



## IRVINE RANCH WATER DISTRICT

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December 29, 2016

Mr. Robert Hunter  
General Manager  
Municipal Water District of Orange County  
18700 Ward Street  
Fountain Valley, CA 92708

Re: Proposed Resolution for Proposed Seawater Desalination Project at Huntington Beach

Rob:

On January 3, 2017, the Municipal Water District of Orange County (MWDOC) Planning and Operations Committee will consider a potential joint resolution with Orange County Water District (OCWD) intended to facilitate working together in the distribution and integration of drinking water from the proposed seawater desalination project at Huntington Beach. The purpose of this letter is to provide information that may assist MWDOC in its consideration of a potential resolution as well as MWDOC's future participation in the project.

### Previous Analysis of the Huntington Beach Desalination Project:

Prior to 2013, MWDOC facilitated a seawater desalination working group of water agencies throughout Orange County, in which Irvine Ranch Water District (IRWD) and many other agencies were active participants. The Working Group reviewed project-related study results and discussed the attributes, impacts, and costs of the proposed desalination project. This working group process was suspended in 2013, with limited interest among the retail water agencies for participating in the project. Since 2013 OCWD has been investigating whether it should commit to a long-term take-or-pay contract with Poseidon for all of the water produced by the proposed desalination project. Since 2013 IRWD has engaged with OCWD in its evaluation of the project to ensure that the interests of IRWD's customers, as well as other interests throughout the region, are protected should this desalination project be implemented in the future.

### Water Resource Planning and Beneficiaries Responsibilities:

IRWD has significant experience in the planning, design, construction, and operation of cost effective water supply projects. The projects implemented by IRWD have significantly reduced IRWD's dependence on imported water, providing substantial improvements in water supply reliability. These projects include water recycling facilities and two brackish groundwater desalination projects that produce water which is highly reliable and competitive with the cost of imported water. It is important to note that the IRWD customers who benefit from IRWD's desalination projects are the same individuals that pay for these reliability benefits directly through their water rates.

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As a result of the investments that IRWD's customers have made in water recycling, desalination projects, and water conservation efforts, coupled with IRWD's evaluation of cost-effective water supplies for the future, IRWD does not foresee the need to pursue supplies from the proposed seawater desalination project at Huntington Beach. IRWD's long-standing position remains that Orange County water agencies who wish to avail themselves of water supply benefits from a specific project should be financially responsible for the cost of that project, without forcing non-participating agencies to subsidize the project. With IRWD not participating in the proposed project, there would also be more water available from the project to be purchased and used by other Orange County retail agencies that have identified a need for the water.

IRWD recognizes that other retail water agencies in Orange County may determine that participating in the proposed seawater desalination project could be an effective method of increasing the reliability of water supplies delivered to the benefit of their customers. IRWD supports these agencies' rights to participate in the project as long as there are no adverse impacts to IRWD and its projects, IRWD customers are not asked to subsidize the cost of water from the project, and IRWD's ability to use imported water from Metropolitan Water District of Southern California (Metropolitan) and high quality groundwater from the Orange County Groundwater Basin (the Basin) is not impaired.

#### Impacts to Potable Water Customers:

OCWD is currently considering recharging desalinated seawater into the Basin with as many as 26 new injection wells. Injecting desalinated seawater into the Basin could greatly increase the salt load within the Basin over time, lower the quality of water within the Basin as compared to conditions without the project, and unreasonably affect beneficial uses by increasing concentrations of some pollutants. It would also require the construction of hundreds of millions of dollars of groundwater pumping and conveyance facilities by local retail water agencies.

IRWD has contracted with consultants at Thomas Harder & Company and HDR, Inc. to evaluate the water quality impacts associated with recharging or making direct deliveries of desalinated seawater on the quality of water from IRWD's recycled water system as well as on the quality of potable water delivered to IRWD customers. Preliminary analyses indicate that concentrations of dissolved solids, specifically boron, could significantly increase in the groundwater that IRWD pumps from the Basin as a result of recharging the desalinated seawater. The increased boron concentrations could result in significant impacts to ornamental and agricultural plants grown by customers served by IRWD as well as other groundwater producer agencies. IRWD staff has shared this information with OCWD, and will continue to work with OCWD to fully understand the probable impacts.

#### Impacts to Recycled Water Customers:

Any direct deliveries of desalinated seawater through IRWD's potable water system that offset the use of better quality groundwater could impact the quality of potable water delivered by IRWD to its customers and of sewage flows coming into IRWD's Michelson Water Recycling Plant (MWRP). A higher level of total dissolved solids (TDS), especially chlorides, is not

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acceptable in IRWD's recycled water. Any substantial increases in TDS in IRWD's recycled water as a result of the proposed desalination project could impair IRWD's ability to meet existing Regional Water Quality Control Board permit requirements for discharges into recycled water storage reservoirs considered Waters of the United States. Additionally, increases in TDS (especially chlorides and boron) in IRWD's recycled water make it difficult to meet the needs of IRWD's customers, with whom IRWD has 50 years of experience providing recycled water that meets their water quality needs.

