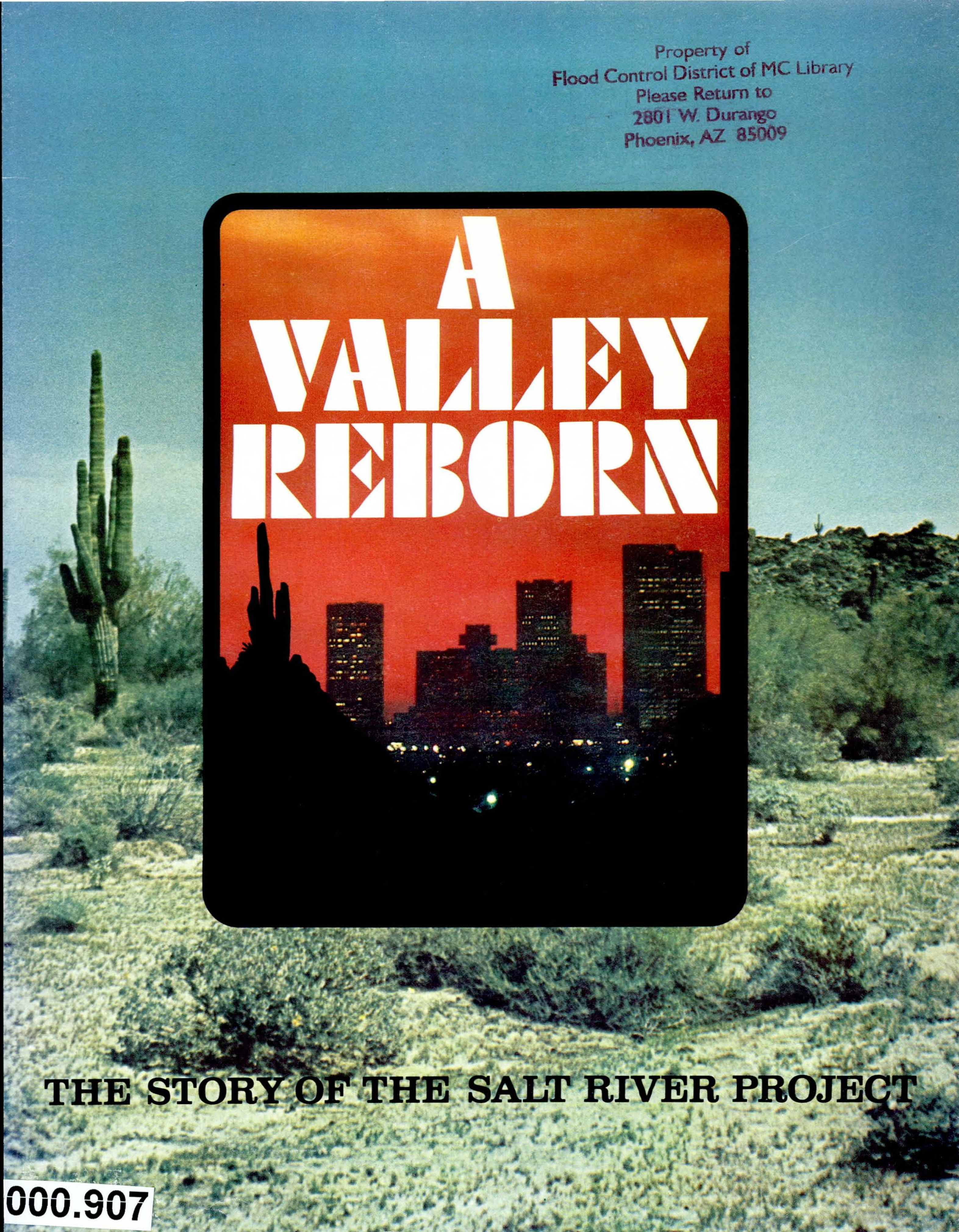


A VALLEY REBORN

THE STORY OF THE SALT RIVER PROJECT

Through the centuries, this desert valley has seen a parade of settlers, from prehistoric Indians to the white man, attempt to survive by quenching the thirst of the land with the life-giving waters of the Salt River. But time and again the desert sun unblinkingly stared the river down to a thin rivulet and the crops withered. There had been a time, which lasted for centuries, in which the Valley of the Sun bloomed. That successful reclamation effort was at the hands of the Hohokam Indians who began irrigating the land two or three hundred years before the time of Christ. Then, just before Columbus discovered America, these Indian farmers vanished—and the desert reclaimed their crop lands.

Building on the ancient idea, early white settlers tried irrigating the land with water from the river. But its flow was erratic. Torrential rains caused the river to wash away much of what man had established. At other times, the merciless sun brought droughts, denying the thirsty crops. Many of the settlers left. But some stayed. . .and it is they who eventually succeeded in seeing a valley reborn.

Cover: Water storage and development transformed the barren desert into a thriving metropolis
Above: Casa Grande Hohokam ruins

A valley reborn

Foreword

The Salt River Project is the nation's oldest and most successful multi-purpose reclamation development, providing a dependable supply of water and power for the greater Phoenix Valley. The Project delivers water to 250,000 acres of land and electricity to approximately 325,000 customers.

During 1977, the Project sold 10.3 billion kilowatt-hours (kwh) of electricity; 8.6 billion were generated by the Project and an additional 1.7 billion kwh were purchased from other utilities. This use of electricity is expected to total 14.7 billion kwh by 1985.

The six Salt River Project lakes are a major source of domestic and agricultural water for metropolitan Phoenix and provide a variety of recreational opportunities. Keystone of this water storage and delivery system is Theodore Roosevelt Dam, which was completed in 1911. The Project also operates a 1,300-mile transmission and distribution system for delivery of water to users.

Following the long-standing reclamation principle, the Project uses a small portion of electric revenues to help support water operations, thereby keeping water costs low. At the same time, the Project maintains reasonable and competitive electric rates. This combination of dependable power and water has enabled the economic development of this desert valley and has made Maricopa one of the most productive agricultural counties in the nation.

SRP managed by valley residents

Officers of the Salt River Project – the president, vice president and members of the board and council – are elected publicly by the landowners in the Project water service area. This system originated in 1903 when the founders of the Salt River Valley Water Users' Association pledged their lands as collateral for a loan to build Roosevelt Dam and related facilities. Each acre pledged was deemed to represent one share in the Association, one vote in SRP elections and one part of the total Project's debt. Under this system, known as debt proportionate voting, each fraction of an acre represents an equivalent fraction of a vote.

Board members establish policies for the management of the Project and the conduct of its business affairs, including setting electric rates and water assessments. Council members enact and amend bylaws relating to the conduct of the Project's business affairs.

The Salt River Valley

The Salt River Valley consists of nearly a half-million acres in central Arizona. It is semi-arid with alluvial soils suitable for agriculture; however, historically low rainfall makes irrigation a necessity. The surface water available to the Valley is provided by the Salt and Verde rivers, which are fed by a 13,000-square-mile watershed.

As long ago as 200 B.C., an ancient people, known as the Hohokam, farmed the fertile Valley, irrigating their lands from the Salt River. Canals built with stone hoes carried water from the river to their vegetable and cotton fields. Archaeologists estimate that the Hohokam may have built as many as 250 miles of canals in the Valley. The routes of these canals were almost the same as those of modern canals which were staked out with precision surveying instruments by engineers. This was the greatest irrigation achievement by ancient man on this continent. The Hohokams began to move out of the Valley, moving toward the Gila River. By 1400 A.D., for reasons that are still unclear, the Salt River Valley was abandoned.

Modern farming—and more recently large scale urban and commercial development—was not possible until storage dams were built on the Salt and Verde rivers to harness their erratic flow. These dams, built principally in the early years of this century, furnish water to a 250,000-acre area in the Valley known as the Salt River Project water service territory.

The dams and related facilities are operated by the Salt River Project Agricultural Improvement and Power District and the Salt River Valley Water Users' Association, which together form the Salt River Project. The Project is a nonprofit organization managed by landowners located within the SRP land area.

Birth of the Salt River Project

Irrigation creates a green valley again

The town of Phoenix originated in 1867 as a hay camp for the cavalry at Ft. McDowell.

Originally, John Y. T. Smith supervised harvesting and hauling of galleta hay which grew wild along the Salt River near 40th Street.

But it wasn't long before Smith, his wagon driver, John W. (Jack) Swilling, and others recognized that the prehistoric irrigation canals could be cleared and used to produce valuable crops for the military post.

The Swilling Irrigating Canal Company was organized in 1867, and in December of that year, a 17-man party began construction of the first modern canal. Success came quickly; the first crops were harvested by Frenchy Sawyer and Capt. John Adams in March, 1868. Homesteaders began to arrive, and by year's end there were 100 permanent residents. They settled in an area that William A. Hancock, a lawyer and surveyor, had staked out as the townsite of Phoenix. Hancock, recognizing the potential of the Valley, also surveyed new ditchlines.

More settlers migrated to the Valley and by 1888 more than 100,000 acres were under cultivation. New canals had to be built to carry water to the freshly-cleared farmland. Other canals and the years their construction began are: Maricopa Canal, 1868; San Francisco Canal, 1870; Tempe Canal, 1871; Utah Canal, 1877; Grand Canal, 1878; Mesa Canal, 1878; Arizona Canal, 1883; Highland Canal, 1888; Arizona Crosscut Canal, 1891; Consolidated Canal, 1892; South Canal, 1908; Eastern Canal, 1909; New Arizona Crosscut Canal, 1912; Western Canal, 1912; and Highline Canal, 1912. The Salt River Valley was well on its way to becoming the territory's agricultural center.

Building the Western Canal

Armed to protect water rights

Water problems arise

Because water handling methods were crude and diversion into various canals wasn't consistent, conflicts arose over water rights. Rock and brush dams that farmers built in the river to divert water into their canals were frequently washed out when heavy rains increased the river's flow. There were no facilities to store excess water from spring runoff, so it flowed past the Valley and was lost. During the summer months, the Salt River would dwindle to a trickle and crops would die.

The settlers realized that if they were to prosper in the Valley they would have to find some way to regulate the river's flow and to eliminate the constant conflicts and litigation regarding the water supply.

These problems became so critical at the turn of the century that many of the settlers left the Valley.

However, there were those who believed that farming could become highly productive in the area, and the Maricopa County Board of Trade named a committee to investigate the feasibility of a water storage system. Members of this committee presented a detailed report to a mass meeting of citizens in Phoenix. The reservoir site which seemed the most practical was located 80 miles from Phoenix where Tonto Creek flowed into the Salt River.

Such a reservoir, they announced, would cost from two to five million dollars. As a Territory of the United States, Arizona was prohibited from assuming such a large-scale debt. And private investors could not be induced to take on the financial risk necessary to construct the dam.

The National Reclamation Act becomes law in 1902

President Theodore Roosevelt realized the need for water development in the West was essential to the future prosperity of the nation. He also recognized that any large reclamation program would have to be financed by the federal government.

Through the lobbying efforts of George H. Maxwell and Benjamin A. Fowler and by virtue of government ownership of most of the land areas in the West, the United States enacted a National Reclamation Act on June 17, 1902. The act, originally known as the Hansbrough-Newlands Bill, provided that money from the sale of Western public lands would be made available for reclamation projects. The money would be paid back to the federal government out of water and power revenues from the projects.

Water Users' Association formed

But before the federal government would lend money for reclamation projects, it stipulated that all local differences between landowners had to be settled. The government was unwilling to deal with the landowners individually; a prerequisite to any loan was formation of an association of landowners.

The landowners in the Valley formed a 25-member committee to solve the almost impossible problem of bringing all concerned into agreement. Judge Joseph H. Kibbey framed the articles of incorporation which led to the formation of the Salt River Valley Water Users' Association, incorporated February 7, 1903, for the benefit of landowners who pledged their lands as collateral for the loan.

