



## IRVINE RANCH WATER DISTRICT

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November 21, 2014

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

**Subject: Comments on Clean Energy Capital's "Financial Analysis of Proposed Huntington Beach Ocean Water Desalination Project" Prepared for OCWD**

Dear Mr. Markus: *MIKE*

Thank you for the opportunity to review and comment on the Clean Energy Capital report entitled "Financial Analysis of Proposed Huntington Beach Ocean Water Desalination Project" (Clean Energy Report) prepared for the Orange County Water District (OCWD).

IRWD recognizes OCWD's work in managing the Orange County groundwater basin and investing in solid, core basin management projects and programs that have allowed the basin's sustainable yield to increase over the years. While OCWD has invested in groundwater supply and quality projects and monitoring, it remains unclear how OCWD's participation in the Poseidon desalination project will provide a direct benefit to the basin.

As an Orange County water purveyor that remains partially dependent on imported supplies, the Irvine Ranch Water District (IRWD) has a vested interest in California's water supply reliability as well as the implementation of local water supply reliability projects. IRWD supports the investigation and implementation of cost-effective alternative supplies of water. We appreciate that locally available brackish and ocean water sources may provide alternative supplies of water and support the development of desalination technologies. ***Nevertheless, desalination projects should only be implemented when costs for treatment and distribution are competitive with existing reliable supplies and/or with other reliability improvement options.***

After careful review of the Clean Energy Report, IRWD urges OCWD and other interested water agencies to carefully evaluate the assumptions used in the report's analysis and to thoroughly examine the appropriateness of the report's conclusions. The District offers the following comments on the report for your consideration before it is finalized. It is important to note that at this time IRWD has not evaluated the proposed conveyance facilities or any technical aspects of the proposed project.

IRWD submits these comments and questions with the caveat that neither it nor the other Orange County Groundwater Producers (Producers) have been provided with the financial models, list of assumptions, or

other documents referenced in the Clean Energy Report. ***The District requests that the Clean Energy financial model, list of assumptions, summary of risks assumed by parties, and other referenced documents be provided to the Producers so that we can all better understand the benefits and costs of the proposed Huntington Beach Ocean Water Desalination Project to OCWD, the Orange County groundwater basin, and any other interested water agencies.***

Summary of Key Comments:

The following summary is provided to assist in developing an understanding of IRWD’s key comments.

***The project will substantially increase the cost of water for the Groundwater Producers, who will need to raise rates accordingly.***

1. A minimum \$96 increase in the Replenishment Assessment (RA) paid by the Orange County Groundwater Producers to subsidize the proposed project would result in the Producers having to substantially raise rates without any demonstrated benefit to the basin.
2. As proposed, the Producers will bear the cost of the project irrespective of which agencies take delivery of the project’s water.
3. If OCWD opts to recharge the basin with water from the Poseidon project, either directly or through an in lieu method, the RA will have to increase substantially more than the \$96 currently proposed.

***Alternative water supply projects should be analyzed relative to the Poseidon project.***

1. The proposed project needs to be compared against other water supply projects, including alternative ocean desalination projects, on a net present value basis; a comparative cost-benefit analysis should be performed.
2. The project should be evaluated using the full cost of project water during early years so a meaningful comparison with alternative projects could be made prior to OCWD committing to any project.
3. The Clean Energy Report should include a study to identify the most cost-effective and least risky method for implementing an ocean desalination project, and should evaluate the costs and methods of delivery of the design, construction and operation of desalination facilities by a public agency (or agencies) as compared to a private, for-profit corporation.
4. It has been stated that the project’s water may be used for recharge within the Orange County groundwater basin. OCWD does not purchase MWD full service, treated Tier 1 water for its operations. Other than during periods of a MWD Water Supply Allocation, sufficient untreated water has been and is expected to remain available from MWD for recharge, and facilities are available to utilize it. In evaluating the possible cost of project water when used for recharge

eventually being less than the cost of MWD water, the report should compare costs to the MWD full service, untreated rate instead of treated rate.

