IRVINE RANCH WATER DISTRICT POLICY POSITION
ON DESALINATION PROJECTS

Adopted: March 28, 2022

Issue Summary:

Locally available brackish and ocean water sources may provide alternative supplies of water once treated to acceptable standards. Desalination projects should be implemented when costs for treatment and distribution are competitive with existing reliable supplies or with other supplies under development. Retail agency participation in desalination projects should be optional and funding should be recovered on a beneficiary pays basis. If this is not possible, then the project should not proceed.

Background:

Desalination is the process of reducing salt and mineral concentrations in otherwise unusable water supplies (such as seawater) into water usable residential, commercial, and agricultural purposes. The process typically involves treatment with membrane systems (such as reverse osmosis), ion exchange, or thermal distillation. Using current technology, desalination could provide Southern California with supplemental supplies of high-quality drinking water that are reliable, though expensive. A desalinated water supply would be locally available and less vulnerable to hydrological and other uncertainties. Developing desalination facilities would diversify the region's water supply portfolio leading to greater overall reliability. Metropolitan Water District of Southern California (MWD) recognizes desalination in its current Integrated Resources Plan as a key future water supply component and could consider such projects as eligible to receive incentives through its Local Resources Program.

Without substantial outside subsidies, ocean desalination is generally not cost effective at this time. Much less expensive water supply options are available including water transfers, exchanges, treatment of impaired groundwater and water recycling. As future technological improvements reduce the cost of reverse osmosis membranes and the amount of energy used by the membrane process, the cost of producing desalinated ocean water will decline. For this reason, the water industry, including IRWD, should support development of desalination technologies, regulatory streamlining, and public acceptance – but only when the time is right.

Proposed Ocean Desalination Projects:

Poseidon Water LLC, a portfolio company of Brookfield Infrastructure Partners, is proposing to develop an ocean water desalination facility in Huntington Beach. The project concept advanced by Poseidon envisions development of a 50 MGD ocean water desalination plant at the AES power plant in Huntington Beach. Poseidon has executed a non-binding term sheet with Orange County Water District (OCWD) to purchase the desalinated water from the proposed Huntington Beach Ocean Desalination Plant.

In the past, a working group of agencies interested in participating in the Huntington Beach project met on a regular basis at the Municipal Water District of Orange County (MWDOC) to review studies of the project and to discuss the proposed attributes and costs of the proposed project. This working group process ended in 2013 with limited interest among agencies to participate in the project. Since then, OCWD has been considering committing its 19 Groundwater Producer

agencies to involuntarily purchasing the water from proposed project for the purpose of recharging the drinking-quality water into the Orange County Groundwater Basin.

MWDOC has also participated in the investigation of the feasibility of developing the proposed Doheny Ocean Water Desalination Project in Dana Point and could take action on the project at some point in the future. Agencies in South Orange County are considering developing the Doheny Project. The policy principles provided below address policy areas that will be important in providing comments on reports and analyses being prepared by OCWD and/or MWDOC related to the two proposed ocean desalination projects as well as the permitting of the projects.

Optional Participation and Cost Recovery:

A key issue in Orange County affecting the implementation and acceptance of ocean desalination is cost recovery. Some retail agencies may receive greater benefit from ocean desalination than others. Moreover, some agencies may have other more cost-effective supply options and may not want to have any participation in a desalinated supply. As such, an acceptable financial participation mechanism, such as a voluntary Joint Powers Authority (JPA), needs to be established to appropriately recover and allocate costs associated with an ocean desalination project. This would not only resolve cost recovery issues related to these projects, but it would also provide the ability for retail water agencies to opt in or out of participation while building focused support for implementation of desalination projects.

Following are policy principles related to potential desalination projects.

<u>Policy Principles:</u>

- IRWD supports the investigation of cost-effective alternative supplies of water. IRWD also supports the development of desalination technologies, regulatory streamlining, public acceptance, and the pursuit of regional, state, and federal funding programs to ensure the feasibility of future water supplies.