The Association would ensure that the rights to water stored by Roosevelt Dam (known since 1961 as Theodore Roosevelt Dam) be equally available to all members; the cost of construction and the assessments would also be distributed equitably, not withstanding the use or non-use of water. The Association also provided a central organization which could assume, at a future date, the responsibility for the operation and management of the Project. Additionally, the formation of the Association provided landowners with an organization which would represent them in negotiations with the U.S. Reclamation Service, guarantee repayment of construction costs to the government, and enforce collection of each installment of these costs from individual landowners.

The agreement with the government was signed on June 25, 1904, by B.A. Fowler, first elected president of the Salt River Valley Water Users' Association, Frank H. Parker, Association Secretary, and U.S. Secretary of the Interior, Ethan H. Hitchcock.

Need for electrical power anticipated

The original plan for the dam was solely for storage and control of water. However, in 1904 the U.S. Reclamation Service (USRS) began construction of a 20-mile-long power canal. Two years later the USRS installed a temporary 900 kilowatt (kw) hydroelectric generator to supply the power for the construction of the dam. Most of this power would be needed for the operation of a cement mill to be constructed at the dam site. Then, in 1907, the USRS installed a permanent 900 kw unit. But it was not until September 30, 1909, that the first power was delivered from the dam site to Phoenix. The USRS subsequently recommended additional generating capacity to operate wells in the Valley, supplementing the water supply stored by the dam. Surveys indicated that only about 160,000 to 190,000 acres of the 250,000 acre Salt River Project land area could be irrigated with stored water. It was estimated that 60,000 more acres could be irrigated by developing power to pump underground water or to lift water to areas too high to be served by the gravity system.

Carving out the Apache Trail

Roads to the dam site had to be built before excavation for the dam could begin. One of these roads went to a sawmill in the Sierra Ancha Mountains; there, pines were logged to provide lumber needed for construction work.

The most difficult road to build was on the Mesa-Roosevelt Road (now called the Apache Trail). But the road was mandatory because all machinery needed for construction of the dam had to be freighted in from the town of Mesa, 60 miles from the dam site. Building this road through rugged canyons and across tortuous mountains was an engineering feat itself. The road was completed in 1904 at a cost of more than a half-million dollars. Still, it was little more than a two-rut trail used by mule teams pulling huge wagons.

Roosevelt Dam construction begins

Construction of the dam began in 1905. Between 1905 and 1912, the 900-kw generator on the power canal was moved to the dam and four more 900-kw generating units were installed in the dam, bringing the total capacity to 4,500 kw. The dam's generating capacity was increased three more times and today it can produce 36,000 kw.

The construction of the dam itself was a technique called cyclopean rubble. The faces of the dam were constructed from hand-hewn stones to give a finished appearance. In between the faces, the dam was filled with large boulders and mortar. Louis C. Hill, USRS engineer, supervised actual construction of the dam, including the cutting of about 350,000 cubic yards of stone from the side of the mountain.

Roosevelt Dam, the world's highest masonry dam, is 184 feet thick at the base, 16 feet wide at the crest, and rises 280 feet.

Its reservoir, Roosevelt Lake, had a capacity of 1.28 million acre-feet. Later, spillway gates were added, increasing the capacity of the lake to 1.38 million acre-feet. When filled, Roosevelt Lake has a shoreline of more than 88 miles.

Costs exceed expectations

During the building of the dam and related facilities (which included Granite Reef Diversion Dam and transmission canals and laterals), costs far surpassed the original estimates. By June 30, 1912, expenditures had totaled $9,508,831 and were still growing.

Members of the Water Users' Association complained so bitterly that the Secretary of the Interior appointed a Central Board of Review to study all the costs. By 1917, it was agreed that the amount to be reimbursed to the federal government by the Association would be $10,166,021.

In spite of the fact that the costs to shareholders amounted to $60 per acre—substantially more than the original estimate—this loan from the federal government was repaid by October, 1955.

Granite Reef Diversion Dam completed in 1908

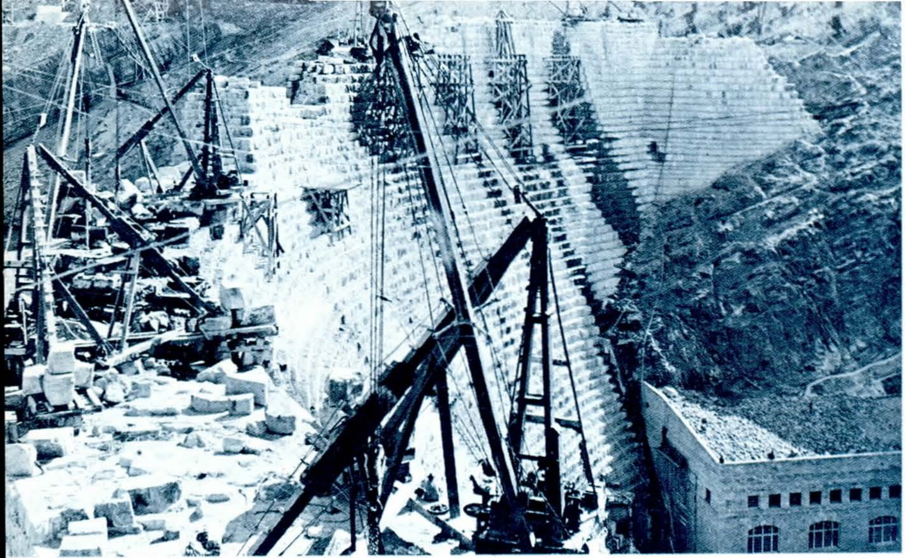
During the construction of Roosevelt Dam, Granite Reef Diversion Dam was built about 50 miles down river, directly below the confluence of the Verde and Salt rivers. Only 29 feet in height but 1,000 feet long, Granite Reef was completed in 1908. Its purpose is to divert water, released from the reservoirs, into the canals north and south of the river for delivery to water users within the Project. No power is generated at Granite Reef Dam.

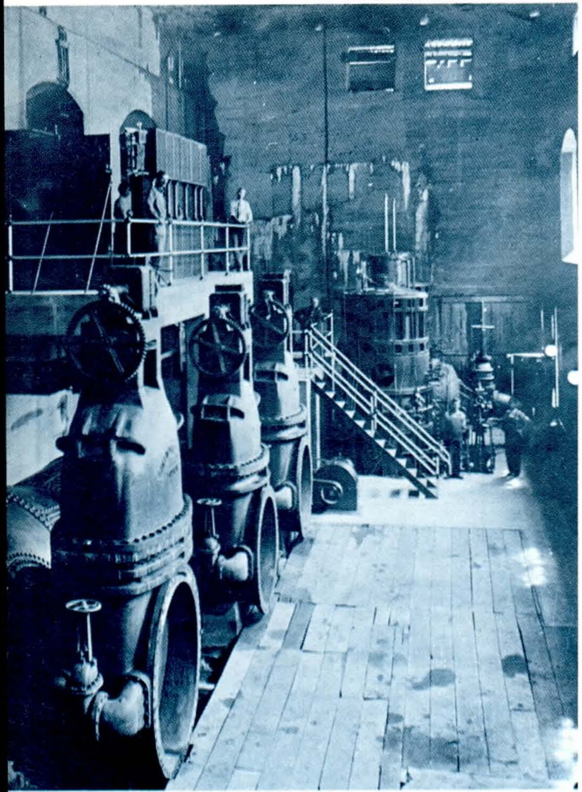
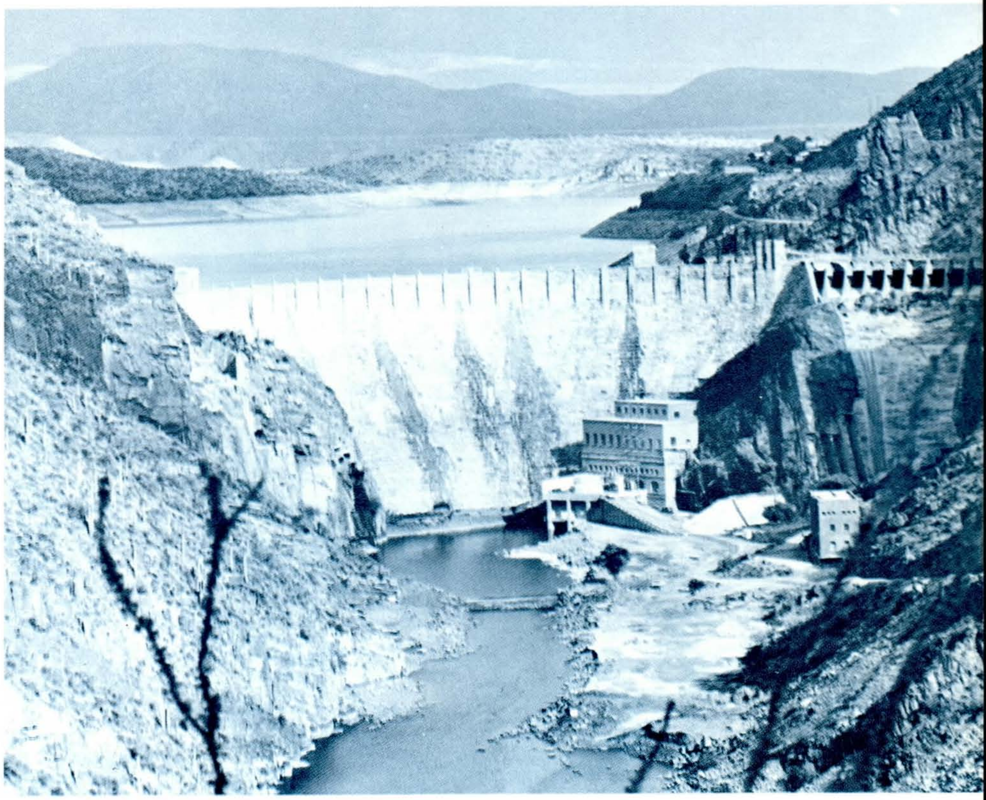
Water rights controversy rages

Disputes over water rights continued, even though the Water Users' Association had been formed. The articles of incorporation for the Association did not determine the prior water rights of individual landowners; nor were these rights defined in the contract between the Association and the federal government. All landowner members of the Association, having signed a water right application with the

OPPOSITE:

Clockwise from upper left, Roosevelt Dam under construction; the cutting of the first stone laid for the dam face; Roosevelt Dam today; Granite Reef Diversion Dam; and the power house of Roosevelt Dam shortly after completion.




United States, had equal rights to water stored behind the dam and water developed by deep wells drilled for use in the Project area.

Then there were separate water rights for lands designated as townsite lands by the Secretary of the Interior. These rights were firmed up later under the reclamation law by the Act of April 16, 1906. As a result, the cities and towns within the Project could obtain water under a special contract. The water would be provided in an amount considered necessary by the Project, the charges not to be less nor the terms more favorable than for other lands in the Project.

Landowners with old water rights, which had given them prior use of the water, were concerned over their possible loss of these rights. These landowners felt they should receive more water than other landowners, based on those rights. Patrick T. Hurley brought this problem to a head by filing a suit against Charles F. Abbott and numerous other landowners in 1905.

The federal government intervened as a party in the suit. The government sought to establish the water rights pertaining to each parcel of land and the date each landowner first used water for irrigation.

Kent Decree settles water disputes

On March 1, 1910, after five years of hearing evidence, Judge Edward Kent, Chief Justice of the Arizona Territorial Court, sitting as district judge, handed down a decision on the case, to become effective April 1. The decision, known as the Kent Decree, established the relative water rights and set up the principle of normal flow water rights.