***Cost assumptions for the project understate the potential total cost to be borne by the Producers.***

1. The evaluation of the cost of construction, operation, and maintenance of the desalination project should consider the risks and uncertainties associated with significant project features (e.g., the intake and brine disposal facilities) and operational cost drivers that have a wide range of variability (e.g., electricity prices).
2. During the November 12, 2014, Workshop with staff from the Producer agencies, Clean Energy stated that energy costs, which are already about half of the project’s total non-capital costs of project water, were assumed to increase at a rate of two percent per year. It is highly unlikely that future electricity rates would increase at this low of a rate, especially given the loss of low-cost power from the San Onofre Nuclear Generation Station and the compounding effect of other rate increases expected from Orange County’s ongoing electricity supply challenges. Furthermore, the report does not appear to include the impact of potential future peak hour rates on the cost of project water. Regardless of whether the assumed future cost of energy increases or remains flat, it is unlikely that project water costs will come close to the MWD untreated rates during the life of the project.
3. The report should evaluate future operational cost reductions associated with improvements to efficiencies of membrane technologies and how the savings from these improvements would be shared among all participants in the project.
4. Capital costs should correctly assume cost impacts due to potential prevailing wage and public works contracting rules that may be invoked due to public financing contributions or public-private partnership arrangements.
5. The financing of ocean 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.
6. The Clean Energy Report does not evaluate or reflect the effective increase in regional water costs that will be borne by the Orange County community as a result of the proposed project during a MWD Water Supply Allocation.
7. The report should disclose the effect of the current MWD Water Supply Allocation rules, which offset local supplies during periods of allocation. The net effect appears to be that project supplies would result in lower MWD delivers to Orange County, affecting a substantial transfer of any potential gain in water reliably attributable to the project from Orange County to the other MWD agencies.

8. During all times other than when in allocation, MWD appears able to deliver all of the untreated water necessary to supplement the OCWD basin. With flows in the Santa Ana River steadily decreasing, OCWD will have sufficient capacity in its facilities to recharge all of the MWD water necessary for basin sustainability.
9. The report assumes continued delivery of Santa Ana River flows down to the judgment level, which appears unlikely given the added growth in population and the resulting decrease in wastewater flows in the river. The report should revise its Santa Ana River flow assumptions.
10. OCWD’s participation in the proposed project could impair its ability to finance, implement, and operate the projects in its Long Term Facilities Plan.

***The conditions of and risks associated with LRP funding were not assessed sufficiently.***

1. The General Requirements of the Metropolitan Water District of Southern California’s (MWD) Local Resource Program (LRP) state that to qualify for LRP funding a project cannot be new water, but it must *replace* imported water. As long as this is a requirement, an ocean desalination project must not be considered a new water supply to Orange County but instead recognized as a project to replace imported water if it seeks to receive a LRP subsidy.
2. The Clean Energy Report should include an assessment of the risk that MWD LRP funding may not be available for the project.
3. In evaluating the potential that project water costs will eventually be less than MWD rates, the report should assume that the MWD LRP subsidy will stop at the end of the contract period.
4. Replacing water available from MWD with the higher cost of water from the proposed ocean desalination project will not improve Orange County’s water supply reliability, but will instead improve the reliability of MWD deliveries to its other member agencies.

***Benefits of the project to the basin should be understood and accepted by the Groundwater Producers before OCWD commits to the project on their behalf.***

1. Any OCWD investment in ocean desalination must demonstrate and provide direct, tangible benefits to the Orange County Groundwater Producers to justify the Producers subsidizing the desalination program through an increase in the RA.
2. Currently there are no contractual arrangements for Producers or others to purchase water from the proposed project. If OCWD is not able to contract for the sale of the water, OCWD’s Producers would be responsible for paying for all of OCWD’s stranded costs over the next 30 years due to a lack of demand for the water or an inability of OCWD to sell the water. The final report should analyze the impact of this possibility on OCWD and the Producers.

3. In evaluating the project, careful attention should be given to maintaining OCWD’s credit rating and resulting cost of debt. The report should analyze the coverage rate impacts of current debt, the future cost of the final expansion of the Groundwater Replenishment System (GWRS) and other projects identified in OCWD’s Long Term Facilities Plan, and the long-term lease or financing of the project. An increase of up to an additional \$900 million in fixed obligations should be carefully evaluated.