- Based upon the diversity and reliability of IRWD's existing and planned water supplies and IRWD's current and projected cost of water, IRWD may consider participation in ocean desalination projects in the future when economics become more favorable and delivered costs to IRWD's system become comparable to alternative supplies then available to IRWD.

- IRWD's consideration of participation in desalination projects shall be consistent with the Board's adopted Potable Water Supply Reliability Policy Principles.

- The need for ocean desalination projects should be identified considering the frequencies, magnitudes, timing and durations associated with events that could affect the reliability of existing and alternative cost-effective supplies (e.g., banking water for use during short-term emergencies is more cost effective than replacing an existing annual imported supply with more expensive desalinated ocean water).

- Projects utilizing ocean desalination for a new water supply should be funded exclusively by the retail water agencies that voluntarily participate in the projects. Participation in county wide desalination projects should be available to agencies on an optional basis.

- A "wholesale water agency," such as OCWD or MWDOC, should obtain desalinated water purchase commitments from the retail water agencies it sells water to before making any commitment to a proposed project.

- IRWD opposes regional ocean desalination projects that do not provide the ability for individual retail agencies – such as IRWD – to opt out of participation.

- Desalination projects in Orange County that exceed the cost of import water from MWD should not be considered when imported water is available from MWD. As long as water from a desalination project is more costly than imported water that it replaces, the water supply benefit of the desalination project will be shifted to all other agencies in the MWD service area while Orange County customers pays for the water.

- MWD's Water Supply Allocation Plan formulas for sharing reliability during periods of allocation should be taken into consideration when evaluating the water supply benefits of desalination projects and in making estimates of the costs of water from the projects to its participants.

- The evaluation of the cost of construction, operation and maintenance of desalination projects should take into consideration the risks and uncertainties associated with significant features including intake and brine disposal facilities as well as uncertainties associated with rates of increases in electricity that are expected in the future.

- Future operational cost reductions associated with improvements to efficiencies of membrane technologies should be shared among all participants in a desalination project.

- The consideration of Local Resources Program incentives from MWD for a desalination project should take into consideration that the sliding scale and fixed incentives would only be available to the extent that the incentives reduce the cost of water from the project towards the cost of treated water from MWD (i.e., the subsidy cannot reduce the cost of water below the MWD treated rate).

- MWD should provide LRP incentives to desalination projects through separate funding initiatives that do not impair the ability of non-desalination related local projects to receive funding under existing MWD limits for LRP investments.

- Local and regional partnerships for the construction, operation and maintenance of ocean desalination projects should rely on the experience of local agencies with proven track records constructing and operating desalination facilities.

- Agencies volunteering to participate in ocean desalination projects should take into consideration comparisons of the costs and methods of delivery of the design, construction,

and operation of desalination facilities by public agencies with the costs and methods of delivery of the design, construction, and operation through private partnerships. Participants should select the most cost effective and least risk method of project implementation.

- Comparisons of the cost of water from a desalination project should not be made against the cost of full service treated water from MWD when the water from the desalination project is displacing purchases of available untreated water from MWD.

- The financing of desalination projects should occur using methods that result in the lowest cost of water and debt to the participating agencies. Project costs should not be "back-loaded" to initially understate the true cost of desalinated water.

- Costs associated with desalination projects that are passed along to customers should not unduly burden disadvantaged communities or low-income customers, and should not add to the cost of doing business in California.

- Potential participating retail agencies in Orange County should continue efforts to evaluate an ocean desalination project at the Huntington Beach site while less expensive sites located inland from the beach should be considered as an alternative to expensive beach-front sites.

- MWD should consider the development of cost-effective regional desalination projects that provide benefits to all MWD's service area in an equitable fashion.

- Desalination product water must meet all applicable drinking water standards and must not create water quality impacts that impair the production of recycled water, reduce the quality of potable water delivered to IRWD customers or result in corrosive impacts to facilities.