

PRIVATE ORGANIZATION COMMENT LETTERS

COMMENT 15

*California Coastal Protection Network * California Earthcorps * Elkhorn Slough Coalition
* Friends of the Sea Otter * Friends Artists and Neighbors of Elkhorn Slough *
Public Citizen * San Diego Baykeeper * Save Our Shores * Save Our Waterfront
Committee * Sierra Club * Southern California Watershed Alliance * Surfrider Foundation
* The Ocean Conservancy*

Mr. Ricky Ramos
City of Huntington Beach Department of Planning
2000 Main Street
Huntington Beach, CA

May 27, 2005

**RE: Seawater Desalination Project at Huntington Beach
Draft Recirculated EIR No. 00-02**

Via e-mail: rramos@surfcity-hb.org
Via Facsimile: 714.374.1540

Dear Mr. Ramos:

We are writing as a group of local, regional, and nation-wide organizations in regards to the draft Poseidon-Huntington Desalination Re-Circulated Environmental Impact Report (REIR). We appreciate your careful consideration of the REIR. Your cautious scrutiny is important for several reasons, not the least of which is that this is the first such report in California to forecast the impacts of a massive desalination facility. In these unusual circumstances, the Huntington Beach City Council effectively bears the extra burden of setting a standard under the California Environmental Quality Act (CEQA) for the review of similar desalination facilities statewide. This is of particular interest to citizens in both the southern California region and the Monterey Bay – the focus of planning for numerous desalination facilities.

It is important to point out that the undersigned groups are not opposed to desalination as a source of potable water. Many of the groups signing this letter have been investigating and promoting the implementation of sound desalination policy as members of the Coalition on Responsible Desalination and the Statewide Environmental Desal Working-Group. Nonetheless, in the absence of any detailed statewide or regional policy on the implementation of desalination facilities, we believe proposals like the Poseidon-Huntington facility are premature and currently unnecessary.

The State of California is currently spending tens of millions of Proposition 50 dollars to research the best practices for collecting "source water" from the ocean, and for the most efficient means of...

processing that ocean water into potable water. To race into massive production facilities that leave our precious natural resources at risk, before the research is complete, is simply "putting the cart before the horse."

Similarly, since the initial review of this project, the United States Environmental Protection Agency has promulgated regulations for the use of "cooling water intake structures" at large facilities like the Huntington Beach Generating Station (HBGS). These regulations mandate a dramatic reduction in the current mortality of marine life from "impingement" and/or "entrainment." It is unclear at the current time how the HBGS intends to comply with these new regulations. But, reliance on the current cooling water intake for desalination source water is, again, premature and unsound public policy.

The California Department of Water Resources is currently assessing the projected demands on our limited water supplies and the several alternatives available for meeting an ever-growing demand. The niche in our water portfolio that can be filled with environmentally sensitive desalination facilities is still undefined.

It is in the best interest of ratepayers and the environment to make sure that the answers to these outstanding issues are resolved before approval of such a permanent and massive facility as the Poseidon-Huntington proposal.

Finally, and possibly most importantly, as detailed below, the draft REIR still fails to allow a fully informed consideration of the proposal by the public and their elected representatives. The REIR, in several areas, is inadequate. In the most extreme cases, the REIR may also be misleading the public and our representatives.

It is critical that the public and our decision makers fully understand the scope of public policy issues that are raised by this project – considerations that go well beyond the surface issue of water supply. This project, and the associated REIR, raise serious considerations about future Clean Water Act compliance, coastal zone management, land use planning, electricity generation, marine life management/protection, etc. It is a major decision that demands thorough documentation and public policy debate before approval.

Once again, thank you for your thorough consideration of the comments below.

Sincerely,

Sierra Club
Bruce Monroe
Chair – Coast & Ocean Committee

San Diego Baykeeper
Allison Rolfe
Policy Director

Surfrider Foundation
Joe Geever
Southern California Regional Manager

The Ocean Conservancy
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Juliette Beck
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Madeline Clark

Save Our Waterfront Committee
Barbara Bass Evans



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COMMENTS

1) "Project Description" and "Alternatives Analysis" is Unnecessarily Narrow and Consequently Inadequate for Fully Informed Decisions

As noted in public comments on the original EIR, this re-circulated EIR (REIR) fails to adequately analyze "wastewater reclamation" and "water conservation" as alternative supplies of freshwater for the affected area. The EIR instead attempts to describe the potential for increased conservation under the "No-Project" alternative. Most importantly, the inadequate consideration of these feasible alternatives does not include a comparison of the environmental impacts, both positive and negative, of pursuing these alternatives over a massive desalination facility. Furthermore, a more accurate assessment of alternatives available to meet projected future water demands would allow a mix of conservation, reclamation and a smaller desalination facility with environmentally preferable source water intake alternatives to the ABS cooling water intake.

