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Water Transfers:

Can They Protect and Enhance Rural Economies?

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Water Transfers:

Can They Protect and Enhance Rural Economies?

I. Summary

Recent willing buyer, willing seller water transfers involving rural areas have resulted in "win-win" solutions for buyers and sellers. The negotiation experience associated with the Intermountain Power Project near Delta, Utah is described as well as negotiations leading to agreements in California's Imperial Valley, Arvin-Edison Water Storage District and Yuba River Basin.

II. The Intermountain Power Project

A. Background

The Intermountain Power Project (IPP) was designed as a 3,000 megawatt coal-fired power plant with two 750 megawatt units currently installed. The plant is located in West Central Utah with the town of Delta, population 5,000, being the nearest community. Delta and the surrounding area have functioned as an agricultural community for more than a century. The water supply for the agricultural area is from both ground water and the regulated flow of the Sevier River. Water quality in the lower Sevier River is quite saline; in fact, too saline for human consumption. However, ground water quality is good and is used for nearly all domestic and municipal uses. Historically, about 150,000 acre-feet of water per year has been used for irrigation purposes in the area. A 3,000 megawatt coal-fired power plant will consume about 45,000 acre-feet of water per year.

B. Siting Criteria

The IPP site selection process evolved through a process which began with the proposed Kapaiowitz Project in the middle 1960's. Because of environmental concerns, successive power plant sites at Kapaiowitz, near Hanksville in southeastern Utah, and more than a dozen other sites throughout Utah were eliminated. The site near Delta was ultimately selected with full realization that water rights would need to be acquired from local irrigators.

C. Local Institutional Situation

Water rights in the lower Sevier River Basin are owned by five irrigation and ditch companies. These companies are, in essence, corporations owned by the farmers who hold shares of stock in the various companies. These shares of stock are not appurtenant to the land and under state law can be used and transferred as long as third parties are not adversely affected. However, the water rights can only be used within the service area of the irrigation or ditch company.

Similarly, ground water is a highly regulated commodity because of its scarceness and generally higher quality. The Utah State Engineer has controlled ground water pumping in the area since 1980 to preserve and protect the resource. Ground water rights are also

marketable and transferable as long as third parties are not adversely affected.

D. Water Rights Negotiations

Water rights purchase negotiations began in early 1978. Individual holders of stock in the irrigation companies could have sold water rights to the project. However, local leaders organized the ditch companies and their shareholders into a unit for negotiating purposes. Although the market price for shares in the ditch companies historically had been in the \$300 to \$500 per acre-foot range, the irrigators' initial offer was to sell water for \$3,400 per acre-foot. The initial counter offer from the project sponsors was at \$550 per acre-foot. When the overall negotiations were completed in early 1979, IPP ended up paying about \$1,850 per acre-foot.

The amount of water purchased was sufficient to provide a firm yield during the most sustained historical dry cycle of about 45,000 acre-feet per year. The average annual yield of the irrigation and canal company stock shares and ground water rights purchased was about 64,200 acre-feet. The larger quantity of shares was needed so that the firm yield of 45,000 acre-feet per year would be available each and every year to operate the plant. The purchases included between 5,000 and 6,000 acre-feet per year of ground water rights.

When IPP is not using its shares of water, those shares are leased back to the canal and irrigation companies. Since only two units of the power plant are on line using about 16,000 acre-feet per year, about 3/4 of the purchased rights are currently being leased back for local agricultural use.

E. Impacts on Local Agricultural Economy

Purchase contracts were ultimately executed with 687 individual ditch company shareholders and ground water right holders. Those contracts vested in early 1981 with the payout period varying between one and five years. On the average, each farmer received between \$100,000 and \$150,000, a total infusion into the local economy of some \$80 million.

F. Impacts on Local Economy

The infusion of capital into the agricultural community of the lower Sevier River Basin in West Central Utah has had many results. Some farmers used the money to reduce debt; others purchased homes, additional supplies and/or equipment; and a few sold out, retired, took the money and ran. However, by and large, the capital resources from the water right purchases have remained in the local area and serve to bolster the local agricultural economy.

That economy also has been the beneficiary of the jobs and tax base produced by the power plant. Also,

Delta is the eastern gateway to the nations newest national park which is located in eastern Nevada. These factors have contributed to a strong and robust economy. When compared to other agricultural areas in the Intermountain West, the results are obvious. Store fronts are no longer boarded up; the young people are not having to move to Salt Lake, Denver or Los Angeles for jobs; the economy is stable and the people are able to sustain a lifestyle that they have come to appreciate over more than a century.