Normal flow water rights are the rights to water that flows down a river. Kent's decree concerns lands which used water from the Salt and Verde rivers from 1869 to 1909.

Generally, the decree states that the land where water was first used has the first right to water flowing in the river. All rights were established chronologically from 1869 through 1909 based on continuous beneficial use of water. For example, land which used water beneficially in 1869 has the first right to water in the river, then land which used water beneficially in 1870, and so on up to 1909, until the flow of the river is completely consumed. When river flows were low, only the lands with the earliest water rights could utilize the so-called normal flow water. The rights to flow water are over and above rights to stored and developed water to which all landowners in the Project, as members of the Association, are entitled.

Kent's decree satisfied the landowners holding old water rights, providing them with additional water by virtue of prior use. Even today, those who hold these older lands are entitled to this normal flow water when it is available.

Landowners' Association assumes operation of the Project

During the years that the Salt River Project was operated by the USRS, members of the Water Users' Association became concerned with operational procedures. A meeting was set for February 20, 1917, to discuss the situation.

At the meeting, Interior Secretary Alexander T. Vogelsang told the delegation that the government was willing to turn operation of the Project over to the Association. He suggested that a contract be worked out so that the Association could assume all future expenditures in operation and control of the Project and repay the entire cost of the Project to the federal government. He added that all power receipts could be used by the Association in any way it saw fit. The delegation of Congressman Carl Hayden; John Orme, president of the Association; and Judge Joseph H. Kibbey, who acted as counsel for the Association, agreed.

The contract was drawn up on September 6, 1917. The Association took over the operation of the SRP on November 1, 1917, and from that time assumed full responsibility for its care, operation, maintenance and management. At that time, the Project consisted generally of Roosevelt Dam, Granite Reef Diversion Dam, irrigation canals, laterals and ditches.

Landowners seek to lower costs

Economy and efficiency became the goals of the Association as it took over operation of the Project.

The importance of electric power revenues had already become obvious. Five 900-kw generators were in operation at Roosevelt Dam, two 1,200-kw generators were located at the South Consolidated Canal power plant, one 500-kw generator was located on the Arizona Canal at Arizona Falls, and six 800-kw generators had been installed at the Crosscut Power Plant at the beginning of the Grand Canal in what is now northwest Tempe.

One of the first moves the Association made when it assumed control of the SRP was to install a 600-kw hydroelectric generating unit at the Chandler power plant on the Tempe Canal north of Mesa. This was done to increase revenues from sale of power and to increase the power available to pump water.

The Project had studied various methods for increasing the available supply of irrigation water; additional pumping facilities was one. Another method was to create additional storage capacity.

In 1922, after complete investigation of the feasibility of creating additional storage and generating

comes of age

capacity, the SRP decided to construct two additional dams on the Salt River.

Construction begins on the Salt

The first of these dams, Mormon Flat, was built between 1923 and 1925. Located downstream from Roosevelt Dam, Mormon Flat Dam created Canyon Lake with a water storage capacity of 57,582 acre-feet (af). A single 10,000-kw generating unit was installed at the dam.

Prior to the construction of Mormon Flat, water from Roosevelt had to be released only to match farmers' irrigation needs. Often this pattern was not the best for the generation of power. Mormon Flat provided a re-regulation of water so that improved generating procedures were possible at Roosevelt.

Mormon Flat Dam, which was constructed at a cost of $2.5 million, was named for a small Mormon community once located at the site.

By 1971, a pumped-storage generating system had been installed at Mormon Flat Dam which increased the generating capability of that dam to 54,000 kw.

Horse Mesa Dam built by 1927

In 1924, shortly after the Project began building Mormon Flat Dam, construction started on a third dam. This dam was named Horse Mesa Dam because it was built near a mesa allegedly used for hiding stolen horses.

Horse Mesa Dam, located halfway between Roosevelt and Mormon Flat dams, forms a reservoir with a storage capacity of 245,138 af. This 17-mile long reservoir is called Apache Lake.

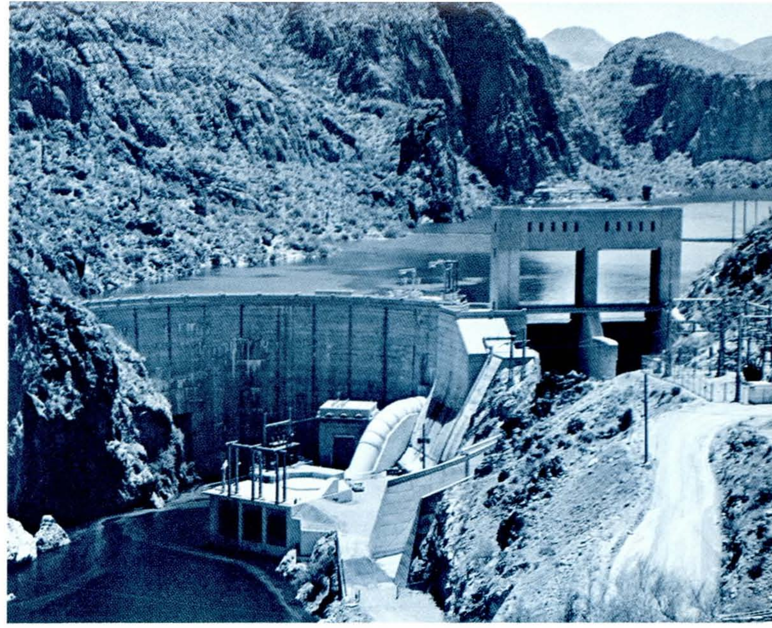
The three 11,000-kw hydroelectric generating units at the dam made it the largest generating station then in the Project's hydroelectric system. The power was developed primarily for the Inspiration Consolidated Copper Company, in Miami, Arizona.

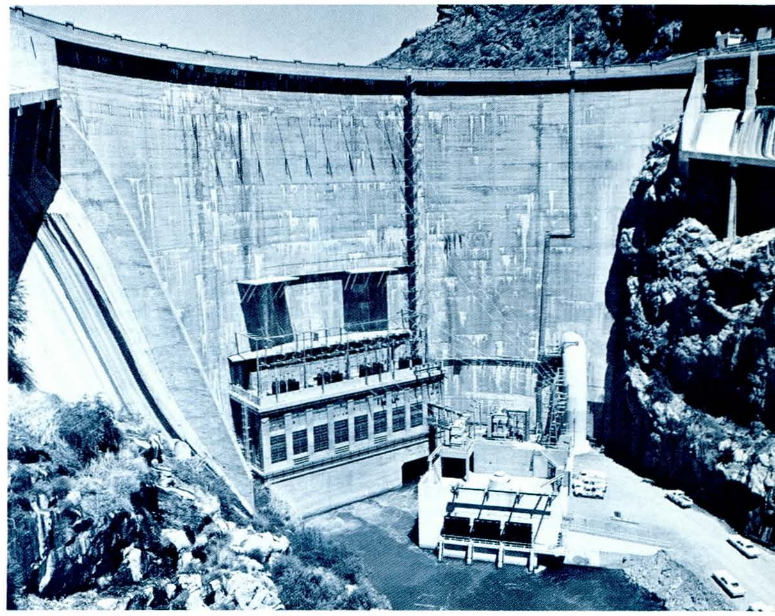
Cost of the dam, $5.3 million, was financed through the sale of bonds.

In 1972, a pumped-storage generating system was completed at the Horse Mesa Dam, increasing the generating capability of that dam to 129,000 kw.

Stewart Mountain Dam constructed

Stewart Mountain Dam was built during 1928-30 to provide more water storage facilities and more sophisticated regulation of water used in the generation of power in the three dams already constructed.


Mormon Flat Dam


Horse Mesa Dam

Stewart Mountain Dam

The dam, which cost $2.8 million, was named for its proximity to Stewart Mountain, landmark of the old Stewart Ranch. The reservoir created by the dam is named Saguaro Lake and has a capacity of 69,765 af.

Stewart Mountain Dam was constructed with a hydroelectric generating unit capable of producing 10,500 kw. Today the dam can produce 13,000 kw. This electric development also was financed privately through the sale of bonds. Principal and interest payments on the bonds were assured by revenues from the sale of power to Central Arizona Light & Power Company, the predecessor of Arizona Public Service Company.

Power use spreads

As time went on, farmers in the rural areas of the Valley sought the same power service that private utilities furnished to residents in the cities. However, it was not economically feasible for the private utilities to build power lines to serve a few customers in the sparsely-settled rural areas.

The Project, responding to the requests of its farmer-members, began to build lines in 1928-29 to supply these customers with electricity. This was another reason why Stewart Mountain Dam was built; to help provide power to SRP shareholders. At the same time power developed at the dams was also sold to the copper mines in the Globe-Miami area, and wholesaled to private utilities serving the Salt River Valley.

Power District formed

In 1937, the Salt River Project Agricultural Improvement and Power District was formed with boundaries and interests practically identical to those of the Association. Formation of the District secured the rights, privileges, exemptions and immunities granted political subdivisions of the state. And most important, formation of the District made possible refinancing of outstanding Association bonds at a lower rate because interest on bonds issued by public agencies are tax exempt.

Under contract, all Association properties were transferred to the District, but the Association continued to operate all of the Project as agent of the District. In 1949, the contract was amended to provide for the District to assume operation of the electrical system. The Association has continued to operate the irrigation system for the District. Although legally there are two separate organizations, practically they function as one, commonly known as the Salt River Project.

Bartlett – the first dam on the Verde

When the District was formed the first dam on the Verde River, Bartlett, was under construction. The dam, constructed during the years 1936-39, was the first step to control the flow of the Verde. Bartlett was built by the federal government but the Salt River Project agreed to pay 80 percent of the total cost of $4,735,064.

Bartlett Dam has a maximum storage of 178,185 af and no hydroelectric generating facilities.

Horseshoe Dam is built

Horseshoe Dam, above Bartlett on the Verde River, was constructed during the years 1944-46 at a cost of approximately $2.5 million.

Phelps Dodge Copper Corporation financed this construction under a contract with the Salt River Project. In exchange for financing, Phelps Dodge earned water credits for a portion of the runoff impounded behind Horseshoe Dam.

Spillway gates were added to the dam in 1949 at a cost of $925,000. This was paid by the City of Phoenix. As a result, the domestic supply was increased through water credits.

Horseshoe Dam is capable of impounding 139,238 af of water. It has no generating capacity.

Bartlett Dam

Horseshoe Dam

Growth of the Salt River Project

Lawns begin to replace crops

During and just after World War II, the Valley and the Project entered a period of unequaled growth that has not subsided to this day. When Phoenix and the surrounding communities began to grow, subdivisions began to replace farmland and lawns began to replace agricultural crops as users of irrigation. While this sudden spurt of growth affected the patterns of water distribution, the greatest impact was on the electrical service.

In 1947 there were only 12,400 SRP electric customers; by 1980 there were approximately 325,000. Sources of electricity had to be found for these new power customers. In the late 1930s and early 1940s, the Crosscut Generating Station was expanded to a maximum generating capacity of 47,000 kw, a total which included hydro, steam and diesel generation.

But this was insufficient to meet the rapid growth of electric demand. The situation was complicated by an extended drought that curtailed most hydroelectric generation. As a result, a fourth steam unit, with a capability of 8,000 kw, was installed at Crosscut in the late 1940's.

Some units were retired later and Crosscut now has a capability of 32,000 kw.

In 1941, the USRS completed transmission lines from Parker Dam, on the Colorado River, to Phoenix. The Project then received 30,000 kw of additional power to provide for the growing need for electricity among SRP customers.

Pump water rights set

In 1948, due to a continuing drought and a scarcity of stored water, a program was advanced by the Project to develop additional underground water. Known as the SRP Pump Water Priority Proposal, it was designed to furnish funds to provide additional underground water for all Project landowners who desired to acquire a pump right.