As in the original EIR, the draft REIR narrowly defines the purpose of the project as "local" in nature. We can only predict that the Response to Comments will again rely on this narrow project description to argue that reclamation and conservation are contingent upon imported water supplies and consequently do not meet the purposes of the narrow project description. In general, the REIR defines the project purpose in such a discreet and narrow description so as to effectively preclude any reasonable alternatives to balanced and reliable water supply portfolio. This narrow and specious approach undermines the intent of CEQA to offer the public full disclosure of the impacts of the project compared with those of feasible alternatives.

Project Description, Needs and Objectives

The REIR Section 3.4 (Project Needs and Objectives) states the need for increased supply in reference to past and future droughts. However, while the 1977-1978 drought provided a learning session or a window on the future, the current long-term drought in the Colorado River system and the previous driest four years locally have been met with minimal conservation and reclamation efforts -- alternatives that the REIR discounts. There have been no cutbacks or restrictions during this time, and when the drought turns to flood, as it has this past winter, and has happened historically, these local programs show their greater value. To base this project only on a drought period would leave the area with an overpriced, underutilized facility, as happened in Santa Barbara, where their desal plant, built in drought, now sits idle.

Furthermore, the discussion of the California Water Plan, the State Department of Water Resources' long term planning tool, originally called Bulletin 160-2003, now version 2005, is now under a public hearing process with different assumptions than the scenarios laid out in the REIR. In addition, Water for California and the Planning and Conservation League are circulating "The Water Investment Strategy" See:

http://www.pcl.org/pcl/pcl_waterforca.asp as a response to the Water Plan. After careful review of the California Water Plan and the State's Desalination Task Force recommendations, the study concludes that ocean water desalination is the lowest level supply option. Ocean water desalination should be used only when conservation and reclamation potential is exhausted and only when beach wells are the intake source to mitigate impacts on the marine environment. The State Desalination Task Force recommended that desalination should be included in a water supply portfolio where it is "economically and environmentally appropriate" and when recycling and conservation have been implemented to the "maximum extent practicable."

The chart shown on Table 3-3 of the REIR lists assumptions from the MWD Integrated Resources Plan that can be refuted by the Water Investment Strategy table listed below.

Additional Needs		million acre-feet
Population Increase		2.0-2.4
Environmental Restoration		1.0
Total additional needs		3.0-3.4

First Priority Options		million acre-feet
Urban Water Conservation		2.0-2.3
Agricultural Water Conservation		At least 0.3-0.6
Recycled Water		1.5
Groundwater Treatment and Desalination		At least 0.29
Total First Priority Potential		At least 4.09-4.69

The REIR Section 3.4 B (Replacement Water) cites reductions in Mono Lake water as rationale for this project. The freshwater streams that feed Mono Lake only supplies water to Los Angeles. However, of interest in this case, any losses due to environmental mitigation are covered by conservation offsets by order of the State Water Resources Control Board in 1995. This is an excellent example of how conservation, in coordination with community-based organizations as the delivery mechanism, can provide real water for urban use and still let 30% return to stream flows for environmental benefits.

The REIR Section 4 (Project Description) summarizes current estimates of water supply from wastewater reclamation (recycling) and water conservation in the Orange County distribution area. It is important to note that the Urban Water Management Plan is currently being revised and could provide additional projections on water availability from these sources. Furthermore, we are requesting that the goal of an "integrated resource plan" -- that is, a plan that thoroughly considers reducing surface water pollution while simultaneously supplying fresh water -- be more thoroughly considered in the Urban Water Management Plan. A thorough documentation of potential management approaches should evaluate the avoided costs of Clean Water Act compliance when water purveyors implement conservation and reclamation to the fullest extent.

For example, the Santa Ana Watershed Project Authority, which is working on a long-term plan to be imported-water free for a three year period, without ocean desal, is working upstream to clean and restore groundwater supplies on a watershed level. See: www.sawpa.org This winter's high rain levels and runoff have improved groundwater storage beyond listed numbers reflecting recent local drought. Climate change estimates show that local resource programs, such as SAWPA, will have greater value as local areas may receive more water and areas with traditional water supplies receive less. With extensive studies for current and future storm water programs, this water is now seen as an asset not a liability, with multiple benefits of improved water quality, greater recharge potential, and water catchment with cisterns.

Furthermore, Section 4.8 doesn't list conservation as a demand-side program or supply source, along with other traditional supplies, which does include reclaimed water facilities.

Finally, the assumptions and conclusions of future demand, and the short timelines to meet that demand based on the projected completion date of Poseidon's desalination facility, are confusing at best.

In short, the combination of Sections 3 and 4 of the REIR are confusing, inadequate, and misleading. These sections do not meet the mandate of CEQA to fully and accurately inform the public.