***Participation in the project should be voluntary.***

1. Ocean desalination projects should be funded exclusively by the retail water agencies that voluntarily participate in the projects *depending on each agency’s water supply reliability needs* based on a finding by each agency that it does not consider supplies from MWD to be fully reliable.
2. Retail agencies that elect to participate in an ocean desalination project should form an acceptable financial participation mechanism, such as a voluntary joint powers authority, to appropriately recover and allocate past and future costs associated with an ocean desalination project.

***Limitations in the OCWD District Act need to be resolved for OCWD to sell water from the project.***

1. It is unclear that OCWD has the legal authority to become essentially a surface water supplier or that OCWD is the appropriate entity to contract of the project water.
2. OCWD’s District Act provides the district with a number of enumerated powers to protect and replenish the groundwater basin within its district boundaries, to augment and protect the quality of the common water supplies of the district, and incidental purposes. Before OCWD can proceed forward with a water treatment, purification or other project, the district must determine that the project is “feasible and necessary and of general benefit to the lands in the district.” OCWD should provide an analysis of whether the proposed Huntington Beach Ocean Water Desalination Project provides benefits to lands within the district.
3. OCWD should establish which enumerated power(s) in its District Act it would be invoking to carry out investment in the proposed project and the selling of project water.

***Using the RA to subsidize the Poseidon Project may generate Proposition 218 challenges.***

1. Selling the water from the proposed ocean desalination project at the cost of MWD full service, Tier 1 treated water and subsidizing the costs via an increase in the RA to all Orange County Groundwater Producers could result in challenges based on the cost of service and proportionality requirements of Proposition 218.
2. The subsidy component of the RA proposed for the ocean desalination project could require voter approval as a tax. OCWD should examine, as part of the Clean Energy Report, the constitutional issues raised by increasing the RA to subsidize the water costs of the project.

Detailed Comments on the Clean Energy Report:

Following are IRWD’s detailed comments on the Clean Energy Report.

***A. An alternatives analysis should be completed as part of the Clean Energy Report to determine the cost-benefit effectiveness of an investment in the proposed Huntington Beach Ocean Water Desalination Project and other local resources projects.***

While IRWD agrees that Orange County water agencies should invest in local water reliability projects, a proposed investment in any water infrastructure project should be analyzed and compared with alternative supply reliability projects as part of a cost-benefit analysis. Because this analysis has not been done, the Clean Energy Report cannot determine if OCWD participation in the Poseidon project is beneficial or justifiable from a cost-benefit standpoint. All investments in water infrastructure should be cost-effective and provide a high level of measurable benefit to ratepayers. Cost-effective projects that provide both system and supply reliability should be given the highest priority for implementation.

In determining the cost-benefit and justifiability of any reliability premium associated with water supply projects, the need for ocean desalination projects and other supply improvement projects should be identified considering the frequencies, magnitudes, timing and durations associated with events that could affect the reliability of existing and future alternative, cost-effective supplies. Projects should be selected on the basis of meeting specific reliability criteria and should demonstrate that they are cost-effective. Comparison of the cost of construction, operation, and maintenance of alternative water supply reliability projects needs to occur on a present value basis, which should also be analyzed on a total project life cost and cost per acre-foot bases.

IRWD has consistently advocated that ocean desalination projects should be considered when costs for treatment and distribution are competitive with existing reliable supplies, alternative supplies under development, or supplies expected to be available in the future.

In addition to an alternatives/cost-benefit analysis, the Clean Energy Report should include a comprehensive study to identify the most cost-effective and least risky method for implementing an ocean desalination project. This study should evaluate the costs and methods of delivery of the design, construction and operation of desalination facilities by public agencies as compared to a private, for-profit corporation.

