



**IRVINE RANCH WATER DISTRICT**

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November 23, 2016

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

Subject: IRWD Infrastructure and the Proposed Seawater Desalination Project at  
Huntington Beach

Mike:

On October 25, 2016, we received an email from your staff that provided draft language that Orange County Water District (OCWD) is proposing to use in its evaluation of what capital investments would be needed by Irvine Ranch Water District (IRWD) to increase groundwater production to accommodate a Basin Production Percentage (BPP) of 95 percent. This increased BPP would occur as a result of OCWD recharging desalinated seawater into the Orange County Groundwater Basin (Basin) from the proposed project at Huntington Beach. The October 25 email is attached at Exhibit "A". The purpose of this letter is to clarify IRWD's ability to produce groundwater in the context of the October 25 email, and to restate IRWD's position related to OCWD's proposal to recharge desalinated seawater.

***Water produced by IRWD from the Basin is influenced by current OCWD policies that unfairly affect IRWD's ability to pump lower cost local groundwater and arbitrarily penalize the use of recycled water.***

At the outset, it is important to point out that OCWD has implemented policies and practices that do not allow IRWD to account for recycled water as a supplemental source of water in calculating IRWD's total water demand and the amount of groundwater IRWD can produce from the Basin without paying additional assessments. By not counting recycled water as part of IRWD's total water demand, OCWD imposes an artificially low groundwater production limit on IRWD and unlawfully penalizes IRWD for producing recycled water. As discussed below, these policies and practices also affect IRWD's Basin Equity Assessment (BEA) exemption credits, which are relevant to OCWD's potential alternative to recharge desalinated seawater.

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***OCWD's statement that IRWD routinely pumps 95 percent of its total water demand creates the illusion that IRWD customer demands that are being met by recycled water have somehow disappeared.***

OCWD's email from October 25, incorrectly states that "IRWD routinely pumps approximately 95% of their total water demands within OCWD" and that "IRWD would not require any additional infrastructure with a BPP in the area of 95 percent". The fact is, that in water year 2015/16, and similarly in other years, IRWD pumped 73 percent of its actual total water demands within the OCWD boundary. Since IRWD's Dyer Road Wells are contractually limited to how much water can be produced in any year, IRWD would certainly need to spend tens of millions of dollars to construct additional groundwater wells and supporting infrastructure to respond to a 95 percent BPP. This would only be possible once IRWD's existing annexation contract limitations expire or are amended.

***OCWD's October 25 email incorrectly questions the capital exemption credits that are remaining for IRWD groundwater treatment projects by not considering the restoration of the credits that were improperly accelerated as a result of OCWD's unlawful exclusion of recycled water from IRWD's total water demand.***

IRWD operates three groundwater treatment projects that began with over \$80 million in BEA capital exemption credits that could be used to offset BEA payment obligations. OCWD's improper exclusion of recycled water from the calculation of IRWD's total water demand has improperly accelerated the use of BEA capital credits under the contracts that exist between IRWD and OCWD for the three projects. For example, since the beginning of water year 2011/12, the use of more than \$14 million in BEA capital credits have been improperly accelerated. Any quantification of the remaining capital exemption credits that OCWD makes should reflect the restoration of the improperly accelerated credits.

***Raising the BPP to 95 percent could prevent IRWD from effectively using BEA capital exemption credits to recoup its investments in groundwater treatment projects, resulting in higher water rates being charged to IRWD customers.***

Any analysis of the impact of raising the BPP to 95 percent, as a result of recharging desalinated seawater, should take into consideration the subsequent negative financial impacts that would occur to IRWD and its customers as a result of the inability to use IRWD's restored BEA capital exemption credits to recoup IRWD's investment in its groundwater treatment projects. The inability to use these credits would likely result in higher water costs being passed on to IRWD customers through higher water rates. This impact may pertain to other groundwater producer agencies that have BEA exempt

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projects, and OCWD should determine the extent of all impacts to all groundwater producer agencies in its analysis.