This program is still in effect. The pump water right is a permanent right to buy water from pumps if and when it is needed. The cost of pump water is based on the actual expense of pumping and delivery.

Domestic water supply contracts established

As the metropolitan development in the Valley grew, lands went out of agricultural usage and the need for city water began to expand. SRP now provides the city of Phoenix with a major portion of its total water supply.

This arrangement was made possible by contract between the city of Phoenix and the Project in 1952. The city pays the Project the annual assessment for urban acreage which is no longer irrigated. In turn, the water to which this urban acreage is entitled is delivered by the Project through its transmission system to the Phoenix water filtration plants.

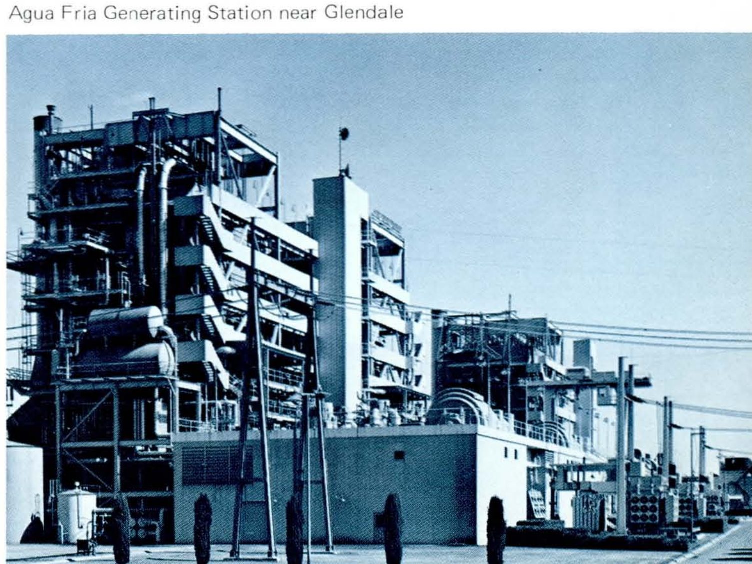
Other cities which have similar domestic water supply contracts for surface and underground water are: Tempe, Glendale, Mesa, Scottsdale, Chandler, Peoria and Gilbert. These contracts provide cities within the Project boundaries with a stable water supply at the same rate as irrigation customers. In this way cities avoided the added costs for transporting the water from a distant source or of additional pumping.

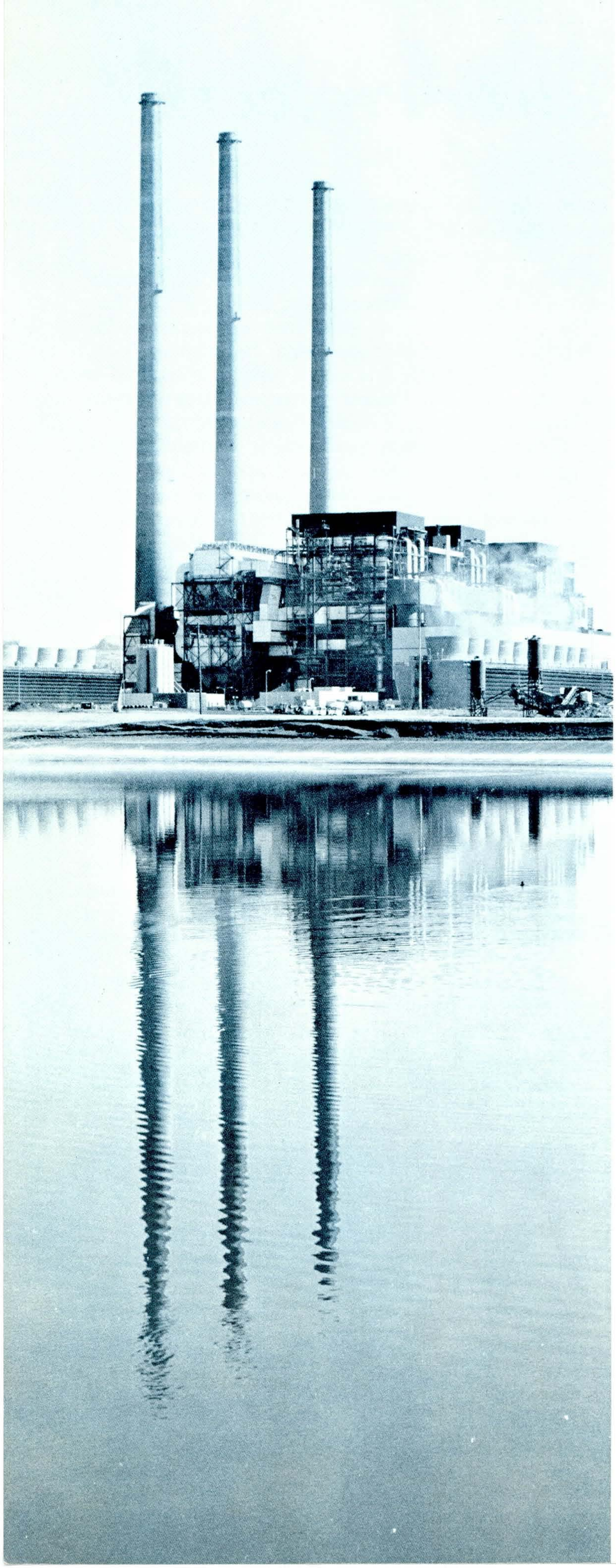
Developing power for Arizona

The Project began construction of the Kyrene Generating Station in 1952 to keep up with the growth of the Valley and expanding demands of power customers. The station had two natural gas-fired generators – one a 34,000-kw unit and the other a 70,000-kw unit. The capability of Kyrene Generating Station has been increased since then and in 1977 totaled 284,000 kw; this capability includes four combustion turbine generators. Fuel for the station, which is located in Tempe, is now primarily oil as natural gas has become difficult to obtain.

In 1957, the Project began construction of the

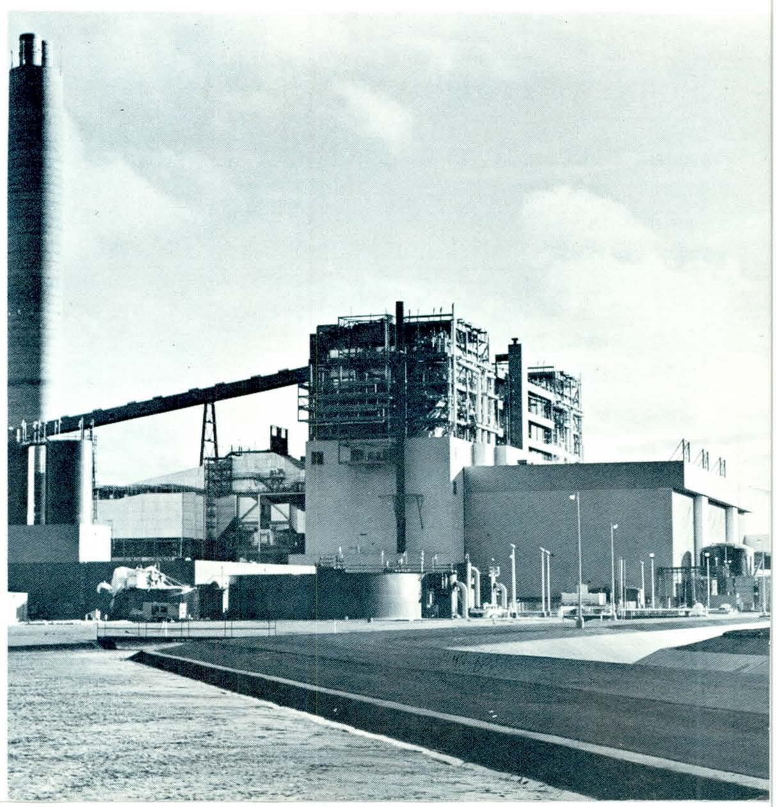
Agua Fria Generating Station near Glendale





Navajo Generating Station near Page produces 2,250,000 kilowatts from its three units. The $650-million station was completed in 1976. One-third of its cost went toward environmental protection.

Coronado Generating Station near St. Johns will consist of three 350,000-kilowatt units when completed. The first unit began commercial operation in 1979; the second in 1980.



Agua Fria Generating Station, west of Glendale. Two 109,000-kw steam turbine generators were installed initially; a 180,000-kw unit was added in 1961. By 1977, the station had a total generating capability of 596,000 kw, including 198,000 kw from three combustion turbines.

Purchase power agreements signed

In 1961, the Project signed an agreement with the Colorado-Ute Electric Association, Inc., for the purchase of power from a coal-fired generating station being built at Hayden, Colorado. SRP was construction manager of the station. The first power from this source was delivered in 1965.

The Project also purchases power from Hoover Dam from the Arizona Power Authority; and from Parker-Davis and Glen Canyon dams from the Bureau of Reclamation.

Participating in regional growth

SRP, like many utilities, cooperates in extensive regional planning of generating and transmission facilities and coordination of its investments. Such joint planning makes it possible for utilities to realize the economic benefits of larger-scale installations, to use regional natural resources more prudently, and to achieve a greater degree of over-all environmental control per unit of capacity.

The Project and five Southwestern utilities invested in the construction of two large coal-fired units at the Four Corners Station, near Farmington, New Mexico. The Project receives 160,000 kw from this source.

The Project is also a participant in the 1.5-million-kw Mohave Generating Station, located in southern Nevada across the Colorado River from Bullhead City, Arizona. SRP's entitlement from this coal-fired station is 158,000 kw.

In addition to being a participant in the Navajo Generating Station near Page, SRP is station manager. The station produces 2,250,000 kw from three coal-fired units, with SRP receiving 488,250 kw.

At the Hayden Generating Station, in northwest Colorado, the Project is an 80-percent participant in the second 261,000-kw unit. Colorado-Ute Electric Association, Inc., the unit's other participant, owns the remaining 20 percent and will purchase an additional 30 percent of the unit from SRP in 1982.

Building Arizona's electric resources

SRP has constructed four 72,000-kw combined-cycle generating units at the Santan Generating Station near Gilbert, Arizona. The generators are comprised of a combustion turbine and a steam turbine on a common shaft. Exhaust of the combustion turbine is used to produce steam for the second turbine, utilizing heat which would otherwise be wasted.

In order to meet the anticipated growth of the Valley and residents' demand for power in the late 1970s and early 1980s, the Project is completing the construction of the coal-fired Coronado Generating Station near St. Johns, Arizona. The first unit at Coronado Generating Station began commercial operation on December 31, 1979, and by the end of 1980 the second unit will have joined the first. The third unit currently is scheduled to begin commercial operation in the late 1980s.

SRP is station manager and 70 percent owner of the first two units, and 100 percent owner of the third unit.

Los Angeles Department of Water & Power (LADWP) is 30 percent owner of the first two units. Upon completion of Palo Verde Nuclear Generating Station Unit 1, SRP assumes 100 percent ownership of CGS and LADWP receives 5.7 percent of PVNGS.

SRP also has a 29 percent participation in Craig Generating Station near Craig, Colorado, consisting of two 400,000-kw coal-fired units. The first unit went into service in late 1979. The second unit is scheduled for completion in late 1980.

Nuclear power comes to Arizona

SRP and three other utilities are participating in the construction of the Palo Verde Nuclear Generating Station near Wintersburg, Arizona, 40 miles west of Phoenix. The station will have three 1,270,000-kw pressurized water nuclear reactor units to be in service in time to meet peak demands in 1983, 1985 and 1987. The cooling water supply is expected to be from treated sewage effluent from the metropolitan Phoenix area.

