



Irvine Ranch  
WATER DISTRICT

June 6, 2018

Mr. Mike Markus, P.E.  
General Manager  
Orange County Water District  
18700 Ward Street  
Fountain Valley, CA 92708

Subject: Proposed Term Sheet for Seawater Desalination Project at Huntington Beach

Mike:

On June 6, 2018, the Orange County Water District Board of Directors is considering a new term sheet to purchase water from the proposed Poseidon Resources' Huntington Beach Seawater Desalination Project. This letter reiterates Irvine Ranch Water District's concerns with the project and describes a better approach to improving Orange County's water supply reliability.

We recommend that before executing a term sheet with Poseidon, OCWD address key issues with this proposal and give full consideration to the alternative proposed in this letter.

Concerns with the Poseidon Seawater Desalination Project:

The proposed seawater desalination project does not align with Orange County's water supply challenges that result from variations in water supply availability. The project would create a continuous supply of expensive water that OCWD would be required to buy – even in the years when it is not needed. Additionally, by purchasing water from the seawater desalination project, OCWD would simply be exchanging reliance on Metropolitan Water District of Southern California (MWD) for decades of dependence on a private company, Poseidon Resources, at more than double the cost of water. Since we agree that our challenges are created by the variability of water supply, it does not make sense to ask the Groundwater Producers to pay over \$1 billion more for water from a project that does not address the problem of supply variability.

Over the past five years, IRWD has submitted many comment letters to OCWD related to other concerns that IRWD has with the project. Many of these concerns, explained in detail in Exhibit "A", are summarized as follows:

1. The project will result in negative water quality impacts to IRWD and its customers;
2. Acceptance of Local Resource Program subsidies from MWD will result in no increase in water supplies;
3. The proposed project will substantially and needlessly increase the Producers' cost of water;

Mike Markus, P.E., General Manager  
Orange County Water District  
June 6, 2018  
Page 2

4. The project will reduce OCWD's ability to capture stormwater (a.k.a., "free water");
5. There is limited interest in the project by Orange County retail water agencies; and
6. Using the OCWD Replenishment Assessment to subsidize the costs for the proposed project will likely generate challenges.

A Better Solution – Storing Water When It Is Plentiful:

Northern Orange County typically has access to ample supplies of water from the Orange County Groundwater Basin and from MWD. Any infrequent supply shortages in the future could be offset by banking low cost water when it is plentiful. IRWD has partnered with MWD and Municipal Water District of Orange County (MWDOC) to develop a water bank in Kern County where water is stored specifically for use in drought years at a cost competitive with MWD supplies. This program could be expanded to benefit other water agencies in Orange County. OCWD could also implement a similar program in Orange County, banking water in the Basin specifically for use in drought conditions. OCWD would provide real improvements in water supply reliability to Orange County by implementing such a program.

Support from Agencies Choosing to Participate:

IRWD's long-standing position remains that Orange County water agencies who choose to avail themselves of water from the seawater desalination project should be financially responsible for the cost of that project, without forcing nonparticipating agencies to subsidize the project. IRWD supports these agencies' right to participate in the project as long as: 1) there are no adverse impacts to IRWD and its projects, 2) IRWD customers are not asked to subsidize the cost of water from the project, and 3) IRWD's ability to use imported water from MWD and high quality groundwater from the Basin are not impaired.

Recognizing that many critical issues remain unresolved, now is not the time to focus on a term sheet with Poseidon. **Now is the time to 1) defer action on the Term Sheet, 2) resolve these and other issues and 3) develop and implement more appropriate solutions to improve Orange County's water supply reliability.**

Please provide a copy of this letter to each of your Board members in advance of tonight's Board meeting. I look forward to working with you on this matter.

Sincerely,



Paul A. Cook, P.E.  
General Manager

Enclosure

cc: OCWD Board of Directors

## **Exhibit “A”**

### **IRVINE RANCH WATER DISTRICT SUMMARY OF CONCERNS WITH THE PROPOSED POSEIDON SEAWATER DESALINATION PROJECT AT HUNTINGTON BEACH**

June 6, 2018

#### **The Proposed Seawater Desalination Project Does Not Fit the Water Supply Challenge Facing Orange County:**

The proposed seawater desalination project at Huntington Beach does not fit the challenges faced by Orange County related to variations in water supply availability. Poseidon’s seawater desalination plant would create a constant supply of expensive water that Orange County Water District (OCWD) would be required to buy – even in the years when we don’t need it. By purchasing water from the proposed project, OCWD would be turning its back on 56,000 acre-feet of water already being provided – quite reliably and at a fraction of the cost — by the Metropolitan Water District of Southern California (MWD). (As has been discussed at past OCWD Board meetings, if OCWD accepts a cost subsidy from MWD for Poseidon water, Orange County will be required to take less water from MWD; more on this below.) Orange County is already fully invested in MWD’s infrastructure, which includes the pipelines and reservoirs that provided a reliable water supply for Southern California throughout the drought. By purchasing water from the seawater desalination project, OCWD would simply end up exchanging reliance on MWD (historically, a very reliable supply) for decades of dependence on a private company, Poseidon Resources, at more than double the cost of water.

