IID/MWD AGREEMENTS : IMPLEMENTATION OF WATER CONSERVATION AND NEGOTIATION OF LAND FALLOWING

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Abstract: Water demand in Southern California is increasing due to urban growth. It is estimated that California's population has doubled since the authorization of the State Water Project in the late 1950s. Reliable water supplies imported from the Colorado River, Owens Valley, and the State Water Project, on the other hand, have been reduced for a variety of reasons. Faced with the current and projected water supply shortages in its service area, The Metropolitan Water District of Southern California (Metropolitan) is aggressively pursuing various programs aimed at improving the adequacy and the reliability of the short- and long-term water supplies of Southern California. Such programs include water conservation, regional wastewater reuse, conjunctive use, groundwater storage and recovery, water transfers and exchanges, land fallowing programs, and other innovative water management programs.

Urban water demand reduction through water conservation in Metropolitan's service area will not be sufficient to bridge the gap between supply availability and demand. Economic incentives provided by urban water supply agencies to agriculture have resulted in a more efficient and effective use of agricultural water and have proven to be a viable option in enhancing urban water supplies as evidenced by the 1988 Water Conservation Agreement (Conservation Agreement) between the Imperial Irrigation District (Imperial) and Metropolitan. The Conservation Agreement calls for Metropolitan to bear the capital, annual direct and indirect costs of 15 structural and non-structural conservation projects that Imperial is currently implementing. The capital costs of the conservation program are estimated to total $97.8 million, the indirect costs $23 million, and the annual direct costs $2.6 million upon full implementation, all in 1988 dollars. In return, Metropolitan is entitled to divert a quantity of water from the Colorado River equal to the amount conserved by the conservation projects and two additional projects. Approximately 106,110 acre-feet annually is expected to be available to Metropolitan upon full implementation of the program, except under certain limited conditions. The cost of the conserved water is estimated to be $120 per acre-foot (1988 dollars).

Implementation of the conservation projects began in February 1990. A total of 141 miles of lateral and main canals have been concrete lined through September 1992. Two reservoirs have been constructed, and 14 tailwater pumpback systems and three drip systems have been installed. Twelve-hour water deliveries to farms (instead of the conventional 24-hour deliveries) have been made since the first month of implementation. Work on system automation, the Plum-Oasis Interceptor, non-leak gates, and other irrigation water management projects are under way. Metropolitan has available for its use in calendar year 1992 an additional amount of water, 33,929 acre-feet, which is equivalent to that conserved by implemented projects by the end of 1991. Metropolitan is expected to have 53,000 acre-feet of water available from the program in calendar year 1993.

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As part of its efforts to augment its Colorado River water supplies, Metropolitan has embarked on a test land fallowing program with Palo Verde Irrigation District (Palo Verde), one of the four California agricultural agencies with contracts for use of Colorado River water. Metropolitan, Palo Verde, Imperial, Coachella Valley Water District, and the United States executed an Agreement for the Implementation of a Test Land Fallowing Program and Use of Saved Water in May 1992. Metropolitan is compensating landowners/lessees in the Palo Verde Valley for fallowing 20,215 acres of farmland for a two-year period. Of the acreage fallowed, about 13,000 acres would have been planted with alfalfa. In return, Metropolitan is entitled to store the saved water, estimated at 92,989 acre-feet per year, in Lake Mead for subsequent use until the end of 1999. Implementation of a Land Management Plan by participating landowners/lessees is required to ensure that land and water resources are preserved and that adverse impacts, if any, due to land fallowing upon adjacent farms, the community, or Palo Verde are eliminated or minimized.

A two-year land fallowing agreement similar to that with Palo Verde is being negotiated with Imperial. In addition to land fallowing, a modified alfalfa irrigation program is being considered. Under such a program, alfalfa would not be irrigated for specified periods of time during the summer months, and landowners/lessees would be compensated for lost revenues due to reduced yields. Water saved by the program would be stored in Lake Mead for future use by Metropolitan.

Reaching such agreements is a complex process involving technical, legal, institutional, and political issues. An update of the current and projected water demands and supplies in Southern California, and a summary of the programs being pursued by Metropolitan to enhance its water supplies, in particular those involving Colorado River water, will be presented.