



THE CITY OF SAN DIEGO
REPORT TO THE CITY COUNCIL

DATE ISSUED: May 19, 2006 REPORT NO: 06-061

ATTENTION: Natural Resources and Culture Committee
Agenda of May 24, 2006

SUBJECT: Regional Water Supply Reliability Report from the City's SDCWA
Board Delegates

REFERENCE: Council Policy 400-09

REQUESTED ACTION: Information Only.

STAFF RECOMMENDATION: Accept the report.

SUMMARY:

San Diego enjoys a Mediterranean climate with lots of sunny days. With an average of only 10 – 12 inches of rainfall annually and modest groundwater supplies, San Diego must import 85% or more of its annual water supplies from Northern California via the State Water Project and the Colorado River. Two regional water supply agencies are charged with providing San Diego with its imported water supply deliveries. They are the:

- San Diego County Water Authority (Water Authority), and
- Metropolitan Water District of Southern California (Metropolitan).

These two state agencies are governed by their member agencies. As such, their respective Boards of Directors are responsible for representing their local constituencies while developing regional water supply solutions. The City of San Diego is represented on the Water Authority's Board of Directors by ten individuals appointed by the Mayor and confirmed by Council. The Water Authority is, in turn, represented by a subset of four of their Boardmembers (two of whom are from the City of San Diego) on Metropolitan's Board of Directors.

The ten individuals appointed to the Water Authority's Board of Directors are known as the "City-10". The report that follows represents their annual report to Council regarding regional water supply reliability.

2006 Water Supply Reliability Status – Short Term

Metropolitan has indicated that it anticipates receiving surplus amounts of imported water in 2006 from its two sources:

- the Colorado River (CR), and
- Northern California via State Water Project (SWP) deliveries

The California Department of Water Resources (DWR) recently announced that it will deliver 100% of Metropolitan's allocation in 2006 – a first in the State Water Project's history. Additionally, Metropolitan receives approximately 650,000 acre-feet¹ a year of imported water from the Colorado River.

Metropolitan anticipates receiving more water than it will sell in 2006. As such, Metropolitan is putting surplus supplies into storage throughout California for future use. This suggests that Metropolitan's service territory will have enough imported water available to its member agencies over the next two-three years even if a drought were to occur during that time.

Metropolitan has increased its storage capacity ten-fold over the past fifteen years. San Diego ratepayers have contributed financially towards these projects and they have clearly benefited the San Diego region. These investments in water supply reliability have allowed Southern California to experience recent record demands for imported water without the hardships experienced during the drought of the late 1980's and early 1990's.

Augmenting imported water supplies from Metropolitan, the Water Authority also receives additional Colorado River supplies that will be available only to Water Authorities member agencies as a result of the historic water transfer agreement between the Imperial Irrigation District (IID) and the Water Authority. The Water Authority received its first delivery of 10,000 acre-feet of IID water in 2003. That amount has increased to 40,000 acre-feet to be delivered in 2006. The delivery schedule will continue gradually increasing over time, culminating in deliveries of 200,000 acre-feet a year to the Water Authority in the year 2021 and each year thereafter for a total of 75 years after which time the agreement can be renegotiated.

Long Term Water Supply Reliability

Population growth in Southern California, and specifically in San Diego County, is expected to continue increasing. Water managers must plan accordingly and map out long-term water supply solutions to assure water supply reliability in the future.

Water supplies from the Colorado River and State Water Project are fully subscribed. New water supplies will need to come from new sources which are generally more expensive than the CR and SWP supplies. The following items represent the mix of water supply options that the San Diego region is pursuing.

¹ An acre-foot is equal to 325,851 U.S. gallons (1,233.48 cubic meters) or roughly enough water to service two average families for a year.

Water Conservation

Water conservation programs continue to be a primary strategy for water managers to make the most with the water supplies we already have. Southern California has benefited greatly from the water conservation programs successfully employed to date such as providing financial incentives to customers to retrofit their existing toilets with more water efficient toilets.

Indoor water conservation programs have been fully implemented over the past dozen years since the last drought. As such, water managers are looking to the next frontier in water conservation: *outdoor* (landscaping) conservation programs. Both Metropolitan and the Water Authority are actively engaged in assisting the retail water agencies achieve greater levels of water-use efficiency. In 2005, Metropolitan raised the amount of conservation incentives from \$154/acre-foot to \$195/acre-foot. Metropolitan and the Water Authority offset the City Water Department's conservation program budget by more than \$1 million annually with these valued financial incentive programs.

The Water Authority is also considering adoption of some very successful outdoor conservation programs that were originally developed by the City's Water Department for use throughout the county. One of these programs employs satellite imagery to determine actual landscape sizes per property and helps residents and businesses determine how much water they should be using according to real climate demands. The Water Authority is also organizing a Conservation Summit for the Fall of 2006 to engage community leaders in an action-plan to pursue new water-use efficiency projects.

Metropolitan also has a new ad campaign that will be airing this summer in San Diego County showcasing easy ways for people to save water every day.

Conservation is the only "new" water supply source which may cost less than existing CR and SWP water supplies. Conservation is expected to represent 10% of San Diego's annual water demands in the year 2020.