Research and development essential to meet future demands

Over the years, the Project has contributed to utility research and development in two principal areas: the search for new sources of energy and efforts to make present electric generating transmission and distribution systems more environmentally acceptable. From 1977 until 1981, expenditures for research and development will increase from $1.1 million to more than $2 million per year. These investments support studies in many areas, including: solar, geothermal and nuclear energy; energy storage systems; development of fossil fuels; and advanced electrical transmission and distribution systems.

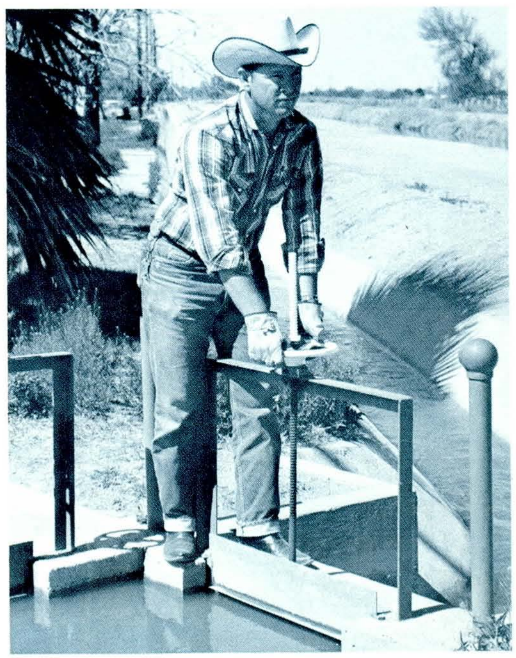
Environmental protection commitment

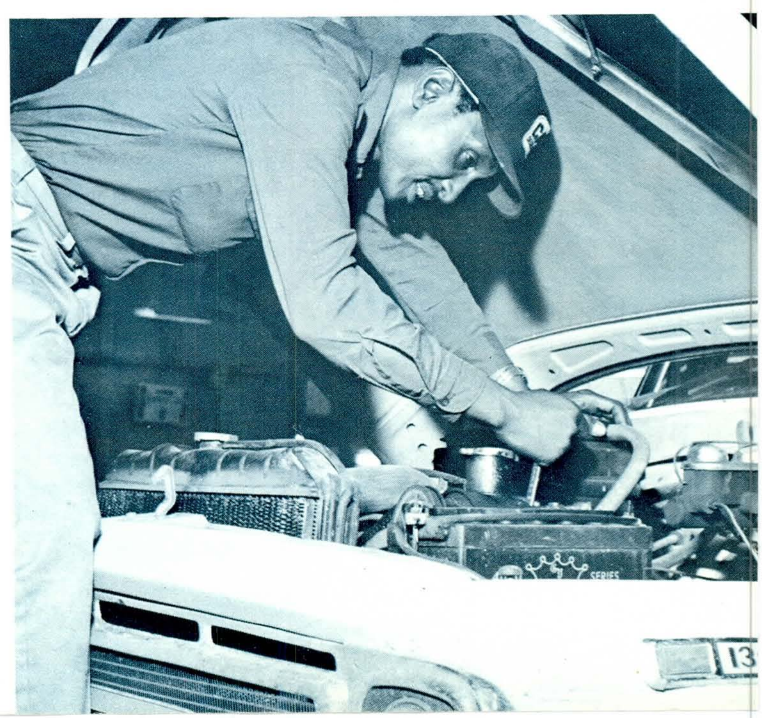
Designs of Project installations are chosen to ensure environmental protection. In this effort, Salt

(continued following picture pages)

Supplying water and power reliably... a big job

Work of the Project's employees ranges from installing streetlights to analyzing chemicals in generating station fluids; from drafting to computer programming; from operating the canal system to reading customers' meters. The SRP's 4,100 employees help ensure that the Valley has a dependable supply of water and power. . .a job that goes on around the clock.





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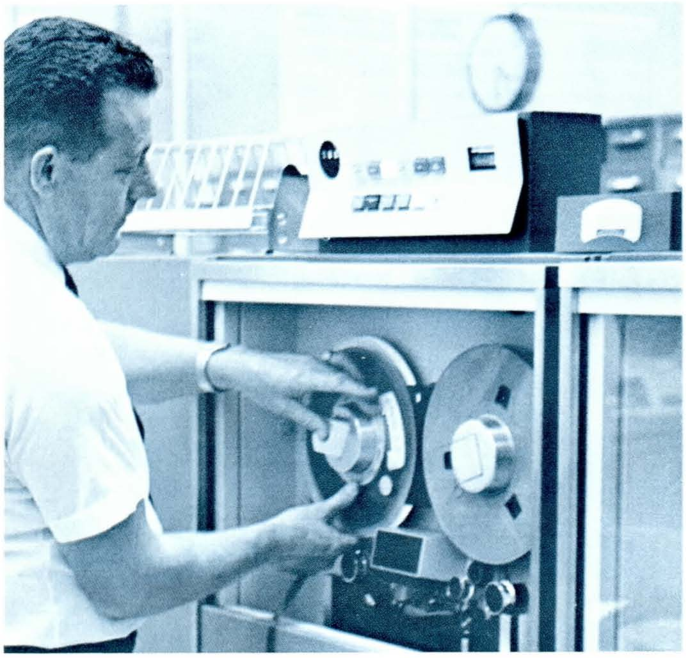
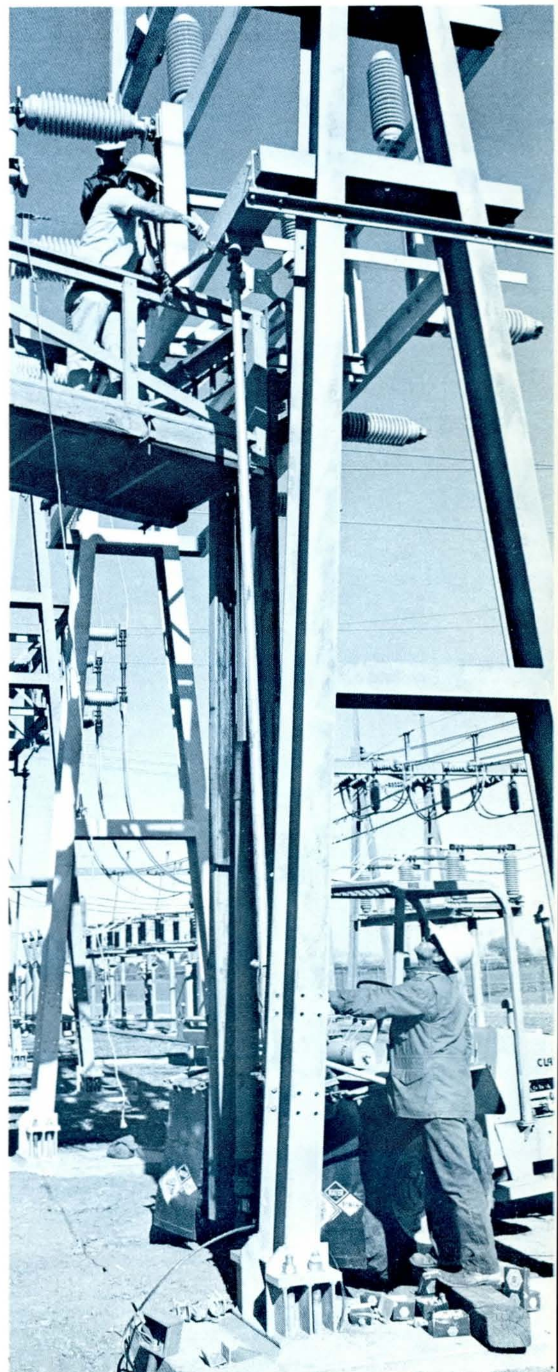




Environmental protection commitment *(Continued)*

River Project is guided by the following policy when constructing, maintaining and operating water and power facilities.

1. Conduct those studies necessary to obtain a complete understanding of how any new facility or activity may affect the environment, and take appropriate action to protect the environment.

2. Inspect and survey all new facility sites so that any historic or archaeological materials or any endangered species can be saved for posterity.

3. Install the necessary air pollution control equipment at SRP facilities so the emissions of particulate matter and gases will meet or be less than established limits.

4. Construct generating stations in a manner which assures that stack effluents, however small, will be adequately dispersed.

5. When necessary to return water to lakes, rivers or streams, design facilities so there will be no detrimental effect to the ecology of the area from heat, dissolved solids, or chemicals, as determined by ecologists, biologists and controlling agencies.

6. Provide protection against pollution by dust.

7. Design, build and landscape all new facilities so they will be compatible with the surrounding area.

8. Work harmoniously with all federal, state and local agencies and groups responsible for or interested in the protection of the environment.

As a participant in several power projects, SRP's share of costs for environmental protection is substantial. These costs involve equipment for air and water pollution control, solid waste disposal, noise abatement, and archaeological and aesthetic considerations.

The money is spent for such items as electrostatic precipitators and scrubbers. These respectively remove particulate matter and chemicals from stack gases. Other investments include studies of meteorology, dust control, oxides of nitrogen and emissions and equipment for those studies.

In addition, some $30 million has been spent by participants in the Navajo and Mohave power projects toward the testing and development of sulfur dioxide removal equipment for generating stations which burn low-sulfur coal. One new design which was tested at the Mohave station was incorporated into the Coronado Generating Station's environmental protection system, improving its efficiency. The participants have invested more than $200 million in environmental protection at the Navajo Generating Station alone; another $220 million has been spent on environmental protection at Coronado. The latter figure represents nearly one-third the total cost of the first two units.

Protecting and developing Arizona's water resources

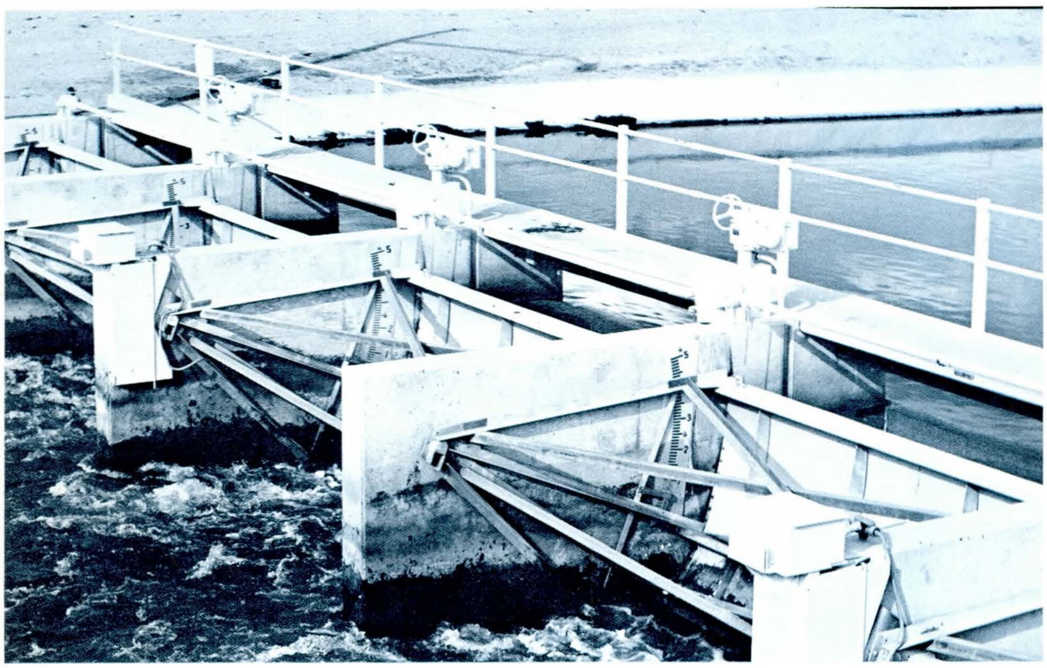
In 1964, the Project signed a 25-year cooperative watershed management agreement with the U.S. Forest Service. The agreement covers the five national forests within the 13,000-square-mile area which is the source of water for the Salt and Verde rivers. This watershed reaches from the White Mountains, near New Mexico, almost to Seligman in north-central Arizona. An average of about 20 inches of precipitation falls on the watershed every year, in contrast to the 7.2 inches in the Phoenix area. The objective of the management program is a 25 percent increase in runoff.

