

Chapter 19

A New Era, New Challenges

With the completion of New Don Pedro Dam, the Modesto irrigation District entered a new era full of challenges undreamed of a score of years earlier. District officials found themselves in a computer age filled with new and uncharted fields of activities and responsibilities.

A century ago, the district's founding fathers whose sole objective was to provide water to extend irrigation seasons, could not have envisioned the complexities which their district faces today. Current concerns range from providing recreation facilities to domestic water delivery, energy conservation, canal beautification, sponsoring learn to swim classes and water-safety education.

New departments for personnel management, data control, fiscal control, administration, resource development and energy conservation all have been established as the district became big business with an annual budget of exceeding \$115 million and assets of \$526 million.

These changes made in the last 20 years have been as dramatic as two earlier critical stages in the development of the MID: its initial creation and its decision to generate and distribute electrical energy.

These recent changes were more evolutionary than revolutionary, however. Thus, they have not been accompanied by the vitriolic disputes which marked those earlier periods. The district's record of success has projected a feeling of confidence and stability to its citizens.

As the community and the utility grew in size, the amount of individual contact has declined. For most people, the only contact with the MID, other than pleasant summer outings at Don Pedro Lake, has been their power bills. As a result of a constant search for new efficient and economical sources of energy and a vigorous effort to encourage conservation, MID electrical rates have remained substantially lower than the average rates paid throughout the nation.

The growing demand for electrical energy, its sources, its transmission and its delivery to the homes, businesses and farms of the MID dominated the thinking of the board of directors and staff from the completion of New Don Pedro until the mid 1980s.

Modesto's share of the energy generated in the new powerhouse provides less than 25 percent of the amount needed to meet the needs of the rapidly-growing metropolitan area. The other 75 percent now comes from outside sources, primarily through purchases from San Francisco's Hetch Hetchy system and the Pacific Gas & Electric Company. Escalating prices of energy from these sources and the insecurity of renewable contracts caused the start of an effort to make the district more energy independent.

Every possible source – nuclear, solar, geothermal, coal-fired plants, gas turbines, the old favorite hydro, co-generation, biomass, even windmills – was explored.

For more than a decade, starting at a time when even the Sierra Club's Tuolumne River Conference advocated the development of nuclear power as preferable to additional hydro projects on the Tuolumne, the MID considered various proposals for nuclear generation.

The Sierra Club in July 1970 issued a "crisis report" calling for the development of a nuclear plant in the Cooperstown area of Tuolumne County in Lieu of further hydroelectric development by the City of San Francisco. The Sierra Club wanted the Modesto and Turlock Irrigation Districts, not San Francisco, to build and operate the plant.

Two years later retiring MID Chief Engineer Jess Grigsby filed a final report in which he advocated several major changes for the Modesto district, including a strong plea for the establishment of a nuclear plant in the Cooperstown area. Board President Thomas K. Beard urged the district to "protect itself in the power field" by developing a nuclear generating plant in cooperation with other agencies.

In 1974 the MID, TID and PG & E actively pursued the idea as a joint venture; preliminary investigations indicated it would be feasible. Additional studies by Arthur D. Little, Inc., a financial and engineering consulting firm, in 1975 found nuclear power the most economically-advantageous alternative source of energy, declaring:

No commercial technology has received anything comparable in the attention, effort, and money spent to minimize the hazards it presents. And no commercial technology has a better safety record....and demonstrable benefits of nuclear power far outweigh the potential risks.

Further studies demonstrated in 1976 that the district's share of a single nuclear plant plus its existing hydro generation would meet the community's needs for the foreseeable future. Severe restraints imposed by the State of California on nuclear plant proposals stifled this source of energy in 1977 and the local project was abandoned.

The idea did not go away, however.

There followed a flurry of activity in the quest for new energy sources. Consumption in the district continued to increase at a rate of 8 to 10 per cent a year. Not only did the population grow, but the individual use of electricity also kept climbing. New energy sources had to be found.

Shortly after becoming the district's general manager in October 1980, H. L. "Les" Brooks recognized the need for greater concentration on long-range power resource development. Accordingly, Chief Electrical Engineer Charles S. Viss was named assistant general manager for power resources, separated from the day-to-day operations of the MID's electrical division which was placed under the direction of Vincent Bradford.

