

IRVINE RANCH WATER DISTRICT POLICY POSITION ORANGE COUNTY WATER RELIABILITY IMPROVEMENTS

Revised: January 22, 2018

Issue Summary:

Unplanned interruptions in a retail water agency's ability to provide water can have dire consequences to its customers and local economy. It is in the best interest of all water agencies to work with each other to ensure that all customers in Orange County have access to reliable supplies of water. Irvine Ranch Water District is positioned from both a geographic and hydraulic perspective to assist Orange County water agencies to implement new projects and programs that will further increase water supply and system reliability countywide.

Background:

Orange County water agencies remain dependent on imported water supplies. These imported water supplies are provided through major pipeline systems that deliver treated and untreated water from Metropolitan Water District of Southern California (MWD) and through water deliveries made from IRWD's Baker Water Treatment Plant. The Baker Plant makes use of untreated Colorado River water from MWD that is available through the Santiago Lateral. MWD's Diemer Water Treatment Plant provides most of the treated imported water supply to Orange County.

The regional potable water supply system serving South Orange County has limited looping or redundancy options and has limited local storage capacity. A large earthquake or other disaster could damage the East Orange County Feeder Number 2 or the Allen McCulloch Pipeline, potentially causing significant reductions in water deliveries to South Orange County for multiple days. A major earthquake that damages the Diemer Water Treatment Plant could potentially interrupt South Orange County water supplies for more than a month. Many South County water agencies have constructed additional storage facilities to rely upon during such potential supply interruptions and some of the agencies have developed recycled water systems that diversify their water supplies and improve reliability. While these storage and recycled water projects have improved regional supply reliability, they are not expected to provide complete system and supply reliability for South Orange County.

MWDOC's 2004 South County Reliability Plan:

In September 2004, the Municipal Water District of Orange County (MWDOC) and the South Orange County retail water agencies (with support from the Bureau of Reclamation) completed a four-year reliability planning effort with the release of the South Orange County System Reliability Plan. The Plan appraised system risks and identified projects to increase system reliability.

The Plan concluded that water system reliability in South Orange County could be substantially increased by accessing the Orange County Groundwater Basin. It also concluded that some emergency water supplies for retail water agencies in south Orange County could be provided through IRWD's potable water distribution system. It identified IRWD interconnections that would strengthen the backbone distribution system of the South County water agencies.

Emergency Services Agreement:

The 2004 Plan was the impetus for the Emergency Service Program Participation and Operations Agreement for South County and Irvine Ranch Water District Interconnection Projects (Emergency Interconnect Agreement) that was executed in November 2008. This agreement led to the construction of pump station improvements and pipeline connections that provide emergency supplies to participating South County water agencies. The agreement acknowledges that IRWD's ability to deliver such emergency supplies will diminish over time.

Baker Water Treatment Plant:

The plan also contemplated the Baker Water Treatment Plant and an inland well field connected to the East Orange County Feeder No. 2. Construction of the Baker Plant began in 2014 and was placed into service in January 2017. The project provides 28.8 million gallons per day of drinking water to IRWD and four South Orange County water districts. The Baker Plant was designed to treat MWD supplies from the Colorado River; it also has the ability to treat native water available from Irvine Lake. IRWD holds rights to store and use water from Irvine Lake.

2016 OC Reliability Study:

In December 2014, MWDOC initiated a comprehensive assessment of the current and future water supply and system reliability for all of Orange County. This evaluation, known as the "Orange County Water Reliability Study", was completed in 2016. MWDOC led the study efforts with the collaboration of the managers from MWDOC's member agencies, Orange County Water District (OCWD) as well as the cities of Anaheim, Fullerton and Santa Ana. These managers formed the Working Group that provided direction and technical support to the study including the development of study assumptions associated with future water demands, system modeling, scenario development and the implementation of future projects. IRWD staff actively participated in the over 25 meetings of the Working Group.

Study Findings:

The findings of the 2016 OC Reliability Study indicated that if MWD and its member agencies were to implement a reasonable list of projects that have a high likelihood of success, that future water supply shortages in the Brea/La Habra and Orange County Basin areas would be small enough to manage through enhanced groundwater management and additional water conservation efforts. The findings further indicate that shortages in the South Orange County area would require additional water supply projects and programs to improve both supply and system reliability during shortage periods. The study demonstrated that substantial improvements in South County reliability could be achieved through access to water banking projects, water conservation efforts and access to emergency supplies from the Orange County Basin. Such improvements could be realized without having to invest in costly base loaded supplies from sources such as seawater desalination projects. The base loaded supplies from such sources would not be needed in most years and would provide little benefit to Orange County.