***B. In order to properly analyze the Proposed Huntington Beach Ocean Water Desalination Project, the assumptions used in the Clean Energy Report should be updated to reflect current and historic cost trends, and should consider the risk associated with MWD’s LRP program.***

The Clean Energy Report finds that the estimated first-year cost of water as stated in the Poseidon proposal is \$1,871 per acre-foot in 2014 dollars and concludes that that estimated cost is a reasonable basis for evaluation of Poseidon’s proposal, even though its own Monte Carlo simulations found the median starting price to be \$1,922 per acre-foot in 2014 dollars. Given Clean Energy Capital’s simulation

results, it is unreasonable for the report to use the \$1,871 price per acre-foot as a basis for determining the benefit and costs of the project, the impact of the project on OCWD and its Producers, and OCWD’s debt and equity options. (For comparison purposes, the current cost of MWD Tier 1 full service, treated water is \$890 per acre-foot; MWD full service untreated water is \$593 per acre-foot.) Clean Energy Capital’s analysis should be redone using a more reasonable cost per acre-foot to provide a better evaluation of the project’s impact on OCWD.

Furthermore, the Clean Energy Report accepts the other assumptions used in the Poseidon proposal related to construction costs, construction timing, capital needs, energy costs, and operation and maintenance costs. The report does not challenge the assumptions or test their appropriateness. In most cases, the report compares the proposed project with the assumptions used by Poseidon in its Carlsbad desalination plant proposal to determine the assumptions’ reasonableness instead of actual costs and historical trends from the Orange County area.

Additionally, many of the assumptions use incorrect escalation factors and do not account for changes in cost due to modifications in the project construction timeline. A modification in the project’s timeline is highly likely given that the project must still obtain a number of regulatory permits and approvals, including obtaining approval from the California Coastal Commission. A delay in the construction start date will likely result in higher construction costs and capital needs.

Cost escalation is a large risk factor for an \$892 million project and should be examined more closely. OCWD should carefully evaluate the assumptions used in the report’s analysis and ask Clean Energy Capital to use assumptions that are more appropriate in its final report as the basis for the conclusions it draws despite Poseidon’s use of different assumptions.

The evaluation of the cost of construction, operation, and maintenance of the desalination project should consider the risks and uncertainties associated with significant project features (e.g., the intake and brine disposal facilities) and operational cost drivers that have a wide range of variability (e.g., electricity prices). It should also evaluate future operational cost reductions associated with improvements to efficiencies of membrane technologies and how those should be shared among all participants in a desalination project. Clean Energy Capital should evaluate these uncertainties and risks as part of its report.

Specifically, IRWD believes that the final report should address the following assumptions and escalation factor issues. These assumptions feed directly into the project’s capital and financing costs, and operations and maintenance charges, which contribute to the cost of water from the project.

- 1) Construction Costs – The construction costs included in Poseidon’s proposal and used in the Clean Energy Report are in 2013 dollars, and assume an annual construction cost escalation of 2.5 percent. Historically, the construction index over the past 10 years has increased at a rate of approximately three percent. While 50 basis points may seem like a small amount in the assumed escalation, it has a large impact on the cost of any large capital project and ultimately on project financing costs. Clean Energy Capital should use the historical construction price index escalation factor in its analysis. The report also does not address whether the capital costs correctly assume

cost impacts due to potential prevailing wage and public works contracting rules that may be invoked due to public financing contributions or public-private partnership arrangements.

- 2) Project Design Assumptions and Construction Timeline – The Clean Energy Report fails to consider the full range of risk and uncertainty associated with the cost of an intake and outfall for the project. The report assumes that the project will rely on a screened intake system and does not consider the potential costs of having to implement a subsurface intake solution. The Monte Carlo simulations of the project need to be modified to reflect the significant cost risk associated with the potential requirement for a subsurface intake. Without this analysis, the true uncertainty of the cost of water from the project cannot be presented. The report should also examine construction timeline change risk and how changes in schedule could impact the cost of water from the project. The final report should also analyze Poseidon’s ability to construct the project given OCWD’s consideration of making a debt and/or equity contribution to the project.
- 3) Post-2022 Project Changes – The Clean Energy Report notes that Poseidon will add the cost of modifying the AES plant intake and discharge facilities required after the AES plant’s decommission in 2022 to the project cost. In the report, this is shown in 2013 dollars at \$41.655 million. The report also notes that the changes will result in a substantial increase in operations, maintenance, and electricity costs after 2022. The Clean Energy Report does not provide a clear basis for these costs, and it is unclear, at this time, as to how AES plant re-commissioning efforts will affect the proposed project and the proposed cost of water.
- 4) Capital Charges – The report also fails to reflect the true cost for the project when comparing an upward-sloping debt profile to a level debt service. Comparisons should be made on a net present value basis so that the true costs or savings from a change in the capital charge and debt structure are understood. The financing of desalination projects should employ 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.
- 5) Operating Expenses – The variability of the proposed cost of water from the project does not adequately demonstrate the risks and uncertainties associated with the cost of electricity for the project. The future electricity cost increases assumed in the Clean Energy Report vary with a mean of two percent and a standard deviation of 0.75 percent. The report also depicts that electricity will make up about 23 percent of the cost of water from the project and nearly 50 percent of the total non-capital costs. Since 2006, rate increases for electricity have varied greatly in Orange County. In 2006 and 2013, IRWD experienced increases in electricity costs of 18 percent and 11 percent, respectively, which indicates a much greater degree of variability in electricity prices than provided for with the 0.75 percent standard deviation used by Clean Energy Capital. In addition, IRWD has not experienced reductions in electricity prices of the same magnitude, which indicates that a normal distribution for electricity price escalations is not applicable.