III. Imperial Irrigation District -

Metropolitan Water District Conservation Programs

A. Background

The Imperial Irrigation District comprises approximately 500,000 acres of irrigated land and utilizes in excess of 2 1/2 million acre-feet of water annually. In 1988, the California State Water Resources Control Board issued an order requiring the District to conserve 100,000 acre-feet of water annually within a five-year period. The District, as is the case with most irrigation districts throughout the country, does not have the financial capability to construct the facilities and undertake those measures necessary to achieve the conservation required by the State Board.

B. The Negotiations

Beginning in about 1983, the District negotiated with the Metropolitan District of Southern California to work out a program where necessary conservation facilities would be financed by Metropolitan and the conserved water made available for use by Metropolitan. By the summer of 1988, the negotiations were stalemated. At that time, the Imperial Irrigation District retained a negotiator to help work out an agreement with Metropolitan.

Using the services of the negotiator, an agreement satisfactory to the Boards of Directors of both Districts was developed by November of 1988. During those negotiations, the interests of the parties were identified, communications through the media was suspended and the actual costs and conservation potential of specific measures became the focus. The basic principle of cost based pricing was accepted by both Boards with the agreed upon plan having a value over time of more than \$200 million in 1988 dollars. The amount of water conserved will be approximately 100,000 acre-feet per year. The agreement was finally ratified by the courts at the end of 1989.

C. Benefits to Imperial

The Imperial Irrigation District will receive a modern state-of-the-art system through the negotiated

agreement. Also, Metropolitan will assume a substantial amount of on-going operational costs of the District. The improved system will allow Imperial to better meet water orders of the farmers in the District, thus increasing yields and profitability. The operational financial assistance from Metropolitan will also enure to the benefit of Imperial farmers through reduced costs of delivered water.

It is anticipated that future conservation agreements of a similar nature will be entered between Imperial and Metropolitan, possibly conserving as much as 250,000 acre-feet per year of additional supply.

IV. Arvin-Edison Water Storage District

A. Background

The Arvin-Edison Water Storage District serves irrigation water to about 112,000 acres of Kern County land in the southeastern portion of the San Joaquin Valley near Bakersfield, California.

The District, established in 1942, receives water from the Federal Central Valley Project, a part of which is delivered via the California State Water Project Aqueduct. The District also depends heavily on ground water which is conjunctively used with available surface water. Annual water use from the various sources is about 340,000 acre-feet per year. During surplus water supply years, excess water is percolated into the ground

water basin through spreading grounds. During shortage years, those water supplies are recovered using high production ground water wells.

B. The Physical Opportunity

The ability of the Arvin-Edison to conjunctively manage water supplies is far greater than their actual need. During surplus water supply conditions, the District could, with additional connections to lands now served by wells and with additional spreading basins, utilize as much as 200,000 acre-feet per year of additional surplus surface water. During dry years, the District could release a portion of its surface water entitlement and rely on ground water which was previously stored through in-lieu and artificial recharge measures.

The Metropolitan Water District of Southern California has the ability to utilize their California State Water Project Contract Entitlement for a ground water banking program in the Arvin-Edison District.

The program, which is now in the final design stage, envisions Metropolitan providing additional wells and spreading basins, delivering as much as 200,000 acre-feet in surplus years, and retrieving by exchange approximately 100,000 acre-feet per year when its water supply demands so require.

C. The Negotiating Process

In the middle 1980's, as ground water banking became of interest westwide, the Arvin-Edison District became aware of the increased ground water banking potential underlying the District. Through their consulting engineers, the District contacted Metropolitan and received a positive reaction toward the general concepts. During the past four years, a series of technical memoranda were prepared addressing the various aspects of the potential ground water banking program. These technical memoranda were used as vehicles to identify and resolve concerns of the various effected parties. In August, 1989, those technical memoranda were assembled in the form of a Report Summary of Technical Studies. Based on that report, the Arvin-Edison and Metropolitan Boards of Directors have authorized final design and final environmental studies leading to project construction and implementation.