The change was part of a general reorganization through which Brooks, who before his promotion had been district secretary-treasurer, sought to strengthen the application of business techniques and practices to the district's operation. The post of controller, established in 1974, was combined with that of MID treasurer and upgraded to assistant general manager for finance. Broadened responsibilities in the field of purchasing, material management, accounting, and data processing through the district's extensive computer system were assigned to the new position.

The newly-created power resources division quickly evolved into the focal point for power resources planning, both on the part of the district alone and in association with other power agencies.

The first of several alliances formed by the MID in its quest for new energy sources was the M-S-R Public Power Agency, composed of the Modesto district and the Cities of Santa Clara and Redding.

One of several power projects considered by M-S-R was participation in the Palo Verde Nuclear Project in Arizona. Santa Clara subsequently decided not to participate in this project. The MID and City of Redding, however, entered into negotiations with Arizona's Salt River Project and the Arizona Public Service Agency for a share of the energy to be generated at the Palo Verde Nuclear Generating Station under construction near Phoenix. A \$1 million refundable deposit was made. With a \$350 million bond issue involved, estimates of the cost to the districts over a 30-year period totaled \$1.5 billion. Compared to power purchased from PG & E, MID officials figured this would be a good deal.

The reaction to nuclear energy caused an immediate uproar in Redding, While things were somewhat quieter in Modesto, elections on whether to proceed with the purchase were set in both places.

In April 1982, Redding voters rejected the proposal by a 2-to-1 margin. Two months later Modestans followed suit, voting against the purchase 15,063 to 12,795.

The Modesto district's second venture into an exotic energy field was far more successful than its nuclear power efforts and may, in the final analysis, involve an investment which dwarfs the \$115 million cost of New Don Pedro. In an age of environmental concerns, geothermal steam offers great potential as a source of energy. The pressure of steam coming from two miles below the earth's surface is constant, not dependent upon the vagaries of nature – drought, storms, winter snowpacks and river runoffs.

At the same time the Palo Verde nuclear power source was being investigated, the MID, as part of the M-S-R group and in league with the Sacramento Municipal Utility District, formed a new joint-action agency called the Central California Power Agency No.1 and turned to geothermal steam as a new source of energy.

Construction of the Coldwater Creek Geothermal Generating Plant by the Central California Power Agency No. 1 is under way on 3,200 acres in Lake and Sonoma Counties with proven geothermal steam production. Two generators will be on the line in 1988, at which time the MID will receive 52 megawatts of energy. This source alone will offer the district as much energy as it now receives from New Don Pedro.

In a separate geothermal effort in the same general Geysers area, M-S-R turned up a dry hole but a second well proved operational. The Central California Power Agency No. 1 prospects were far superior, however. As a result, the M-S-R field presently is being leased to an independent party for development, with the royalties to be paid to the agencies rather than the delivery of energy.

Meanwhile, the three M-S-R partners bought an interest in still another source of energy, the recently completed coal-fired San Juan Generating Station operated by the Public Service Company of New Mexico at Farmington, NM. This project also involves acquiring additional transmission services and ultimately will provide the Modesto district with another 69 megawatts of power.

Coupled with anticipated supplies from San Francisco's Hetch Hetchy system, the Pacific Northwest and the Federal Western Area Power Agency, plus existing hydro power – including the recently completed 2.5 megawatt mini-hydro plant at the base of New Hogan Dam on the Calaveras River – these major new sources should insure an adequate energy supply into the mid-1990s.

As the MID looks to more and more remote sources of energy, the problem of power transmission becomes crucial. One of the first steps taken to insure more dependable supplies of electricity, especially in the event of power outages, was joint MID-TID construction in 1975 of a 230,000-volt intertie transmission line to connect their systems with PG& E's main north-south transmission lines at the foot of the Coast Range west of Interstate Highway 5.

Meanwhile, the Modesto Irrigation District has joined forces with many other agencies working on several fronts to meet the challenge.

As a member of the Transmission Agency of Northern California, commonly referred to as TANC, the Modesto district is negotiating to build a 500,000-volt transmission line from Central California to the Pacific Northwest to tap surplus Bonneville Power Administration power from the Columbia River and other Pacific Northwest resources. United in this massive joint effort are 15 publicly-owned power agencies, the State of California, the federal Western Area Power Administration and three investor owned utilities.