Electricity prices will increase in the future depending on regional changes that have occurred in generating resources, natural gas prices, electricity efficiency and demand, state and federal



environmental and emission policy, and transmission expenses. In Southern California, other factors will affect electricity prices in the future. These factors include the shutdown of the San Onofre Generating Station, the expected retirement of outdated natural gas power plants, and the potential for reduced performance from existing plants required to comply with State Water Resources Control Board once-through cooling regulations. A detailed study needs to be performed on the risk and uncertainty of future electricity prices and their impact on the proposed desalination project. It is IRWD’s expectation, along with most in the utility industry, that electricity rates will rise much higher than Poseidon’s assumptions.

The Clean Energy Report should take into consideration the risk that the proposed project could be subject to new greenhouse gas (GHG) emission-reducing policies for water sector investments as described in the *First Update to the Climate Change Scoping Plan – Building on the Framework Pursuant to AB 32, The California Global Warming Solutions Act of 2006*. Such policies are expected to be released in 2015, and will likely encourage energy efficient and less GHG intensive water projects. The California Public Utilities Commission will also be completing water-energy nexus rulemaking by 2016 that could have an effect on the cost of electricity to water projects. The Clean Energy Report should take into consideration any expected energy and GHG related policies and rules that could affect the project, especially as the regulations could be applied to a private corporation. The report should also consider the risk that sometime in the future the project could be subject to GHG offset credit requirements for continued operations.

The Clean Energy report should also identify and quantify the project costs associated with any franchise and/or wheeling fees charged by the owners of the local transmission mains through which the water produced by the Poseidon project would be conveyed. The Report should also quantify the cost impact to the other Groundwater Producers for subsidizing the cost of Poseidon project water to the City of Huntington Beach, which is reportedly being provided water at approximately the same rate as MWD Tier 1 treated water.

- 6) Availability of LRP Funding – Public presentations on the findings of the Clean Energy Report imply that LRP funding would be available to bring the cost of project water to below the MWD full-service Tier 1 water rate. The report correctly identifies that the subsidy would be reduced to zero when the unsubsidized water is equal to the cost of MWD water. Public presentations should reflect the findings of the report and not misrepresent the project. The consideration of LRP 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. The subsidy cannot reduce the cost of water below the MWD Tier 1 treated rate.

Additionally, the Clean Energy Report assumes that the proposed project will receive LRP funding. MWD’s LRP was revised on October 14, 2014. The recently approved MWD program only has funding capacity for an additional 63,000 acre-feet of local water supplies. Given the 56,000 acre-feet of water assumed to be produced by the proposed desalination project, it is possible that the existing LRP program will be oversubscribed by the time the project is eligible for funding, or that a new program with new requirements and funding levels will be approved.

The Monte Carlo simulations in the Clean Energy Report should acknowledge this risk and reflect the range of uncertainties in the availability of LRP funding for the project.

