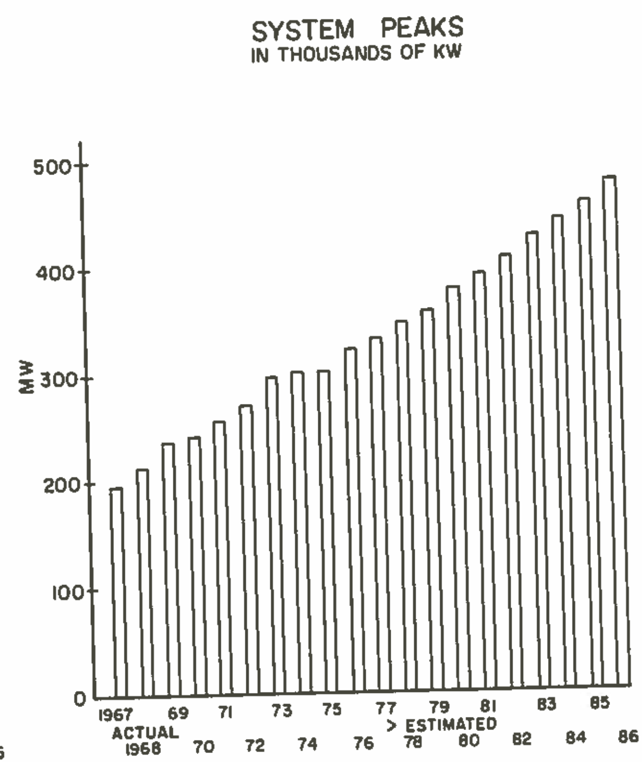
System improvements were begun to meet this newly-stimulated demand. During 1976 the Power Department constructed the Oakley Substation in Brawley, made various distribution and transmission line improvements, continued the cutover at the Monroe Substation in Indio from 4 kilovolts to 12 kilovolts, completed installation of a fourth gas turbine in Coachella and added capacitors to several substations and distribution lines.

Power Sales Up

Kilowatt-hour sales rose from 1,080,863,000 in 1975 to 1,118,758,900 in 1976, an increase of 37,895,900 or about 4 per cent. Revenue from power sales for 1976 totaled $30,330,120, an increase of $2,803,611 over 1975. Net revenue to be used for plant expansion and operation declined $998,937 to $3,211,409.

Power rates remained unchanged during 1976, but the reduction of the hydroelectric power available and the increase in fuel costs were reflected in higher bills to Imperial Irrigation District customers through the fuel and energy adjustment billing factor (Schedule FE). The average cost of electricity to residential customers rose from 2.67 cents per kilowatt-hour in 1975 to 2.86 cents per kilowatt-hour in 1976.





POWER

POWER SALES

		Per Cent 1976	Per Cent 1975
Ultimate Consumers			
Domestic	$13,018,380	42.9	43.9
Commercial and Industrial	15,122,236	49.9	48.8
Agricultural Pumps	1,169,682	3.8	4.1
Street Lighting	260,438	0.9	0.9
Public Authorities	571,206	1.9	1.7
Inter-Departmental	186,052	0.6	0.6
Total Ultimate Consumers	30,327,994	100.0	100.0
Other Utilities	700	0.0	0.0
Total Revenue	$30,328,694	100.0	100.0

ANNUAL RESIDENTIAL KILOWATT-HOUR USAGE

Average	12,341

156 less than 1975.

The El Centro Steam Plant, with its nameplate rating of 186,000 kilowatts, is the major source of power for the District's system. Pictured is its control room.

MAJOR DISTRIBUTION PLANT EXPENDITURES

Transformers	$ 319,088
Poles and Fixtures	349,490
Conductors and Devices	211,794
Meters	82,712
Services	79,968
Station Equipment	153,467
Underground	77,136
Street Lights	73,994
TOTAL	$1,347,649

AVERAGE NUMBER OF CUSTOMERS

Residential	36,954
Commercial and Industrial	7,075
Agricultural	763
Other	762
TOTAL	45,554

A gain of 579 over 1975.