The management program was initiated because, although rainfall on the Project watershed in recent years has continued at a level near the historic average, runoff received in SRP reservoirs has decreased. This decrease is a result of poor soil conditions, increasing density of timber and other vegetation, and dead or downed plant material. As man has controlled fires and floods on the watershed, nature's techniques for brush removal and tree thinning were eliminated. Watershed management has been developed, after years of intensive research, to fill the gap.

Also as part of a conservation program, the Project began a long-range program in 1950 to modernize the canal and lateral water distribution system. The program calls for the eventual concrete lining of all canals, the lining or piping of laterals to control water losses through seepage and evaporation.

In 1974, the Project completed installation of water supervisory control facilities. This new system permits remote operation and monitoring from a master console of canal gates and automatic gauging of water levels anywhere on Project canals. This sophisticated water handling equipment saves man-hours and helps to reduce water losses.

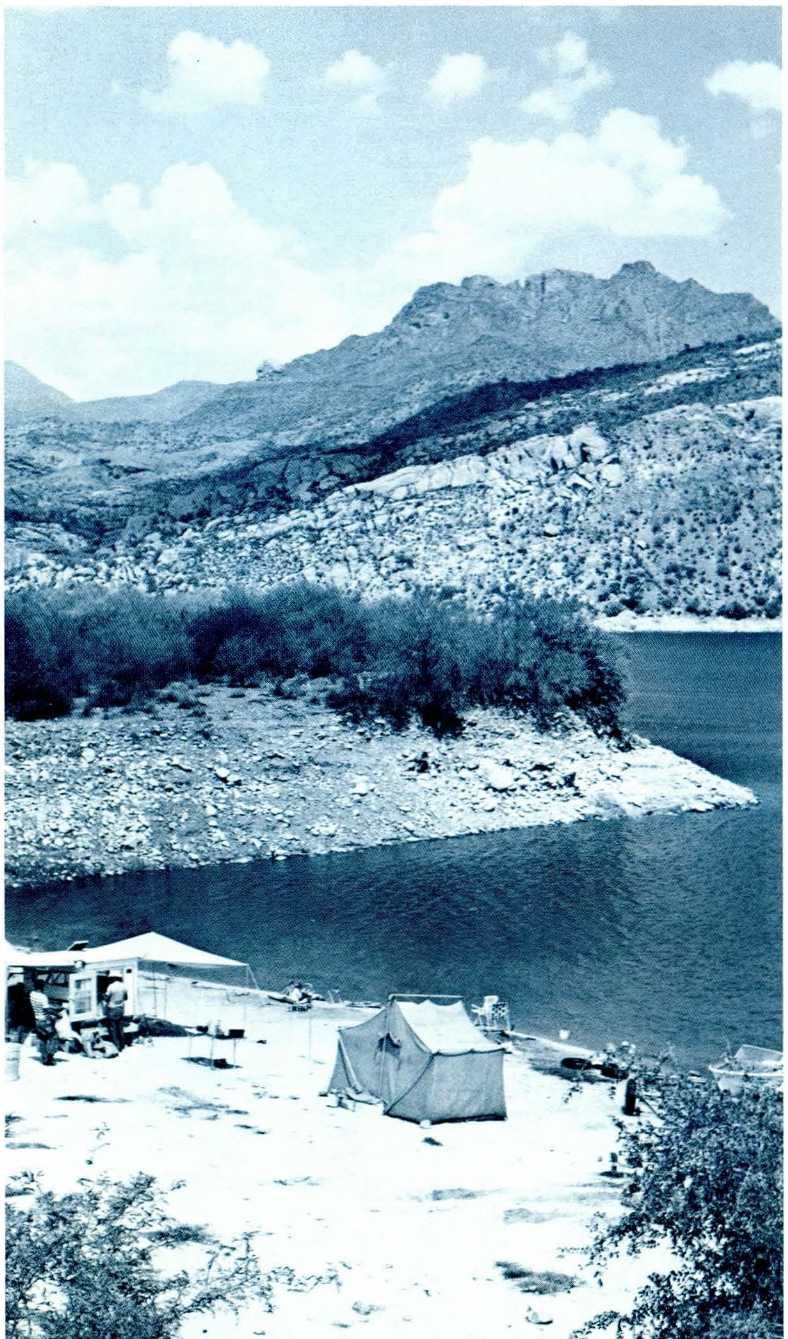
Recognizing the need for development of new sources of water, not only for the Valley, but in the state as a whole, the Project has actively supported the Central Arizona Project. SRP has requested a contract for a portion of the water to be delivered to supplement the Project's supply of underground and lake water.



Water levels and flows at control gates and pumps throughout the Project's canal system can be monitored and operated by one employee at the supervisory control console.

More than 200 gates, such as these on the Arizona Canal, can be adjusted with precision from the supervisory control center for improved water handling operations.

The Project's administration building, located near Tempe, provides offices for more than 1,400 employees.



Pumped-storage facilities installed in SRP dams

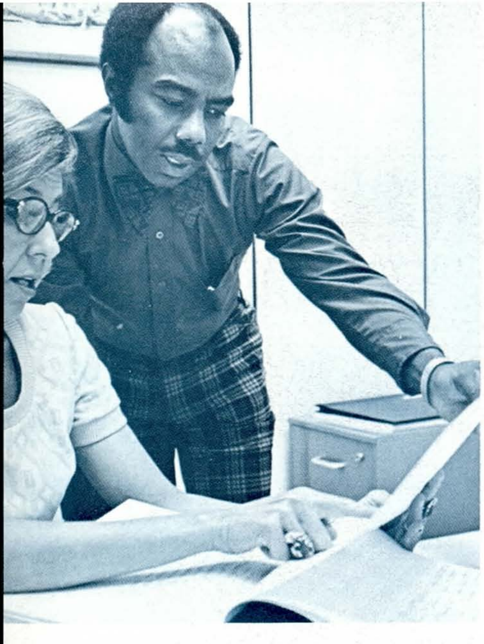
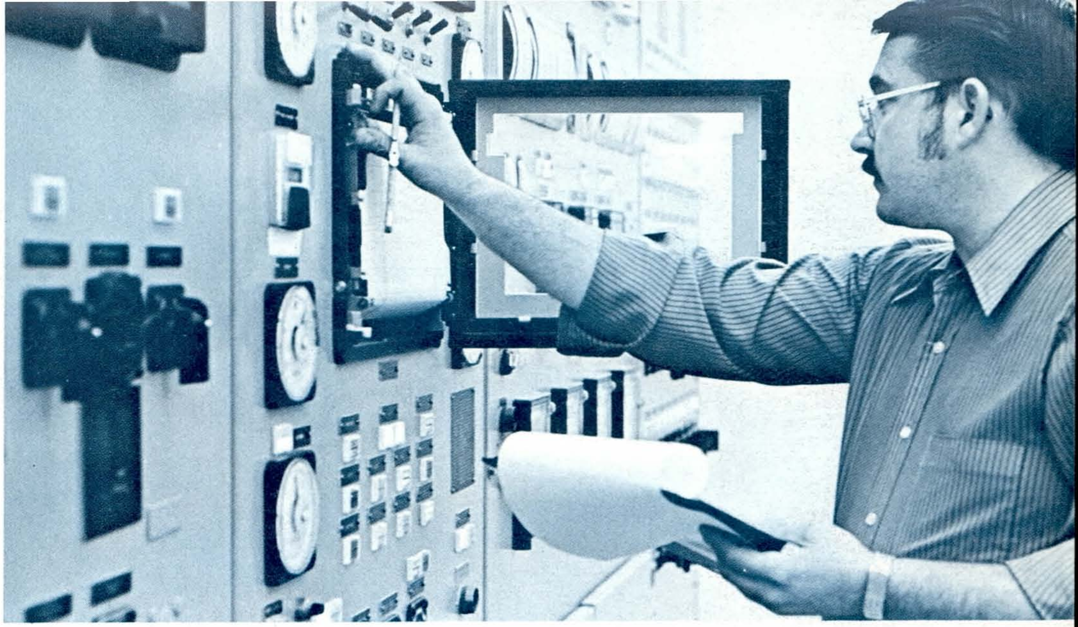
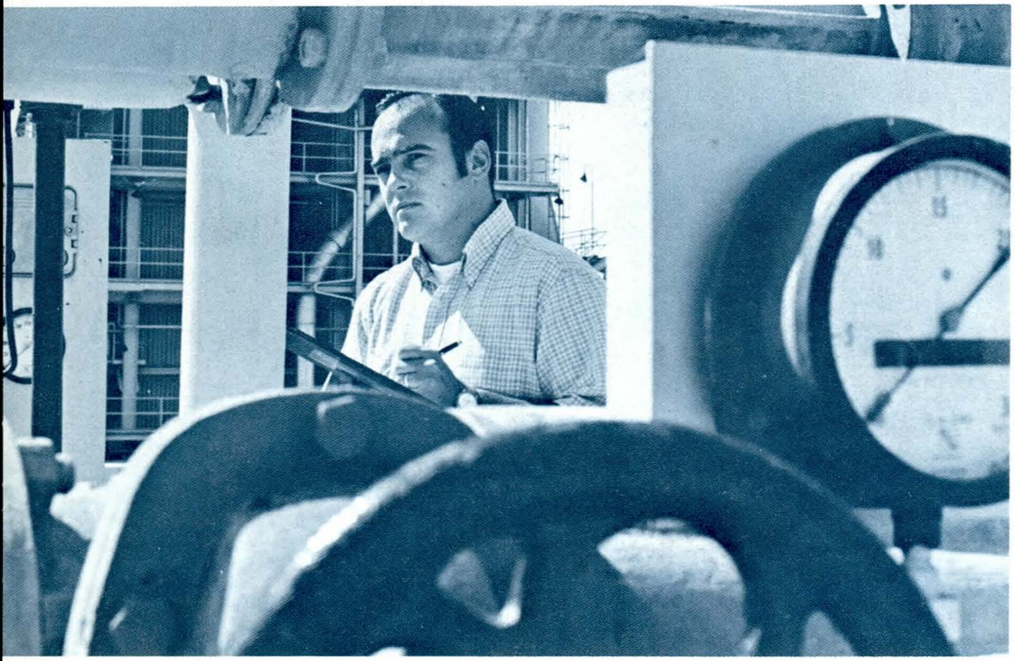
Hydroelectric generation at the Project's dams has always been limited by the quantity of water used for municipal and irrigation purposes. If water wasn't required by users, none could be released to turn the hydroelectric generators.