In addition, MWD’s LRP General Requirements state that, unless otherwise approved by MWD, projects must replace an existing demand or prevent a new demand on MWD’s imported water deliveries through direct replacement of potable water or increased regional groundwater production. The 56,000 acre-feet of imported water demand that the Poseidon project proposes to replace is not OCWD’s imported water demand, but demand from other water retailers within Orange County. The Clean Energy Report does not identify which water agencies or the quantities of imported water that are proposed to be replaced. In fact, it is unclear if there are agencies willing to take the project’s water to reduce their MWD demands.

Furthermore, the LRP General Requirements state that to qualify for LRP funding, the project cannot be new water but must *replace* imported water. As long as this is the case, the desalination project cannot be considered as a new water supply to Orange County, and must be recognized as a project to replace imported water in order to receive a LRP subsidy. Replacing water available from MWD with the higher cost of water from the proposed ocean desalination project will only improve the reliability of MWD deliveries to its other member agencies.

- 7) Future Technology Changes – The Clean Energy Report also fails to reflect a reduction in the cost of water from the project that will result from the inevitable future improvements in desalination technology. Future operational cost reductions associated with improvements to efficiencies of membrane technologies should be allocated among all participants in a desalination project.

**C. OCWD, and therefore the Orange County Groundwater Producers, bear the risk for the cost of all 56,000 acre-feet of water produced by the plant each year regardless of OCWD’s ability to sell the water.**

The Clean Energy Report states that OCWD will “only pay for desalinated water that is actually produced and delivered.” This statement dismisses the risk OCWD would be assuming if it enters into a Water Purchase Agreement (WPA) with Poseidon. By signing a WPA, OCWD is agreeing to a 30-year take-or-pay contract and regardless of OCWD’s ability to sell the 56,000 acre-feet of water over the next 30 years, the district must pay Poseidon for the water.

Currently, there are no contractual arrangements identified for Producers or others to purchase water from the proposed project. If OCWD is not able to contract for the sale of the water, it would mean that OCWD’s Producers would be responsible for paying for all of OCWD’s stranded costs over the next 30-year due to a lack of need for the water or an inability of OCWD to sell the water. The Producers would have to pay for any costs that OCWD experiences in selling the water for less than OCWD’s cost of the water and would have to pay the costs associated with unsold water even if OCWD has access to less expense water supply sources. The Clean Energy Report makes the assumption that OCWD will be able to sell all of the water it contracts for and that there will be no default in those sales. The final report should analyze the impact on OCWD if there is no need for the water or an inability to sell the water.

Recent statements have also asserted that OCWD could simply take the 56,000 acre-feet and use it to recharge the Orange County groundwater basin. If OCWD opts to recharge the basin with the project’s water, the RA will have to increase substantially more than the \$96 per acre-foot increase currently proposed. The report should recognize that under such circumstances the cost of water from the desalination project should be compared against the costs of full service, untreated water from MWD. The final report should also analyze how this would affect the RA and OCWD’s recharge costs compared with the use of untreated MWD water.

***D. The Clean Energy Report assumes that Orange County Groundwater Producers will bear the cost for the desalination project. It does not explain the direct and tangible benefits Producers will receive for subsidizing the project. Only those agencies that voluntarily take the project water should pay for the project.***

Over the last few years, a working group of agencies that are interested in participating in the Huntington Beach project met on a regular basis at the Municipal Water District of Orange County (MWDOC) to review project study results, 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 proposed project. Subsequently, Poseidon approached OCWD to consider purchasing the entire amount of water to be produced by the proposed Huntington Beach Ocean Desalination Project.

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 participate in the development of a desalinated supply. It is important to note that the current reliability needs of Orange County rely on the development of extraordinary supplies to backfill requirements during a MWD Water Supply Allocation and providing water to South Orange County during events such as a Diemer Plant outage or other major system and supply problems.

Projects utilizing ocean desalination as a new base water supply should be funded exclusively by the retail water agencies that voluntarily participate in the projects. Because Orange County water agencies have different water supply needs, the participation in countywide desalination project should be available to agencies on a voluntary basis. An individual agency’s participation in this project will depend on its own water supply reliability needs based on a finding of the agency that it does not consider supplies from MWD to be fully reliable. OCWD has expressed its willingness to allow water agencies from outside its service area to voluntarily participate in the Poseidon project; yet OCWD has not indicated a willingness to allow its own member agencies to participate on a voluntary basis.