These significant impacts could force the construction of salt removal (e.g., reverse osmosis) treatment facilities at IRWD's recycled water treatment facilities to reduce salt levels in the recycled water. The construction and operation of these facilities would result in substantial capital and annual operations and maintenance costs that would need to be borne by the agencies required to mitigate the impacts caused by the seawater desalination project.

#### Consideration of Impacts and Evaluation of Alternatives:

OCWD is currently preparing a Notice of Preparation for an Environmental Impact Report (EIR) that is required to address the large number of injection wells and pipelines that are needed to directly recharge the desalinated water. If MWDOC were to participate in the distribution of the desalinated water, it would be responsible for evaluating and mitigating all impacts of directly delivering desalinated seawater to its member agencies that chose to participate in the project.

In addition to considering impacts, the California Environmental Quality Act (and good water resource planning) requires that the proposed seawater desalination project at Huntington Beach be compared against other water supply alternatives. An alternatives analysis is a necessary step to determine whether the project will provide water supply reliability benefits in an effective and environmentally sound way. On July 7, 2015, MWDOC staff presented to the MWDOC Planning and Operations Committee its conclusion that if the seawater desalination plant was constructed, Orange County's water supply reliability "would likely be better off by only a small percentage." An alternatives analysis should be performed that considers MWDOC's July 2015 analysis and then identifies and ranks alternatives that would most effectively fill reliability gaps at the lowest cost and with the least environmental impacts. One alternative to consider is optimizing the storage and use of existing supplies from Metropolitan under different hydrologic conditions. For example, by simply modifying the operation of the Orange County Groundwater Basin while optimizing water purchases from Metropolitan for storage, substantial improvements in local water supply reliability can be achieved without incurring large capital and operating expenses for new infrastructure facilities.

Since the certification of the most recent supplemental EIR for the desalination project, new information is now available related to alternative projects and programs that could increase the water supply reliability of Orange County (e.g., the Orange County Basin Optimization Plan and the Indirect Potable Reuse Project at Carson proposed by Metropolitan). These alternatives were not available for consideration when the City of Huntington Beach certified a supplemental EIR for the seawater desalination project. In addition, changes have occurred to the proposed project related to how water could be distributed from the project and the use of the existing offshore

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intake and discharge facilities that will likely require additional environmental review. This new information and project revisions should be considered in the preparation of a new comprehensive EIR for the seawater desalination project, particularly as the alternatives could alleviate, if not eliminate, the water quality concerns mentioned above. As a joint lead agency for the proposed seawater desalination project, MWDOC would likely be required to prepare such an EIR in conjunction with OCWD.

#### Impacts to Metropolitan:

It is expected that the direct delivery of water from the proposed seawater desalination project would have detrimental impacts to Metropolitan's treatment and distribution system by significantly stranding capacity in its potable water treatment facilities and creating water quality problems in its distribution pipelines. These problems, in combination with the competition for funds to design and construct the Carson Indirect Potable Reuse Project and the facilities associated with the California Water Fix, would make it highly improbable that Metropolitan's member agencies would support providing Local Resource Program funding for the proposed seawater desalination project. Other major policy issues associated with wheeling charges and introduction of water into Metropolitan facilities would also present substantial obstacles to overcome. Based on recent discussions at Metropolitan on the topic of stranded assets, one can anticipate that the costs associated with the impacts to Metropolitan as described above will likely be allocated to the water agencies causing the impacts, thereby further increasing the cost of water from this proposed project.

#### Freedom to Choose – Beneficiaries Pay for Benefits Received:

Should other Orange County retail agencies determine that they would benefit from the proposed desalination project (based on each agency's own assessment of the impacts of ongoing water conservation efforts as well as each agency's own determination that low cost imported water supplies from Metropolitan will not be reliable), then these agencies should be free to pursue participation in the proposed desalination project. The participation by these agencies should be structured such that the project is not subsidized by agencies choosing not to participate in the project. An example of this "Beneficiaries Pay Model" is the recently completed Baker Water Treatment Plant, where the entire financial burden for this project was borne by the project participants. Any forced subsidization by others would result in a violation of Proposition 218's and Proposition 26's cost of service and proportionality requirements.

We request that you provide a copy of this letter to each of your Board members in advance of the upcoming Planning and Operations Committee meeting. We hope that the information provided above will assist you and the MWDOC Board in considering the proposed joint resolution with OCWD.

Should MWDOC decide to adopt the proposed resolution, IRWD suggests that MWDOC reconvene the Seawater Desalination Working Group suspended in 2013 to further discuss the benefits, costs, risks, and impacts of the project.

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I look forward to discussing the provided information in greater detail with you and your staff. Please contact me at (949) 453-5590 so that we can schedule a meeting to discuss the information.

Sincerely,

A handwritten signature in blue ink, appearing to read "Paul A. Cook".

Paul A. Cook, P.E.  
General Manager

cc: Mike Markus, OCWD