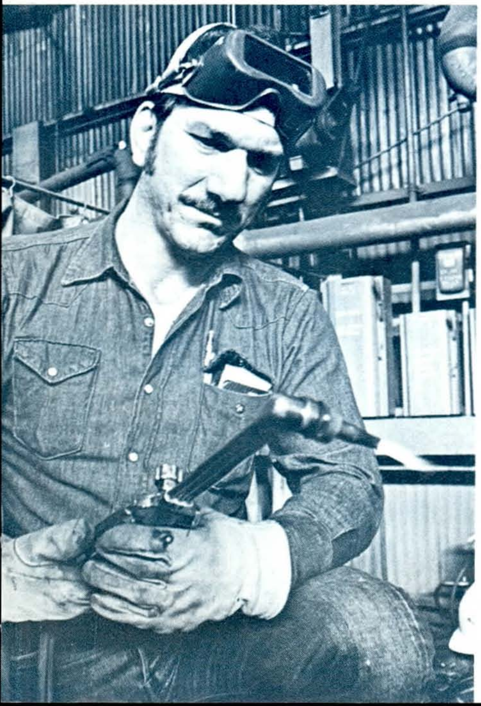
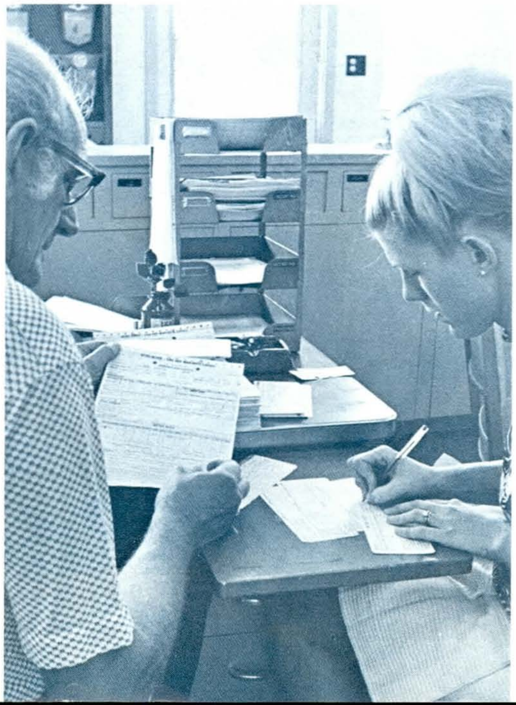
Now two pumped-storage hydroelectric generating systems, installed in Mormon Flat and Horse Mesa dams, have changed that. The pump turbine in each dam is similar to that of a conventional hydroelectric generator in that falling water released from a reservoir is used to generate power. The difference is that during off-peak periods, when there is electricity to spare from other generating stations, the pumped-storage system can be reversed. The generator becomes a giant electric motor which turns the turbine in the opposite direction, pumping previously released water back from the lower reservoir into the higher reservoir.

In this way, water can be used again and again for generating power. In addition, the $45-million system increases the Project water control flexibility, making it possible to move water upstream to achieve maximum storage or cope with localized storm conditions.

As part of the installation program, the Project's generating capabilities at the dams were increased and modernized as well. SRP's total hydroelectric generating capability expanded from 69,690 kw, which includes 2,000 kw from Crosscut Generating Station, to 234,000 kw. This total includes conventional generating capability of 94,000 kw and a pumped-storage capability of 140,000 kw. The old generators at Roosevelt Dam were replaced by one 36,000-kw conventional generating unit. This new unit replaced eight old units which had a combined capability of approximately 19,000 kw.

Salt River Project lakes provide a wide variety of recreational opportunities year-round.


Salt River Project technical information

DAMS ON THE SALT RIVER

HORSE MESA DAM

Lake

Name	Apache
Location	65 miles east of Phoenix
Capacity	245,138 acre feet (302.4 million cubic meters)
Surface area	2,600 acres at full capacity (1052.22 hectares)
Shoreline	41.48 miles (66.75 kilometers)
Length of lake	17 miles (27.2 kilometers)

Dam

Constructed	1924-1927
Height	300 feet (91.4 meters)
Length	660 feet (201.2 meters)
Generating capability	129,000 kilowatts total 33,000 kilowatts conventional units 96,000 kilowatts pump turbine unit (began operation 1972)

MORMON FLAT DAM

Lake

Name	Canyon
Location	51 miles east of Phoenix
Capacity	57,852 acre-feet (71.4 million cubic meters)
Surface area	950 acres at full capacity (384.46 hectares)
Shoreline	28.33 miles (45.59 kilometers)
Length of lake	10 miles (16 kilometers)

Dam

Constructed	1923-1925
Height	224 feet (68.3 meters)
Length	380 feet (115.8 meters)
Generating capability	54,000 kilowatts total 10,000 kilowatts conventional units 44,000 kilowatts pump turbine unit (1971)

STEWART MOUNTAIN DAM

Lake

Name	Saguaro
Location	41 miles east of Phoenix
Capacity	69,765 acre feet (86 million cubic meters)
Surface area	1,280 acres at full capacity (518.01 hectares)
Shoreline	22.20 miles (35.72 kilometers)
Length of lake	10 miles (16 kilometers)

Dam

Constructed	1928-1930
Height	207 feet (63.1 meters)
Length	1,260 feet (384.1 meters)
Generating capability	13,000 kilowatts

THEODORE ROOSEVELT DAM

Lake

Name	Roosevelt
Location	80 miles east of Phoenix at the conflux of the Salt River and Tonto Creek
Capacity	1,381,580 acre feet (1.7 billion cubic meters)
Surface area	17,000 acres at full capacity (6879.9 hectares)
Shoreline	88.35 miles (142.18 kilometers)
Length of lake	23 miles (36.8 kilometers)

Dam

Constructed	1905-1911
Height	280 feet (85.4 meters)
Length	723 feet (220.4 meters)
Generating capability	36,000 kilowatts – original 8 generators retired in 1973 and new unit installed

DAMS ON THE VERDE RIVER

BARTLETT DAM

Lake

Name	Bartlett
Location	48 miles northeast of Phoenix
Capacity	178,186 acre-feet (220 million cubic meters)
Surface area	2,700 acres at full capacity (1092.69 hectares)
Shoreline	33 miles (53.10 kilometers)
Length of lake	12 miles (19.2 kilometers)

Dam

Constructed	1936-1939
Height	283 feet (86.3 meters)
Length	800 feet (243.8 meters)
Generating capability	none

HORSESHOE DAM

Lake

Name	Horseshoe
Location	58 miles northeast of Phoenix
Capacity	131,427 acre-feet (162.1 million cubic meters)
Surface area	2,800 acres at full capacity (1133.16 hectares)
Shoreline	27.39 miles (44.07 kilometers)
Length of lake	5 miles (8 kilometers)

Dam

Constructed	1944-1946
Spillway gates added	1949
Height	144 feet (48.3 meters)
Length (including spillway)	1,500 feet (457.2 meters)
Generating capability	none

BELOW THE CONFLUENCE OF THE SALT AND VERDE RIVERS

GRANITE REEF DAM

Dam

Constructed	1906-1908
Location	32 miles east of Phoenix
Height	29 feet (8.7 meters)
Length of weir	1,000 feet (305 meters)
Purpose	to divert water from river as released from storage to Project canals on the north and south side of the Valley.

ELECTRIC GENERATING STATIONS

AGUA FRIA GENERATING STATION

Location	2 miles west of Glendale
Original construction	1957-1961
Total generating capability	599,000 kilowatts
Unit No. One	
Completed	1958
Capability	111,000 kilowatts
Unit No. Two	
Completed	1958
Capability	111,000 kilowatts
Unit No. Three	
Completed	1961
Capability	180,000 kilowatts
Unit No. Four	
Completed	1973
Capability	69,000 kilowatts
Unit No. Five	
Completed	1973
Capability	64,000 kilowatts
Unit No. Six	
Completed	1973
Capability	64,000 kilowatts

KYRENE GENERATING STATION

Location	2 miles south of Tempe
Original construction	1952-1954
Total generating capability	300,000 kilowatts
Unit No. One	
Completed	1952
Capability	34,000 kilowatts
Unit No. Two	
Completed	1954
Capability	70,000 kilowatts
Unit No. Three	
Completed	1972
Capability	51,000 kilowatts
Unit No. Four	
Completed	1971
Capability	51,000 kilowatts
Unit No. Five	
Completed	1973
Capability	47,000 kilowatts
Unit No. Six	
Completed	1973
Capability	47,000 kilowatts

CROSSCUT GENERATING STATION

Location	1½ miles north of Tempe
Constructed	1941-1949
Total thermal generating capability	35,000 kilowatts
Unit No. One	
Completed	1941
Converted to 60 hertz	1949
Capability	8,000 kilowatts
Unit No. Two	
Completed	1941
Converted	1949
Capability	8,000 kilowatts

CROSSCUT *(Continued)*

Unit No. Three	
Completed	1941
Converted	1949
Capability	8,000 kilowatts
Unit No. Four	
Completed	1949
Converted	1950
Capability	8,000 kilowatts
Hydroelectric generating capability	3,000 kilowatts

NAVAJO GENERATING STATION

(SRP is station manager and 21.7 percent participant.)

Location	4 miles east of Page, Arizona
Constructed	1969-1976
Total generating capability	2,250,000 kilowatts scheduled
Unit No. One	
Completed	1974
Capability	750,000 kilowatts
Unit No. Two	
Completed	1975
Capability	750,000 kilowatts
Unit No. Three	
Completed	1976
Capability	750,000 kilowatts

SANTAN GENERATING STATION

Location	3 miles southeast of Gilbert, Arizona
Constructed	1972-1975
Total generating capability	288,000 kilowatts
Unit No. One	
Completed	1974
Capability	72,000 kilowatts
Unit No. Two	
Completed	1974
Capability	72,000 kilowatts
Unit No. Three	
Completed	1974
Capability	72,000 kilowatts
Unit No. Four	
Completed	1975
Capability	72,000 kilowatts

CORONADO GENERATING STATION

(SRP is station manager and 70 percent participant.)

Location	4-1/2 miles north of St. Johns, Arizona
Construction started	1975
Total generating capability	700,000 kilowatts
Unit No. One	
Completed	1979
Capability	350,000 kilowatts
Unit No. Two	
Scheduled completion	1980
Capability	350,000 kilowatts
Unit No. Three	
Scheduled completion	1989
Capability	350,000 kilowatts

SRP CONTRACT POWER PURCHASES

Arizona Power Authority	56,200 kilowatts
U.S. Water and Power Resources Service	
Colorado River Storage Project	133,598 kilowatts
Parker-Davis	31,700 kilowatts
Navajo	107,163 kilowatts

SRP PARTICIPATION IN OTHER POWER PROJECTS

FOUR CORNERS STATION, UNITS NO. FOUR AND FIVE
(SRP is a 10.0 percent participant)

Location	20 miles west of Farmington, N.M.
Constructed	1967-1970
Total generating capability	1,600,000 kilowatts
Unit No. Four	
Completed	1969
Capability	800,000 kilowatts
SRP's share	80,000 kilowatts
Unit No. Five	
Completed	1970
Capability	800,000 kilowatts
SRP's share	80,000 kilowatts

MOHAVE GENERATING STATION
(SRP is a 10.0 percent participant)

Location	Clark County, Nevada, one mile west of Bullhead City, AZ
Constructed	1967-1971
Total generating capability	1,580,000 kilowatts
Unit No. One	
Completed	1970
Capability	790,000 kilowatts
SRP's share	79,000 kilowatts
Unit No. Two	
Completed	1971
Capability	790,000 kilowatts
SRP's share	79,000 kilowatts

HAYDEN UNIT NO. TWO
(SRP is an 80.0 percent participant)

Location	Hayden, Colorado
Constructed	1973-1976
Total generating capability	261,000 kilowatts
SRP's share	208,000 kilowatts

CRAIG GENERATING STATION
(SRP is a 29 percent participant)

Location	Craig, Colorado
Construction started	1975
Total generating capability	800,000 kilowatts
Unit No. One	
Completed	1979
Capability	400,000 kilowatts
Unit No. Two	
Scheduled completion	1980
Capability	400,000 kilowatts

Glossary of water and irrigation terms

ACRE FEET (abbreviation: af) — The volume of water which will cover an area of one acre to a depth of one foot; 43,560 cubic feet or 325,850 gallons of water.

ALLUVIAL — Sediment deposited by flowing water as in a riverbed or flood plain.

CANAL — A manmade waterway or artificially improved river used for irrigation, shipping or travel. In Arizona, canals are principally used for irrigation.