Alternatives

The REIR Section 7 (Alternatives) again relies on assumptions that there is a discreet demand for 56,000 acre feet of water, and that this water must be deliverable by 2008. These baseline assumptions are not thoroughly substantiated. More importantly, these arguably flawed assumptions undermine a reasonable review of potential alternatives for providing a sustainable and environmentally preferable water supply portfolio for the region.

Section 7 briefly discusses the potential for recycling and conservation. But, the EIR appears to treat each alternative as mutually exclusive rather than considering a combination of improved conservation and greater reclamation output. Furthermore, the alternatives analysis seems to conclude that these sources would not be available before 2008 -- the proposed date for getting the Desal. facility on-line. This date is not consistent with planning documents for 2025 demand relied upon in the REIR, and is consequently irrelevant.

Most importantly, the REIR fails to analyze the environmental benefits from alternatives such as heightened water conservation programs and increased wastewater reclamation. For example, a recent study by the Irvine Ranch Water District documents that fairly simple application of irrigation devices can reduce overall household water demand by 50%, reduce local urban runoff by 70%, and can reduce pollutant loadings in receiving waters by 75%. See: www.irwd.com and search for "Residential Runoff Reduction (R3)".

Study." Also, expanded wastewater reclamation programs can dramatically reduce treated sewage discharges to the ocean.

As the REIR points out in Sections 4 and 5, there are numerous potential sources of contamination contributing to the intractable problem of beach closures at Huntington Beach. Among these are the sewage discharge from Orange County Sanitation District's treatment facility and urban runoff. These sources can be dramatically reduced by an aggressive program to expand wastewater reclamation and the Groundwater Replenishment System, as well as a progressive program to implement water conservation.

Furthermore, the Municipal Water District of Orange County is experimenting with alternative "source water" collection systems that avoid any impacts to marine life – either through direct open ocean intakes, or through reliance and exacerbation of existing cooling water intakes for a coastal generator.

Once again, it is the findings of the State Desalination Task Force that desalination should be included in a water supply portfolio where it is "economically and environmentally appropriate" and when recycling and conservation have been implemented to the "maximum extent practicable."

The REIR fails to give the public and our decision makers an adequate analysis of alternatives for meeting the projected demands for freshwater in the region. In particular, the combination of water conservation, wastewater reclamation and a downsized environmentally preferable desalination facility are not considered a separate "alternative." More importantly, the scant consideration of these alternatives in the "No Project" alternative does not discuss the environmental benefits to water quality of this course of action – not to mention the economic benefits of reduced Clean Water Act compliance costs.

2) Definition of Entrainment/Impingement "Significance" is Misleading and Scope of Impacts Too Narrow

Once again, given that this is the first CEQA review of a desalination facility of this configuration and size, the REIR is effectively setting a new CEQA "standard of review." With this in mind, the assumptions employed, as well as the scope and standards used, deserve heightened scrutiny.

The REIR relies on misleading standards for determining "significance" of impacts to marine life. Furthermore, the REIR narrowly defines the scope of potential impacts from the co-location of a massive desalination facility with the existing Huntington Beach Generating Station (HBGS).

Defining "Significant"

The REIR, in Section 5.10, page 41, concludes that, "Impacts due to operation of the proposed desalination facility in regards to impingement and entrainment are not anticipated to be significant." This conclusion is based in part on reliance on the harvest control rule adopted in the Nearshore Fishery Management Plan – the so-called "40-10 rule." Id. This harvest control rule is applied to fisheries where the necessary data is available. For many species, this data is not available and harvest controls must resort to "proxies."

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Additionally, the REIR does not document historical impingement/entrainment of species of major concern, nor does it compare these rates with dwindling populations. For example, populations of Sheepshead, Vermillion Rockfish, Bocaccio Rockfish, Cowcod Rockfish have declined from habitat losses, overfishing and other pressures over the past several decades that may lead to dramatic reductions in the number of individuals recorded in impingement/entrainment studies. Nonetheless, these population declines only underscore the importance of reducing marine life mortality from cooling water intake structures. Furthermore, numerous species likely entrained at the facility, such as Tidewater Goby and Garibaldi, are not regulated for sustainable harvests – several having total prohibitions on any "take." Therefore, the use of fishery management plans and harvest control rules as an indicator of "significant impacts" on marine life in the REIR oversimplifies the complicated process of determining "total allowable catch" and misleads the reader.