POWER REVENUE

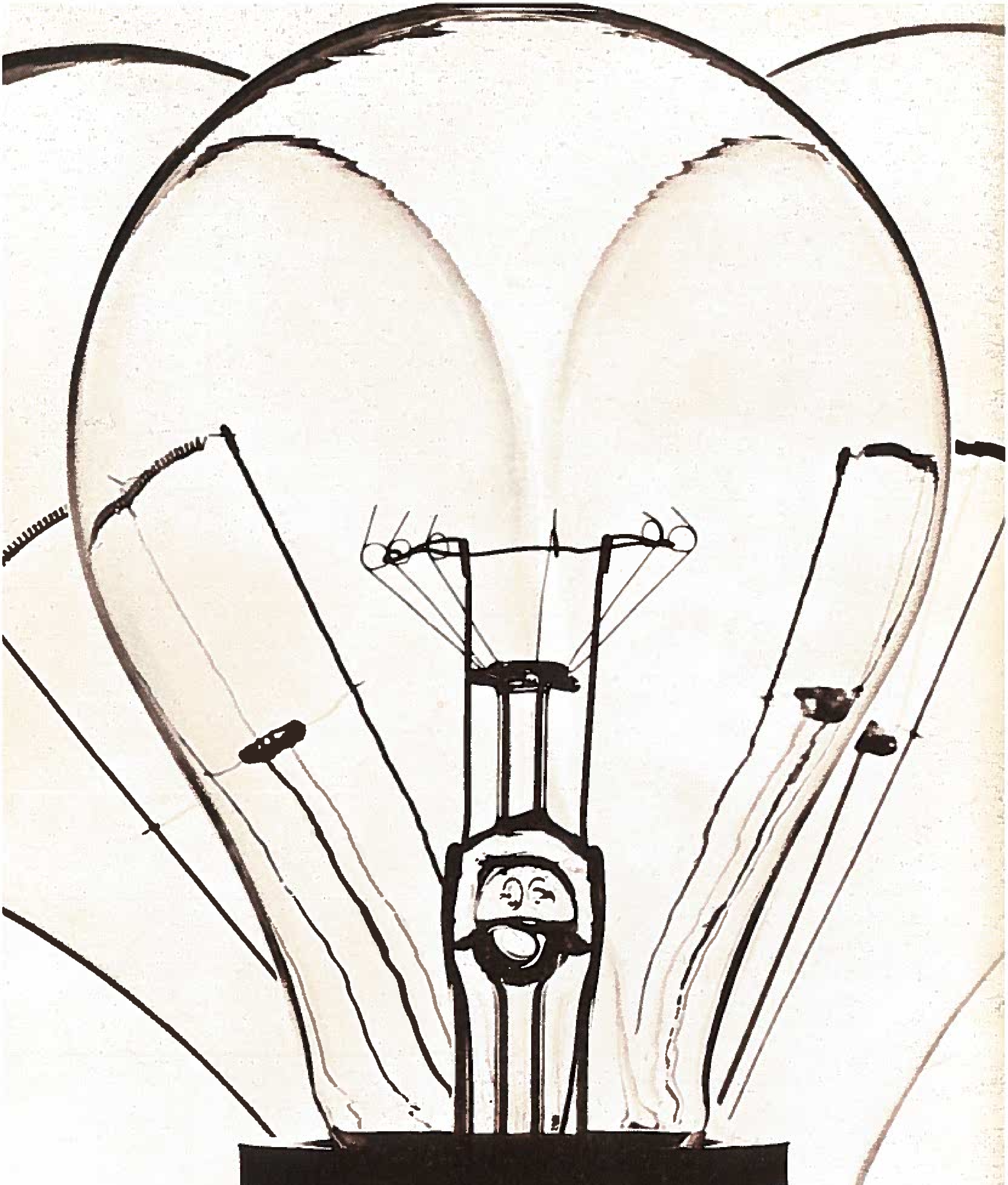
	1976	1975
Imperial Valley	$19,500,233	$17,589,113
Coachella Division	10,283,730	9,448,066
Colorado River	544,031	481,921
Total Retail Sales	30,327,994	27,519,100
Other Utilities	700	8,852
TOTAL	$30,328,694	$27,527,952

SOURCES OF POWER REQUIREMENTS

	1976	1975
Hydroelectric	20%	22%
Thermal	48%	47%
USBR	13%	19%
Axis	7%	9%
USBR-Excess	12%	3%

CAPITAL EXPENDITURES ON CURRENT ADDITIONS AND IMPROVEMENTS

Production Plant	$ 20,775
Distribution Plant	1,367,869
Transmission Plant	145,995
Engineering and Supervision	206,842
General Plant	14,030
Gas Turbines-Preliminary	2,279,237
TOTAL	$4,034,748



. . . leaves some for tomorrow!