CUBIC FEET PER SECOND (cfs) — A unit of measure of flowing water. One cfs means that one cubic foot of water, or 7.48 gallons, passing a given point during an interval of one second.

DAM, DIVERSION — A barrier constructed in a waterway to direct water from the watercourse into another, often canal systems. A diversion dam generally has no storage capacity.

DAM, FLOOD CONTROL — A barrier constructed in a watercourse for the primary purpose of limiting the erratic flows of that waterway. Releases from flood control dams are generally constant and continuous until the water impounded by the dam is completely discharged.

DAM, MULTI-PURPOSE — A barrier constructed in a watercourse for two or more purposes such as storage, flood control, power generation or recreation.

DAM, STORAGE — A barrier built in a waterway for the primary purpose of reserving the flows of that watercourse until the water is needed.

DOMESTIC WATER — Water which has been filtrated and otherwise treated for human consumption.

FOREBAY, CANAL — The area in a manmade waterway immediately upstream from a control structure from which diversions are made.

GAUGING STATIONS — A location along a watercourse where basic data is regularly obtained to compute flow at that point.

GRAVITY FLOW — A system for moving water from one point to another which relies on the force of gravitation to cause the water to flow in the direction desired.

HYDRAULIC STRUCTURE — Any device placed in a water channel for purposes of diversion, impounding, releasing, measuring or otherwise controlling the flow of water.

LATERAL — A manmade channel for the conveyance of water from a canal to delivery points in an irrigated area.

RESERVOIR — A body of water collected and stored in a natural or artifical lake; a reserve.

RECLAMATION — A restoration, as to productivity or usefulness.

RUNOFF — Commonly used to indicate the water flowing in a river system or contained in another body of water as a result of snow melt or rainfall which was not absorbed into the soil. In a broader sense, runoff is the water produced, normally measured in acre feet, from a given watershed during a given time interval.

SPILLWAY — An open structure permitting the bypassing of water around a dam's normal generating facilities.

SURFACE WATER — Moisture which flows on the surface of the earth in rivulets, creeks, tributaries and rivers. As a legal term, surface water is defined as moisture moving in a channel with a definable bed, banks and stream.

WASTE WATER — Excess irrigation that returns to the canal system through drainage ditches.

WATERSHED — A region sloped so all rain and melted snow drains into a river, river system, or body of water. The Salt River Project watershed consists of 13,000 square miles, slightly more than eight million acres. The SRP watershed annually receives an average of 20 inches of precipitation, about five percent of which eventually reaches Project reservoirs. The remainder is lost to evaporation, seepage, and vegetation.

ZANJERO — A Project employe whose principal responsibilities involve the manipulation of irrigation gates for the orderly delivery of water to fill irrigation requests.

Glossary of electrical terms

ALTERNATING CURRENT (abbreviation: AC) — An electric current that reverses direction in a circuit at regular intervals.

AMPERE (amp) — Unit of measurement of electrical current.

CIRCUIT — Any closed path followed or capable of being followed by an electric current. Also, a conductor or a conductor system through which an electric current is able to flow.

DIRECT CURRENT (DC) — An electric current flowing in one direction, as contrasted with alternating current.

DISTRIBUTION, ELECTRIC — That portion of utility facilities used for the purpose of delivering energy lower in voltage to consumers from various points along the transmission system. See transmission.

DISTRIBUTION LINE — One or more circuits of a distribution system operating at a relatively low voltage as compared with transmission lines.

FAST BREEDER — A nuclear reactor used to generate electricity, the breeder produces more fuel than it consumes. When a breeder is used in a nuclear power station, it provides the heat needed for the generation of electricity and simultaneously produces an excess of fissionable material that can be used to fuel other plants.

FREQUENCY — Number of cycles (or direction reverses) which an alternating current passes per second. Unit measure of cycles is called hertz and means cycles per second.

GEOTHERMAL — Energy which is produced by the internal heat of the earth. The term is loosely applied to mean the production of that energy by mechanical means which changes the heat energy into electrical energy.

GENERATION — The process of transforming one form of energy (such as heat or falling water) into electric energy. Usually expressed in kilowatt-hours.

GENERATOR — A machine that converts mechanical energy into electrical energy. The mechanical energy is usually supplied by a turbine. See turbine.

GENERATING CAPABILITY — Maximum amount of electricity which a generating system can produce with all equipment available operating at top efficiency.

HERTZ — See frequency.

HYDROELECTRIC — Generating electricity by conversion of the energy of running or falling water.

KILOVOLT (kv) — 1,000 volts. See volts.

KILOWATT (kw) — 1,000 watts. See watts.

KILOWATT-HOUR (kwh) — A common unit of electric power consumption, the total energy equal to one kilowatt of power acting for one hour.

MEGAWATT (mw) — 1,000 kilowatts. See watt and kilowatt.

STEAM GENERATION — Electric generation in which water heated to steam is used to drive the turbine generator.

SUBSTATION — A facility in which equipment is located for the purpose of switching and/or changing or regulating the voltage of electricity.

SYSTEM — The physically connected generation, transmission, distribution and other facilities operated as an integral unit.

TRANSMISSION, ELECTRICAL — To send by means of wire electric energy in bulk, that is in high voltages, to other principal parts of the system for distribution.

TRANSMISSION LINE — A system of wires used for delivering electric energy in high voltages between a generating or receiving point and major substations.

TURBINE, HYDRAULIC — An enclosed rotary-type machine in which the kinetic energy of moving water produces mechanical energy to drive an electric generator.

TURBINE, STEAM — An enclosed rotary-type machine in which the kinetic energy of water, heated to steam, is used to produce mechanical energy to drive an electric generator.

UNIT — A term used loosely to refer to all the mechanical facilities which make

(Continued)

Electrical terms *(Continued)*

up a generating system. Usually refers to one turbine and generator combination. A generating station which has four generators would then be referred to as having four units.

VOLT – A unit of electromotive force or electric pressure analogous to water pressure in pounds per square inch.

WATT – The electrical unit of power or rate of doing work.

Conversion constants used in the measurement of water

UNIT	EQUIVALENTS
1 gallon	3.7853 liters or 3.785 kilos or 231 cubic inches or 8.34 pounds
1 cubic foot	28.32 liters or 0.02832 cubic meter or 28.305 kilos or 1,728 cubic inches or 7.4805 gallons or 62.4 pounds
1 acre foot	1233.62 cubic meters or 1,233,619.2 liters or 12 inches deep over 1 acre or 43,560 cubic feet or 325,850 gallons
1 cubic foot second	7.4805 gallons per second or 448.8 gallons per minute or 1.9835 acre-feet per 24 hours or *40 miners inches **50 miners inches ***38.4 miners inches ****35.7 miners inches
1 miners inch (Arizona)	11.2 gallons per minute @ 1/40 cubic foot second or 0.70785 liters per second

*Legal quantity in Arizona, California, Montana, Nevada and Oregon

**Legal quantity in Idaho, Kansas, Nebraska, New Mexico, North and South Dakota, and Utah

***Legal quantity in Colorado

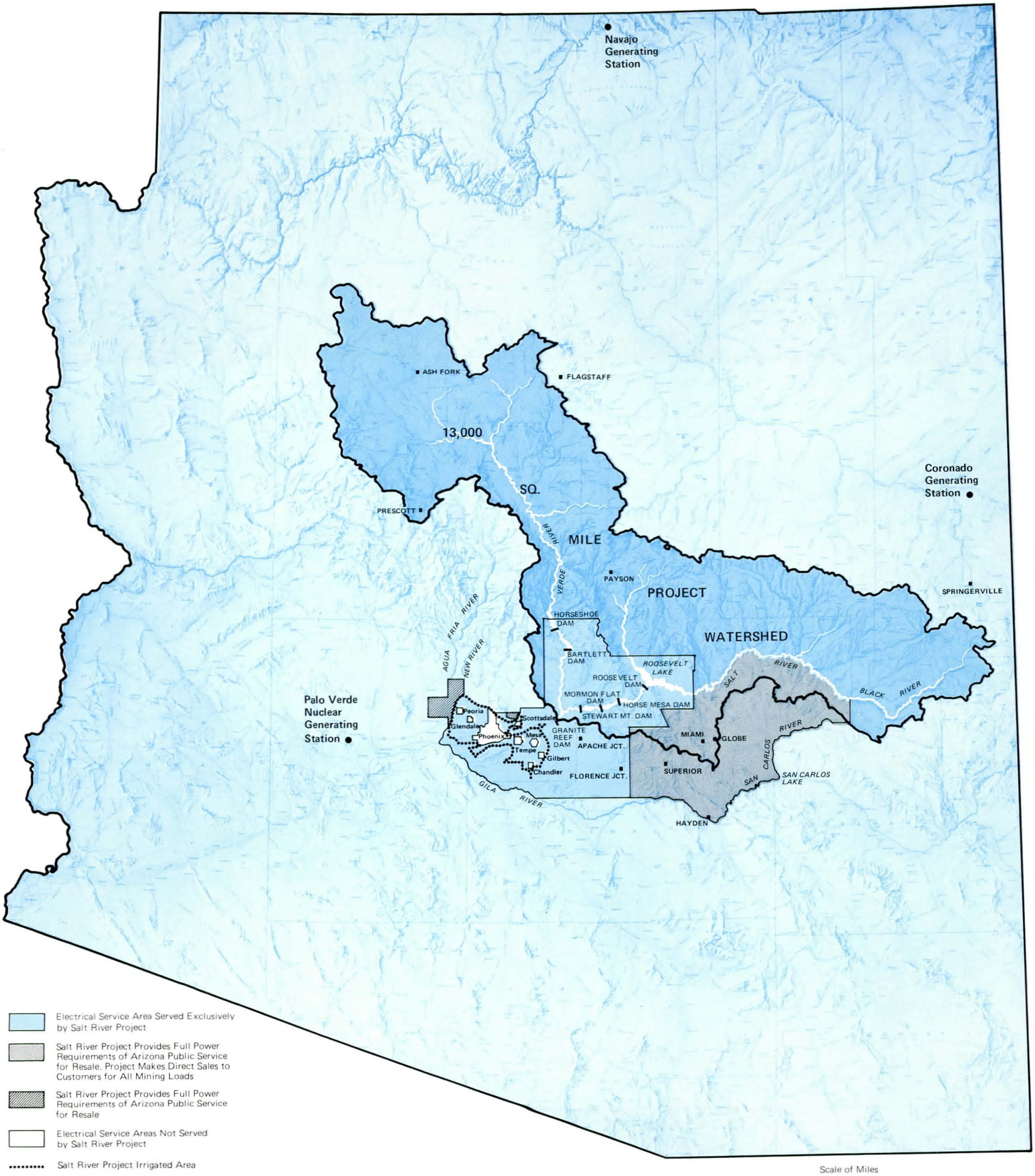
****Legal quantity in British Columbia

Miscellaneous conversion factors

U.S.A.	METRIC
1 inch	2.54 centimeters
1 foot	0.3048 meter
1 yard	0.9144 meter
1 mile, statute	1.6093 kilometers or 1609.3 meters
1 cubic foot	0.0283 cubic meter
1 cubic yard	0.7646 cubic meter
1 acre	0.4047 hectare
2.471 acres	1.0 hectare
1 square mile (640 acres)	2.59 square kilometers

U.S.A.	METRIC
39.37 inches or 3.28 feet	1 meter
0.3937 inch	1 centimeter
0.62137 mile	1 kilometer
0.3861 square mile	1 square kilometer or 1,000,000 square meters
1.05671 liquid quarts	1 liter
2.64 gallons	10.0 liters
264.18 gallons (35.315 cubic feet)	1000.0 liters

SALT RIVER PROJECT WATERSHED, IRRIGATED AREA AND ELECTRICAL SERVICE AREA



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