Climate causes the Pacific Northwest's greatest power demand to occur in the winter while Central California's greatest demands are in the summer. Thus, the ability to exchange power seasonally between the Northwest and California over a connecting grid will permit more efficient use of generation resources in both regions.

Additionally, the three Northern California partners in the San Juan Generating Plant are working with federal agencies, the Salt River Project and Southern California power utilities to develop transmission lines to serve its members from the New Mexico plant.

While design, planning and negotiations are under way on these three major projects, the Modesto district, in association with other agencies is negotiating "wheeling" contracts with PG &E whereby the MID's geothermal-generated energy would be delivered to Modesto via the private utility's transmission lines.

The Modesto Irrigation District's strength was built on hydroelectric power. That source of energy still is very much in the minds of its directors, engineers and administrators, although further development on the Tuolumne River as far as the delivery of irrigation water and maintaining flood control are concerned. There still remain, however, hydroelectric generation sites with strong potential.

One such project was the proposed Clavey-Wards Ferry hydro plant, which could have yielded 400 megawatts. The MID and TID were well into the second year of a comprehensive feasibility and environmental study of the site when in September 1984 President Ronald Reagan signed legislation establishing that section of the Tuolumne as a wild and scenic river.

The Turlock district has continued to study potential hydro development in the region, but Modesto has delayed participation in these studies. It is anticipated the day will come, however, when further hydroelectric development will be appropriate.

Still another complete turnaround has occurred within the MID during the past two decades.

In the 1960s and before, the district was proud of its constant 8 to 10 percent annual growth in electrical consumption. But in the 1970s, especially during the period of severe drought, it became too much of a good thing.

The drought of 1976-77 forced the district to purchase from other sources twice its normal amounts of outside energy. This meant that, as the relatively inexpensive Hetch Hetchy supply was exhausted, the MID was forced to buy more expensive power from PG & E. Purchases of outside power totaled \$26 million in 1977 alone, more than double normal figures. At the same time, indications surfaced that rates under new Hetch Hetchy power contracts being negotiated were not going to be as favorable in the past. As much as two-thirds of the energy used in the district is provided by this source.

The conservation of energy became a major challenge.

On hot summer afternoons the peak demands for air conditioning and cooling units require great quantities of energy. In the Modesto district this sends power purchase costs skyrocketing.

There are two ways to supply this demand: conservation and standby gas-turbine generators.

During 1976 and 1977 when California suffered the driest two-year rainfall period in its recorded history, the levels of New Don Pedro and Hetch Hetchy Reservoirs dropped drastically, curbing power generation. A concerted conservation program was made necessary by the once-in-200-year drought. Aimed primarily at homeowners who voluntarily reduced air conditioning use during specified hours, the program was well received in its trial year, 1977.

As a result of this initial success, the MID Board of Directors determined that energy conservation was to be a permanent part of its operations. At first a part-time, somewhat temporary activity in response to the drought, conservation became a full-time function.

During the years to follow, the district called upon a variety of advisory groups, including the chamber of commerce and building industry associations, to assist in developing voluntary programs which were sweetened with financial incentives.

In 1983 a “Shave The Energy Peak” STEP program was implemented to control electric loads during hot summer days when air conditioning consumed vast amounts of power. Home and commercial audits were instituted and assistance in building energy-efficient homes was offered. In May 1985 the conservation functions were upgraded to become the responsibility of a separate Energy Management Department.

The MID directors’ heightened concern over the levels of energy consumption recorded in the past decade is reflected in this recently adopted policy statement:

The Modesto Irrigation District’s energy management objective is to encourage conservation and to promote the efficient use of electrical energy.

Thus, another transition, from a position of pride in growth to one of pride in conservation, has been completed.

The district also followed up on the other alternative, installing the McClure gas-turbine generators in 1980 and 1981. The two units, generating 56 megawatts each, are used to provide standby peaking power at periods of high demand.

As the Modesto Irrigation District’s first century came to a close, still another complete cycle had been made in the distribution of water.

At the outset, the district was interested primarily in the delivery of water. As the need for additional storage demanded the construction of Don Pedro Dam in 1923, the generation of electrical energy became the “by-product” which for decades dominated the district’s actions.