D. Benefits to Arvin-Edison

The program would strengthen the areas agricultural economy by increasing the dependability of the total water supply available to the District. The average cost of ground water pumping would be less because pumping lifts will decline as Metropolitan's stored water builds up underneath the District. Metropolitan anticipates storing as much as 800,000 acre-feet in the underground

resulting in a reduced pump lift of from 70 to 90 feet for District landowners.

Other benefits to Arvin-Edison include the installation of additional ground water wells and spreading basins. Arvin-Edison would own and operate the new facilities which would be constructed and paid for by Metropolitan. Arvin-Edison would have, in essence, "state-of-the-art" facilities for fully integrating the management of more dependable surface and ground water supplies. The additional facilities, particularly the spreading basins, could be used to capture spill waters that would otherwise flow to the ocean in very wet years. The increase in the District's absorption capacity would also increase operational flexibility and provide the opportunity for better resource utilization.

Overall, the District would experience an increase in reliability of water supply as well as reduced operation costs which enure directly to the benefit of the landowners in the Arvin-Edison District.

V. Yuba County Water Agency Transfers

A. Background

The Yuba River Basin lies in the northern part of the Central Valley of California in the area of Marysville. The Yuba River has an average unimpaired runoff of about 2.4 million acre-feet per year. In the early 1960's, the Yuba County Water Agency undertook a multi-

purpose project for development of the water supplies of the Yuba River. Principal project features include the New Bullards Bar Dam and Reservoir on the North Yuba River with 966,000 acre-feet of storage for flood control water conservation hydro-electric power recreation and fishery enhancement purposes. Also included are diversion structures and power structures with those principal supply works having been financed by revenue bonds backed by a power supply contract with the Pacific Gas and Electric Company. Financing was also received through Federal flood control contributions and from the State of California for recreation and fish and wildlife enhancement functions. Because of lack of capital, many of the planned diversion and water distribution facilities have not been constructed and all of the irrigable land is not yet receiving surface water from the project.

B. Water Transfers

Beginning in 1987, the Yuba County Water Agency has transferred water through exchange agreements to a number of entities as follows:

1987 - 83,100 acre-feet to the California Department of Water Resources for distribution to areas served by the State Water Project at a bid price of \$5.00 to \$15.00 per acre-foot.

- 1988 - 122,000 acre-feet to the California Department of Water Resources at a price of \$11.50 per acre-foot.
- 1989 - Four transfers took place:
1. 60,000 acre-feet to the East Bay Municipal Water District at \$45.00 per acre-foot for urban use in the east San Francisco Bay area.
 2. 7,000 acre-feet to the City of Napa for \$45.00 per acre-foot.
 3. 90,000 acre-feet for urban use in the Santa Clara Valley Water District south of San Francisco at \$45.00 per acre-foot.
 4. 110,000 acre-feet for irrigation to offset further ground water overdrafting in the Tulare Lake Basin Water Storage District and the Empire Westside Irrigation District at \$11.00 per acre-foot.

In both 1987 and 1988, YCWA agreed to provide 50,000 acre-feet per year of additional releases to enhance fishery flows under an agreement with the California Department of Fish and Game. Those releases were made without compensation.

C. The Negotiating Process

The Yuba County Water Agency has utilized its consulting engineer as a negotiator for the various water

transfers. The process of bringing willing buyer - willing seller together, although difficult, was overshadowed by the institutional clearances which were necessary before the transfers could actually take place. Through hearings before the California State Water Resources Control Board, permits for these temporary transfers were processed.

The administrative effort and expenses required for obtaining State Water Resources Control Board approval of the 1988 transfers were significant. Much of that investment was for conformance with the California Environmental Quality Act and in response to claimed mitigation requirements for temporary transient conditions. In response to those concerns, the California Legislature has revised Section 1725, et seq. of the State Code to facilitate those temporary transfers. The revisions remove the requirement for conformance with CEQA and direct the State Water Resources Control Board to limit its findings to a determination of potential adverse impact on other water users, fish, wildlife or other instream beneficial uses.

D. Benefits to Yuba County

The above-described temporary transfers have provided a significant cash infusion to the Yuba County Water Users. Additional temporary transfers are being developed for 1990. The proceeds from the sale of water

are being deposited in a fund to provide low interest loans to local water agencies to further develop and utilize the water resources of the Yuba River. The Yuba County Water Agency is also investigating some longer term and possibly permanent sales of water. Proceeds from those transactions would be also dedicated toward future water resources development in Yuba County.