Recycling and Groundwater Development

Recycling wastewater and developing groundwater supplies is expected to increase from 4% of current water supplies in the Water Authority's service territory to 12% in 2020. Development of these local water supplies is essential to making sure the San Diego region maintains its water supply reliability. In recognition of this fact, the Water Authority recently increased its financial incentive for the development of these local supplies from \$100/acre-foot to \$147/acre-foot. These incentives directly benefit the City of San Diego's recycled water and groundwater programs, helping to make them more affordable for our ratepayers.

Water Transfer

The IID water transfer to the Water Authority represents San Diego's single-most important reliability program to date. This transfer agreement transfers up to 200,000 acre-feet of first-priority (least likely to be interrupted in times of drought) Colorado River water to the Water

Authority's service territory. By 2020, this water will represent 21% of our region's total imported water supply. The cost of this water is currently about 40% more expensive than is Metropolitan's Tier 1 water supply. However, the costs may become more in line with Metropolitan rates in the future.

Canal Linings

The Water Authority also negotiated a deal in 2003 wherein it will receive 77,700 acre-feet annually of new Colorado River supplies that result from lining sections of the All-American and Coachella canals. These two canals deliver Colorado River water to farmland throughout Imperial County. Because the canals are currently unlined, significant amounts of the CR water is lost to seepage. The Water Authority is paying to line the canals in order to be able to take delivery of the conserved water supplies. In 2020, the water provided by the canal lining projects is expected to represent 9% of the region's imported water supplies.

Surface Storage

To compensate for the lack of large groundwater basins in the San Diego region, 25 reservoirs have been built over the years with a combined capacity of almost 600,000 acre-feet of water. Sixteen of these reservoirs are connected to the Water Authority's imported water delivery system and are able to store imported water in addition to local runoff. The City of San Diego owns nine of the reservoirs representing 70% of the region's total storage capacity or 415,939 AF.

As part of the Water Authority's Emergency Storage Program, the Olivenhain Reservoir was recently built. This reservoir maintains emergency supplies of 25,000 acre-feet at a cost of \$11,000 per acre-foot. This water can only be drawn upon during emergency situations such as an earthquake.

The Water Authority also plans to raise the dam at the City's San Vicente Reservoir by 54 feet to allow for an 52,100 acre-feet of additional emergency storage. Consideration is also being given to raising the dam an additional 69 feet ("super-sizing") to also provide an additional 100,000 acre-feet of carry-over supplies to the region.

Surface storage is a water supply component expected to increase from 3% of the region's supplies to 9% in 2020.

Seawater Desalination

Seawater desalination is a water supply option that many coastal communities such as San Diego are currently considering. The promise of having a drought-proof, nearly limitless supply of drinking water nearby is enticing. The reverse osmosis technology employed to remove the salt from seawater is feasible. Two main issues continue to frustrate desalination project pursuits: cost and environmental concerns.

At least five of Metropolitan's member agencies are actively considering development of seawater desalination projects. Metropolitan is offering a \$250/acre-foot incentive for its member agencies that produce desalinated seawater.

The Water Authority has identified a potential 50 million-gallon-day (mgd) seawater desalination project in Carlsbad that it is actively pursuing. The site location for this project is preferred because the Encina Power Plant is already located at the water's edge and it already intakes seawater to cool its operations.

This potential project is complicated by the presence of Poseidon Resources (Poseidon), a private company which has an exclusive agreement with the Encina Power Plant for use of its facilities. Poseidon and the Water Authority continue working through negotiations in hope of finding common ground. Poseidon has agreements for the sale of water with the City of Carlsbad and two other water agencies in northern San Diego County.

The Water Authority is hopeful that it will prevail in its negotiations with Poseidon and be able to deliver a new supply of water to the region at an affordable cost. If successful, seawater desalination is expected to represent 6% of the region's water supply in 2020.

Finding the Balance between Water Supply Reliability and Costs

In 2004, the Water Authority's Board of Directors conceptually approved the above represented mix of water supply reliability projects at an estimated cost of \$3.2 billion. Clearly, this capital program will result in higher rates for ratepayers. These rate increases will be in addition to rate increases passed along by Metropolitan for investments in its own water supply reliability programs. By 2016, effective imported water rates are projected to reach \$769/AF for untreated water, up from \$448/AF in 2004.

Obviously, these projections represent a significant increase in ratepayer costs, an increase the Water Authority Board of Directors believed to be warranted given the need for water supply reliability in San Diego.

However, since 2004 Southern California has witnessed an unexpected rise in the cost of raw materials and labor. Steel, cement, and other raw materials are increasing at a rate closer to 8% - 10% annually instead of the 2% - 3% increase that had been the norm previously.

The Water Authority has responded to this new construction cost climate appropriately and has organizing a "Construction Cost" ad hoc committee tasked with looking for innovative cost containment programs as well as assigning updated cost estimates to those capital projects that have yet to be awarded. A full review of the projects in the Water Authority's Master Plan will be considered in light of cost updates. It is possible that some projects may be reduced in scope or eliminated in order to maintain affordability.

FISCAL CONSIDERATIONS: None.

PREVIOUS COUNCIL and/or COMMITTEE ACTION: Council Policy 400-09

COMMUNITY PARTICIPATION AND PUBLIC OUTREACH EFFORTS: N/A

KEY STAKEHOLDERS AND PROJECTED IMPACTS: N/A

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