Given the current diversification of its water supply portfolio, IRWD has made a strategic decision not to invest in local base-loaded supply projects that exceed the cost of imported water from MWD over extended time horizons when imported water is projected to be largely available from MWD. IRWD understands that some Orange County retail water agencies with limited supply diversification opportunities may be willing to invest in expensive ocean desalination projects and pay a high reliability premium.

IRWD encourages retail agencies that elect to participate in an ocean desalination project to form an acceptable financial participation mechanism, such as a voluntary joint powers authority, to appropriately recover and allocate past and future costs associated with an ocean desalination project. This will not only resolve cost recovery issues related to these projects, but will build focused support at the retail level for implementation of desalination projects. In the alternative, MWD should consider the development of cost-effective regional desalination projects that provide benefits to all of MWD’s service area in an equitable fashion.

As for an OCWD investment in desalination projects, any OCWD investment must demonstrate and provide direct, tangible benefits to the Orange County Groundwater Producers. OCWD cannot justify Producer subsidization of the desalination program through an increase in the RA by simply stating that an RA at \$390 per acre-foot is still significantly lower than the cost of imported water and, therefore, acceptable. A \$96 per acre-foot increase in the RA due to Orange County Groundwater Producers subsidizing the proposed project will result in Producers having to raise rates to their customers. If the Basin Production Percentage (BPP) was lower than the BPP assumed in the Clean Energy report, then the increase to the RA would be proportionally higher. Such a subsidy and the corresponding rate increases would disproportionately benefit other Orange County retail water agencies over the Producers.

***E. The Clean Energy Report should evaluate how the proposed project will impact Orange County’s water supply reliability under MWD Water Supply Allocation scenarios.***

The Clean Energy Report does not evaluate the effective increase in regional water costs that will incur to the Orange County community as a result of the proposed project during a MWD Water Supply Allocation. Under MWD’s current allocation formula adopted April 14, 2009, the proposed project’s water would likely be considered a local supply similar to groundwater and not an extraordinary supply. As a result, the proposed project will reduce the amount of imported water allocated to MWDOC during a Water Supply Allocation.

Based on MWD’s 2009 Allocation Model, during a supply allocation scenario MWD calculates supply allocations by looking at total retail demands and local supplies. The MWD member agency’s water supply allocation is based on a calculated formula taking into account all of MWD’s available supplies and all of the other demands on MWD. Before determining a region’s allocation, MWD takes into account a number of other factors such as conservation credits, Retail Impact Adjustment, and availability of extraordinary supplies. Therefore, Orange County water agencies may be less reliable, resulting in a reduction in the total water available to the county in a 30 percent regional shortage percentage situation.

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.

***F. OCWD should perform a thorough evaluation on how an OCWD debt or equity investment in the proposed Huntington Beach Ocean Water Desalination Project would impact its ability to financing and complete other projects in its Long Term Facilities Plan.***

The financing of desalination projects should occur using methods that result in the lowest cost of water and debt to the participating agencies. According to the Clean Energy Report, OCWD’s current debt service is \$33.3 million annually or 25 percent of its budget. If OCWD were to provide \$500 million in debt to participate in the Poseidon project, it would increase its annual debt service by 96.7 percent to \$65.8 million per year.

The financing savings gained by OCWD through a debt or equity investment in the proposed project comes at a great risk to OCWD and its future projects; such an investment requires thoughtful consideration by OCWD. OCWD should fully explain how such an investment in the proposed project would affect its ability to maintain its credit rating and finance future projects, as this would limit OCWD’s ability to implement the projects in its Long Term Facilities Plan.

***G. OCWD’s District Act may need to be amended to allow OCWD to invest in and sell water from the proposed project.***

Per its District Act, OCWD cannot proceed with a project unless the OCWD Board of Directors makes a determination that the project is necessary to carry out an OCWD power. OCWD’s District Act provides the district with a number of enumerated powers to protect and replenish the groundwater basin within its district boundaries, to augment and protect the quality of the common water supplies of the district, and incidental purposes. Before OCWD can proceed with a water treatment, purification, or other project, the district must determine that the project is “feasible and necessary and of general benefit to the lands in the district” (OCWD District Act Section 20.6). As discussed above, an analysis needs to be completed to determine if the proposed Huntington Beach Ocean Water Desalination Project provides benefits to lands in the district and the Producers.