***The recharge of product water from the proposed project seawater desalination project will degrade the quality of water within the Basin.***

Recharging desalinated ocean water into the Basin, with as many as 26 new injection wells, could greatly increase the salt load within the Orange County Groundwater Basin (Basin), lower the quality of water within the basin and unreasonably affect beneficial uses by increasing concentrations of some pollutants. IRWD has contracted with consultants Thomas Harder & Company and HDR, Inc. to evaluate these water quality impacts 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 boron could significantly increase in the groundwater that IRWD extracts 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 throughout IRWD's service area.

The groundwater and recycled water system modeling that is being performed to quantify these impacts will be completed soon. The modeling results will be provided to OCWD for its consideration when preparing an Environmental Impact Report for the proposed seawater desalination project.

***The benefits of recharging product water from the proposed seawater desalination project would not be evenly distributed among the producer agencies. As a result, recharging the project would violate Proposition 218's and Proposition 26's cost of service and proportionality requirements.***

The producer agencies all have different groundwater production capabilities. Many producer agencies, including IRWD, would need to invest in varying levels of costly additional infrastructure to pump up to the proposed BPP of 95 percent. It is likely that many producer agencies would choose not to or would not be able to construct the needed infrastructure to pump up to the proposed BPP. Some agencies, including IRWD, might be forced to reduce production of groundwater because of groundwater quality impacts resulting from recharging the desalinated seawater. Any agencies affected by these factors would still be forced to pay the increased Replenishment Assessment (RA) that OCWD would impose on the producer agencies to pay for the desalinated seawater recharged into the basin. The increased RA would be paid on every acre-foot of water that the agencies produce from the Basin, thus creating a situation where some agencies would be subsidizing the benefits of others derived from the recharged desalinated seawater.

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Complicating things further, IRWD and other producer agencies would experience varying negative financial impacts as a result of not being able to recover capital associated with groundwater treatment projects through the use of BEA capital credits. These disproportionate impacts as well as the variable infrastructure and water quality factors described above, would result in an uneven distribution of benefits among the producer agencies. This would result in a violation of Proposition 218's and Proposition 26's cost of service and proportionality requirements.

***The proposal to recharge water from the seawater desalination project would violate sound water resource management principles.***

The proposed seawater desalination project would produce drinking water suitable for direct deliveries to communities interested in taking the water. Degrading the potable nature of the desalinated water by recharging it into the Basin for storage as a non-potable supply and then pumping it out of the ground for treatment and delivery into a municipal potable water system does not represent a logical, financial or hydrologically sound method of putting the product water to beneficial use, especially when other feasible options for increasing the amount of water in the basin currently exist.

***OCWD's participation in the proposed seawater desalination project by recharging the water into the Basin would result in hundreds of thousands of acre-feet of free water being discharged to the ocean over the life of the project.***

OCWD's implementation of the Final Expansion of the Groundwater Replenishment System (GWRS) in conjunction with participation in the Metropolitan Water District of Southern California (Metropolitan) indirect potable reuse project at Carson as well as recharging water from the proposed seawater desalination project at Huntington Beach would result in the Basin being maintained in a full condition with no storage capacity available to accommodate above average baseflows and/or stormflows in the Santa Ana River. This would result in many hundreds of thousands of acre-feet of free water being discharged to the ocean over the life of the seawater desalination project. Such losses would be unavoidable. OCWD should recognize this inevitable situation as a fatal flaw associated with the proposal to recharge desalinated seawater from the project.

***The proposed seawater desalination project at Huntington Beach should be funded exclusively by the retail water agencies that voluntarily choose to participate in the project depending on each agency's water supply reliability needs.***

A prerequisite for participation in the proposed seawater desalination project by a retail agency will be a determination that it does not consider supplies from Metropolitan to be adequately reliable. Retail agencies that elect to participate in the seawater desalination project should form an acceptable financial participation mechanism, such as a voluntary

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joint powers authority, to proportionately distribute benefits and to appropriately recover and allocate past and future costs associated with the seawater desalination project. Participation in the project via such a mechanism will result in a beneficiary pays project and should eliminate the disproportionate distribution of the financial impacts and benefits associated with recharging the desalinated sea water into the Basin. It would allow OCWD to avoid violating Proposition 218's and Proposition 26's cost of service and proportionality requirements through an increase in the RA, as currently proposed.