Today as adequate energy supplies appear to be in sight, the district once again is turning its attention to the basic issue of delivering water.

A century ago, the prime objective of the MID was the delivery of water to farmers, a goal achieved efficiently with much of its irrigation system automated. Today the MID is focusing on a new

aspect of water delivery: the treatment and supply of domestic and industrial water to greater Modesto users.

The City of Modesto and Del Este Water Company, which serves many urban areas, depend solely upon pumping water from wells. Not only are they watching the water tables decline, but they also are finding more and more contaminants, primarily nitrates and salts, in their water. Some wells have been shut down for this reason.

Studies are under way between MID, the City of Modesto and Del Este to determine the best method for delivering treated Tuolumne River water for domestic consumption in greater Modesto. There seems to be no doubt that the MID will be involved as the principal agency in the operation. The question is “How?”

As the Modesto Irrigation District enters its second century of operation, the answer to this question dominated its thinking and planning. Decisions as to where to divert flows for domestic use, whether the water should be treated before or after delivery to the city and the private water company, charges, etc., likely will be made in the year the MID celebrates its 100th birthday.

Surprisingly, the shift from agricultural deliveries to domestic and industrial supplies will have little impact upon the total amount of water used within the district. Kennan Beard, president of Del Este Water Company who served four years as an MID director before retiring at the end of 1985, explains:

The old rule of thumb is that an acre of ground takes about the same amount of water, whether it's in agriculture, homes or industry.

However, if you build streets and houses and cover up the soil you don't get the percolation that you do from agricultural irrigation or rainwater. In fact, I wouldn't be surprised but that the vast majority of water we pump in this area isn't percolated irrigation water.

Thus, as more and more farmland becomes covered with asphalt, homes and shopping malls, there will be a significant impact upon the water-table levels.

The most critical water issue looming on the horizon, causing immediate concern as the MID starts a new century of public service is the protection of its water rights. Depending on how it is resolved, this issue could determine the course of the district during its next 100 years.

Robert A. Beck, MID board president in the district's centennial year, warns that the State of California covets the water now used by the Valley districts for irrigation, warning:

The state is looking hard at the Tuolumne River for water to use elsewhere and it intends to get it. Their current requests for releases downstream would equal the total amount of water used for MID crops for an entire year. For the foreseeable future, protecting the district's long-standing water rights will be the major challenge facing the district.

Taking its cue from the California Supreme Court ruled that Los Angeles' water rights had been granted years ago "subject to the public trust."

Some water law authorities interpret the decision as meaning that if, for instance, the "public trust" warrants additional releases from Don Pedro Lake to enhance bass fishing in the Tuolumne River, or the aesthetic beauty for downstream parks or whatever, the state board could force the district to give up the water for these purposes without compensation of any type – without respect for the amount of blood, sweat and cash that have been invested in the project over the century.

Irrigation officials maintain that such an action would violate federal constitutional protections against the taking of property without just compensation.

If it adheres to this philosophy – that when the public interest demands it, long-established water rights could be restricted or reassigned – the role of the California Water Resources Control Board would take on an entirely new dimension of authority with much greater power. The board originally was established to perform the limited role of issuing rights to water that is not being applied to useful and beneficial purposes or that is otherwise not appropriated.

No vested water right will be restricted or removed without a monumental struggle, however.

Meanwhile, the California Constitution provides that water rights holders must put these waters to reasonable, beneficial use. Wasteful uses cannot be protected by water rights.

Use it or lose it!

For the good of the entire community, farmer and city dweller alike, it is essential for the future success of the MID that its water continue to be put to productive, beneficial use as acres of homes and shopping centers replace acres of farmlands.

Life was much simpler 100 years ago as the founding directors had only to think of putting the water on the land. Today as the Modesto Irrigation District looks ahead, problems are much more complex: Electrical energy comes from a variety of sources, water resource demands are broadening, state

and federal governments are involved in all levels of operation, and historically-held water rights may be in jeopardy.

The MID's first century was devoted to establishment and growth and the second century must be dedicated to retaining the achievements of the past is the way MID Board President Beck evaluates the situation as the district begins its second 100 years.

Foresight of the type displayed by those who fought to create and keep the district alive, careful planning and probably more judicial and legislative battles of the type that have marked the Modesto Irrigation District's history will be required to maintain the MID's legacy of independence and progress.