IRWD also asks that OCWD stipulate which enumerated power(s) in its District Act it is invoking to carry out investment in the proposed project and the selling of project water to non-OCWD producers. If the proposal is not within OCWD’s legal powers, an amendment to the OCWD District Act may be necessary.

***H. An increase in the RA to cover the incremental cost impact on OCWD likely violates Proposition 218, and could violate Proposition 26.***

OCWD’s District Act also limits the application of RA proceeds to specific authorized purposes. The RA proceeds may only be used “for the benefit of all who rely directly or indirectly upon the ground water supplies of such district for the benefit of all who rely directly or indirectly upon the ground water supplies of such district” and “shall be used to acquire water and to pay the costs of initiating, carrying on, and completing any of the powers, projects, and purposes for which this district is organized” (OCWD District Act Sections 23 and 27.b). Using the RA to subsidize the proposed project without demonstrating the benefit of the subsidy not only violates OCWD’s District Act but also presents a Proposition 218 problem.

Selling project water at the cost of MWD full service, Tier 1 treated water and subsidizing the costs via an increase in the RA for all the Producers will result in challenges based on the cost of service and

proportional to their basin use, and some may not even be basin producers. As such, it will be difficult for the inclusion of this component in the RA to satisfy the proportionality requirement of Proposition 218. Furthermore, the Clean Energy Report contains no explanation as to how this subsidization is justified.

If the RA is not a property-related fee subject to Article XIII D, there is an issue as to whether the product-water subsidy component is a tax, requiring voter approval, as a result of its inability to come within the Proposition 26 carve outs. There may also be a gift of public funds issue by initiating a subsidization structure as has been proposed in the Clean Energy Report. OCWD should examine, as part of the Clean Energy Report, the constitutional issues raised by increasing the RA to subsidize the water costs of the project.

***I. The water quality of any water produced by the project must meet all applicable drinking water standards.***

The Clean Energy Report notes that the proposed terms between OCWD and Poseidon would place a large portion of the water quality risk onto OCWD. IRWD would like to emphasize again its position that 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.

**Conclusion:**

The development of a secure and reliable water supply for the residents of Orange County is important to the economic vitality of our region but, as with any infrastructure investment, investments in water supply reliability must be cost-effective. IRWD encourages OCWD to carefully reconsider the assumptions of the Clean Energy Report and the conclusions drawn from its analysis for the purpose of developing an accurate understanding of the costs and risks associated with the Poseidon Desalination Project.

Thank you in advance for considering our comments. Also attached to this letter are IRWD’s policy principles on Desalination Projects, as adopted by the IRWD Board of Directors on November 10, 2014. Please contact me at (949) 453-5590 with any questions you may have regarding IRWD’s comments or if you would like to discuss the matter further.

Sincerely,



Paul A. Cook, P.E.  
General Manager

Enclosure.

IRVINE RANCH WATER DISTRICT POLICY POSITION  
ON DESALINATION PROJECTS

Revised: November 10, 2014

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 or alternative supplies under development. Funding should be recovered on a beneficiary pays basis. Efforts to develop desalination projects, technologies, and outside funding sources should move forward consistent the policy principles described below.

Background:

Desalination is the process of converting water with high salts and mineral concentrations into water usable for potable use or irrigation. 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. This 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 Integrated Resources Plan as a key future water supply component for the region only after exhausting other options.

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, treatment of impaired groundwater and water recycling. As technological improvements reduce the cost of reverse osmosis membranes and the amount of energy used by the membrane process, the cost of desalinated ocean water may decline. This is why the water industry, including IRWD, should support development of desalination technologies, regulatory streamlining, and public acceptance.

Poseidon Resources Corporation, a private company, 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 Resources Corporation is soliciting interest from local water agencies for commitments to purchase desalinated water from the Huntington Beach Plant.

Over the last few years, a working group of agencies that are interested in participating in the Huntington Beach project met on a regular basis at the Municipal Water District of Orange County (MWDOC) to review project study results 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, the Orange County Water District