Summary:

In summary, if OCWD were to recharge desalinated seawater from the proposed project at Huntington Beach and raise the BPP to 95 percent, IRWD would be significantly impacted by:

- 1. The need to spend tens of millions of dollars to construct additional wells and supporting infrastructure, and*
- 2. The inability to use tens of millions of dollars in BEA capital exemption credits, including restored credits, to recoup IRWD's investment in its groundwater treatment projects.*

IRWD encourages OCWD to optimize the use of low cost existing supplies that are available from Metropolitan, follow through on the construction and operation of the Final GWRS Expansion Project, and to participate in Metropolitan's proposed indirect potable reuse project. These efforts will provide for future sustainable operations of the Basin.

Please provide a copy of this letter to each of your Board members in advance of reviewing OCWD staff findings associated with the infrastructure that would be needed by the producers to pump up to a BPP of 95 percent as a result recharging the desalinated seawater in the Basin.

I look forward to discussing IRWD's comments in greater detail with you and your staff. Please contact me at (949) 453-5590 so the we can meet to discuss our comments.

Sincerely,



Paul A. Cook  
General Manager

## EXHIBIT "A"

**Paul Weghorst - Draft Write-up on IRWD Infrastructure to Increase GW Production**


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**From:** "Hutchinson, Adam" <AHutchinson@ocwd.com>  
**To:** "Paul A. Weghorst (weghorst@irwd.com)" <weghorst@irwd.com>, Eric Akiyos...  
**Date:** 10/25/2016 9:39 AM  
**Subject:** Draft Write-up on IRWD Infrastructure to Increase GW Production  
**Cc:** "Kennedy, John" <JKennedy@ocwd.com>

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Paul and Eric,

Please review the text below and please review or fill in the text shown in yellow.

Thanks

Adam

The Irvine Ranch Water District (IRWD) has 26 active production wells and one inactive well. These wells pump clear groundwater and impaired groundwater. **Nineteen** wells pump clear groundwater which does not require treatment prior to being placed in the distribution system. The impaired groundwater does require treatment and is treated at three separate treatment facilities. The first treatment facility is the Irvine Desalter (IDS) which treats up to 9 mgd of groundwater using **6** extraction wells. This water is treated for VOC's and high TDS. The second treatment plant is the Deep Aquifer Treatment System (DATS) which treats groundwater from deeper aquifers (via 2 extraction wells) with high color units. The third treatment system is the Wells 21 & 22 plant which treats groundwater with high nitrates. With their well capacity and treatment systems IRWD routinely pumps approximately 95% of their total water demands within OCWD<sup>(1)</sup>.

The IDS and Wells 21 & 22 treatment systems are designed to operate above the Basin Production Percentage and receive a Basin Equity Assessment (BEA) exemption. After an annual accounting, the BEA that normally would have been paid for pumping above the BPP for each project is partially reduced by the annual O&M cost for the project. The remaining BEA payment is then deducted from the project's original capital cost. The BEA exemption program is designed so that over time, sufficient BEA exemptions will occur to offset the project's original capital cost. The Wells 21 & 22 project has a remaining capital cost of **\$xx** million that has yet to be offset by an exempted BEA. The IDS has **\$xx** million remaining.

IRWD would not require any additional infrastructure with a BPP in the area of 95 percent. However raising the BPP does impact IRWD's BEA exemption for its two projects designed to operate above the BPP. If the BPP is raised, the pumping from the Wells 21 & 22 project and the IDS project would likely be reduced as these two projects would in effect become expensive groundwater. Additionally it is possible that neither of these projects capital cost would receive the full credit of BEA exemptions.

Note (1) IRWD has sued OCWD over the exclusion of their reclaimed water system as a supplemental water source in calculating the IRWD annual BEA and BPP. IRWD serves approximately 17,000 afy of reclaimed water within OCWD. If this water was counted as supplemental water, IRWD's typical annual achieved BPP would be in the area of 70 to 75%. If IRWD reclaimed water was counted as supplemental water and if the BPP were increased to approximately 95%, IRWD would need to construct additional production wells and supporting infrastructure to pump up to the 95% level. Under this

scenario IRWD would then decrease the amount of reclaimed water served which is unlikely. It is logical to conclude that IRWD would continue pumping in the area of 70 to 75%, maintain its reclaimed water production and therefore not benefit from a BPP of approximately 95%.