Since we agree that our challenges are created by the variability of water supply, it does not make sense to ask the Groundwater Producers to pay over \$1 billion more for water from a project that does not address the problem of supply variability.

#### **Water Quality Impacts to IRWD and its Potable Water Customers:**

OCWD is considering recharging a portion of the desalinated seawater into the Orange County Groundwater Basin at the Talbert Barrier. Without further treatment, injecting desalinated seawater into the Basin could: 1) increase the salt load within the Basin over time, 2) lower the quality of water within the Basin as compared to conditions without the project, and 3) unreasonably affect beneficial uses by increasing concentrations of some pollutants. IRWD has contracted with consultants at Thomas Harder & Co. and HDR, Inc. to model and evaluate the water quality impacts associated with recharging or making direct deliveries of desalinated seawater at the Talbert Barrier 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, including 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 for many years by IRWD as well as other groundwater producer agencies. IRWD staff has shared this information with OCWD staff.

These potential adverse impacts need to be evaluated in a detailed Environmental Impact Report and fully mitigated to eliminate impacts to IRWD and its customers.

## Exhibit "A"

IRWD Concerns with the Proposed Seawater Desalination Project at Huntington Beach  
June 6, 2018  
Page 2 of 3

### **Water Quality Impacts to IRWD and its Recycled Water Customers:**

Any direct deliveries of desalinated seawater through IRWD's potable water system that offset the use of better quality groundwater would 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 acceptable in IRWD's recycled water. Any substantial increases in TDS in IRWD's recycled water as a result of the proposed seawater desalination project could impair IRWD's ability to meet existing Regional Water Quality Control Board permit requirements. Additionally, increases in TDS (especially chlorides and boron) in IRWD's recycled water could 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 should be borne by the proponents of the seawater desalination project.

These potential adverse impacts need to be evaluated in a detailed Environmental Impact Report and fully mitigated to eliminate impacts to IRWD and any other impacted agencies.

### **Water Supplies to Orange County Will Not Increase if OCWD Accepts LRP Subsidies:**

The Application Guidelines of the MWD's Local Resource Program (LRP) state that to qualify for LRP funding the supplies from a project must "*replace an existing demand or prevent a new demand on MWD's imported water supplies*". As long as this is a requirement, the proposed seawater desalination project cannot be considered an additional water supply to Orange County. Instead, the expensive water from the proposed seawater desalination project will replace existing imported water supplies that are available at a substantially lower cost. The only time that Orange County would see an increase in water supply from the desalination project would be when MWD runs out of water, which is unlikely to occur.

Therefore, there is no water supply benefit from the proposed desalination project.

### **Proposed Project Will Substantially Increase Cost of Water to Groundwater Producers:**

OCWD staff has estimated that the OCWD Replenishment Assessment (RA) may need to be increased between \$100 to \$250 per acre-foot as a result of OCWD purchasing all of the water from the proposed Poseidon seawater desalination project. The use of desalinated seawater in lieu of using groundwater would require the Producers to bear the cost of the project irrespective of which agencies take delivery of the desalinated seawater. Additionally, depending on how this water is distributed, substantial additional costs may be shifted to the retail water agencies to use this water.

In any scenario, OCWD's purchase of desalinated seawater from Poseidon will cause retail water agencies to substantially raise rates without any increase in water supply.

## **Exhibit “A”**

IRWD Concerns with the Proposed Seawater Desalination Project at Huntington Beach  
June 6, 2018  
Page 3 of 3

### **The Poseidon Project Will Result in Losses of Free Water to the Ocean:**

In addition to maximizing existing water supplies, OCWD is implementing the Final Expansion of the Groundwater Replenishment System (GWRS), the West Orange County Enhanced Pumping Project, and MWD’s Carson Potable Reuse Project at Carson. If OCWD were to also purchase water from the proposed seawater desalination project, some capacity of the recharge basins would be taken up by the year-round supply of Poseidon water. Because of the contract requirement to take water from Poseidon year-round, OCWD could lose its ability to accept above-average river base flows and/or stormflows in the Santa Ana River.

Hundreds of thousands of acre-feet of water flowing down the river (a.k.a., “free water”) would be discharged to the ocean over the life of the seawater desalination project.

### **Limited Interest by Orange County Retail Water Agencies:**

Prior to 2013, Municipal Water District of Orange County (MWDOC) facilitated a Seawater Desalination Working Group of retail water agencies throughout Orange County, in which IRWD and many other agencies were active participants. The Working Group reviewed the proposed seawater desalination project-related study results and discussed the attributes, impacts, and costs of the 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 project.

OCWD has yet to determine the level of commitment or interest among its retail water agencies, nor has it developed any opt-out alternatives for retail agencies that have already determined they do not need Poseidon water.

### **Using the RA to Subsidize the Project Will Likely Generate Challenges:**

OCWD is proposing to sell the water from the proposed sea desalination project at a discounted cost to those retail water agencies that choose to participate in the project while subsidizing the costs via an increase in the RA to all the Groundwater Producers. Such an approach to the implementation of the project will likely result in challenges based on the cost of service and proportionality requirements of Proposition 218 and Proposition 26.