Future Water Supply Reliability Improvement Programs:

IRWD Water Banking Benefits Extended to Orange County Agencies:

As IRWD continues to implement its water banking programs in Kern County, it will become possible to share this reliability benefit with other water agencies, especially those within Orange County. IRWD has begun discussions with MWDOC to implement a shared reliability program that would provide access to supplies from IRWD's water banking projects in Kern County to other Orange County water agencies.

Storage Accounts and Exchanges in the Orange County Basin:

OCWD is considering the implementation of programs that could increase water supply reliability as contemplated in MWDOC's 2004 and 2016 studies. IRWD and the other Orange County Groundwater Producer Agencies have a vested interest in maximizing the use of storage in the Orange County Basin to meet their own water supply reliability needs. These vested interests should be protected and be given first priority consideration by OCWD prior to implementing a storage and exchange program.

Policy Principles:

Following are policy principles to help guide IRWD in advocating for and pursuing projects and programs to assist Orange County water agencies in improving water supply and system reliability.

- IRWD should work with all the water agencies in Orange County to ensure that all agencies have access to water supplies for use during emergency conditions.
- Orange County water agencies should be encouraged to pool resources to finance the facilities necessary to achieve water reliability. MWDOC should work with affected agencies to encourage participation and should act as a facilitator on behalf of the beneficiary agencies.
- IRWD recognizes that it is uniquely positioned, from both a geographic and hydraulic perspective, to facilitate the conveyance of water into South Orange County. IRWD should continue to work with the South County water agencies to maximize the ability to deliver emergency supplies through the IRWD system by making use of existing interconnections and implementing improvements and programs that will ensure the ability to provide deliveries of water into the future. The development of amendments to the existing emergency interconnect agreement should be considered to facilitate such improvements and programs, based on the availability of capacity within IRWD's facilities.
- The Groundwater Producers and OCWD staff should work together to identify ways to optimize the management of the Orange County Groundwater Basin (Basin) to increase water in storage, reduce pumping costs and increase dry-year water supply reliability. Once measures have been identified to optimize storage in the Basin, the Producers and OCWD staff should determine how much storage is available for allocation to individual Producer storage accounts as well as establish rules for the allocation of storage and related operations.

- IRWD supports efforts of MWDOC and the other Orange County water agencies as they work with the Orange County Water District in securing a contractual ability of retail water agencies to store or exchange water in the Orange County Basin; any storage and exchange program within the Orange County Basin should first be made available to the Groundwater Producer Agencies and should benefit the Groundwater Basin. Nothing should preclude the ability of a Groundwater Producer to provide emergency supply assistance within the County through participation in a storage and exchange program.
- IRWD supports efforts by MWDOC to secure the ability to convey groundwater through regionally owned transmission facilities operated by MWD to increase water supply reliability in Orange County.
- Concepts, policies, terms, and processes for implementing any program to assist South County agencies with emergency water supply reliability, using water from the Orange County Groundwater Basin, should be limited to the use of interconnections and must first be vetted with the Groundwater Producer Agencies. The terms must ensure that the water supply reliability needs of the Groundwater Producers are met as a first priority and that the Producers are protected from cost impacts or any infringement on groundwater production rights.
- The implementation of any programs involving water from the Basin to improve the emergency supply reliability of South County agencies must be consistent with the OCWD District Act, the requirements of the California Environmental Quality Act and should not infringe upon the jurisdiction of other Orange County agencies. Existing contractual arrangements, such as the Dyer Road Well Field Agreement and the Emergency Interconnect Agreement, should take priority over any subsequent arrangements.
- IRWD should work to update existing or develop new interconnection agreements that would allow participating South County water agencies to reimburse IRWD, proportionately, for access to existing capital facilities as well as improvements to the IRWD system needed to allow South County water agencies access to stored or exchanged water. Such reimbursements should take into consideration the total cost of delivering water through the IRWD system including appropriate capital, operational, maintenance, energy, replacement, administration and water purchase expenses.
- Use of IRWD infrastructure by South County agencies should be subject to current and future availability, with the needs of IRWD's customers taking top priority.
- IRWD should work with MWDOC to implement a shared reliability program that would provide access to supplies from IRWD's water banking projects in Kern County to Orange County agencies by selling options to call on water during water shortage conditions.
- IRWD should also consider using its rights to store and use water from Irvine Lake, its capacity rights in the Baker Plant, and other IRWD water supply assets to provide shared water supply reliability benefits to South County water agencies during both emergency and water shortage conditions.

- Any sharing of benefits from IRWD projects with Orange County water agencies should not result in impacts to the ability of IRWD to meet the water supply needs of its service area or financially impact its customers. IRWD should be proportionally compensated for its capital investments as well as appropriate operations, maintenance, replacement and administration costs.