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Nonetheless, assuming the best case scenario (i.e., that the species' populations, survival strategies, and life cycles are fully understood), the rule would not necessarily allow the "taking" of up to 60% of the existing populations – as implied in the REIR. In fact, the harvest control rule relies on estimates of "unfished biomass" – not current populations. If the current populations are below 40% of the estimated unfished biomass, "rebuilding plans" are implemented on a curve between 40% and 10% of these populations. Consider a species where the necessary data is available to employ the "40-10" rule, and current populations are below 10% of the estimated unfished biomass – the "40-10" rule may prohibit the take of these species altogether. There are species within the Southern California Bight where this is the case (e.g., "Cow Cod" rockfish) and others that have dramatically reduced harvest allowances because the current populations are estimated below the 40% target (e.g., "Sheepshead"). Therefore, any "take" of these species and others under similar controls would be "significant" under the definition relied on in the REIR.

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In short, the REIR's use of the "40-10 rule" for defining "significant" -- and the inexplicable application of the rule to the species killed by the HBGS -- and the additional mortality attributable to the proposed co-located desalination facility -- is misleading. Without fully identifying the populations of consideration, and the applicability of the harvest control rule, the REIR falsely concludes that:

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The maximum "harvest" effect of HBGS operations at 127 MGD is 0.33 percent, significantly below the accepted (DFG) thresholds of 60%. The

maximum harvest effect of the proposed project is 0.02 percent, an order of magnitude less than 0.33 percent, based on HBGS entrainment mortality of 94.1 percent.

This not only directs the public into falsely relying on a misleading definition of "significant impact", it raises serious questions about the adequacy of the impingement/entrainment study itself. For example, the baseline of 127 MGD is a minimum withdrawal rate and does not accurately reflect current average cooling water intakes, nor projected increases in cooling water intake volume after the addition of the desalination facility.

Furthermore, the REIR should identify species killed in the process that do not have harvest controls and "take" is prohibited. For instance, there is no allowable fishery for Garibaldi or Black Sea Bass. "Take" of these species is prohibited altogether and any impact on these species would be "significant."

Therefore, the REIR should not be certified until it includes a thorough and defensible definition of "significant impact" on all species collected in historical and current impingement/entrainment studies. The REIR should also thoroughly explain the current population assessments for the species recorded in these studies and reconcile why some with already diminished populations may be recorded in relatively low numbers. Finally, the REIR should identify species killed in the intake that are protected under the Endangered Species Act, fishery management plan "take" reductions and prohibitions, and other regulatory and legislative protections.

Scope of Impacts

As noted in previous comments, the addition of a desalination facility of this size will create a dramatic new demand on the HBGS. In a misleading conclusion, the REIR states that: "The operation of the desalination facility would not result in any changes to the permitted operations or in the maximum HBGS intake flow rate..." This reliance on "permitted flow rates" versus actual historical cooling water intakes sets a misleading baseline from which to compare projected impingement/entrainment impacts.

The REIR is confusing in that in one instance, at Section 3, page 28, the REIR states that: "The desalination facility would not include a back-up generator. Emergency power would come from the electric power grid and/or HBGS auxiliary reserve bank." This statement implies that the energy necessary to run the desalination facility under normal operating circumstances (i.e., not during "emergencies") would come directly from the HBGS. Consequently, the baseline and average operations of the generators will surely increase to supply the necessary energy to run the desalination plant. It is important to repeat here that the baseline for calculating marine life mortality is not the "permitted" withdrawal of 514 MGD, but the actual historical withdrawal of cooling water.

According to the REIR, the desalination facility will "require approximately 30 to 35 megawatts.... As such, the daily energy consumption of the facility is estimated to be 720-

to 840 megawatt hours per day." See: REIR § 5.4, page 13. The current average daily output of the HBGS is not presented in the REIR. However, if the average daily cooling water intake flow rates are any indication, HBGS, between 2002 and July 2003, was only operating generators 1 and 2 on average. See: REIR § 4, page 7 (average flow rate equaled 265 MGD, with low flow rates at 127 MGD). If so, on average, the HBGS is generating approximately 430 MW. See: REIR § 4, page 3. Given these extrapolations, the addition of the energy demand from the desalination facility will increase average operating output of the Huntington AES from 430 MW to 465 MW – an increase of approximately 8%. Nowhere in the REIR is there an analysis of how much additional water will be withdrawn from the ocean to meet this increase in daily electrical output at HBGS.

Assuming the energy demand for the desalination facility will be supplied by HBGS under normal circumstances; the REIR fails to identify the resulting increases in on-site cooling water intakes and associated marine life mortality to supply the energy.

Alternatively, the REIR may conclude that the energy demand for the desalination facility will be met under normal operating conditions by power from the electrical grid. In this case, some estimate of what percentage of power on the grid comes from facilities using "once through cooling" would help decision makers better understand regional impacts. In short, without some clarity of how the facility will meet the energy demands of the massive desalination facility, it is impossible to adequately assess the associated marine life mortality.

Therefore, the REIR fails to adequately inform the public of the impacts of the project on marine life mortality until it is clear how the energy demand will be met. One potential solution would be an unequivocal and irreversible commitment to the source of energy – either the HBGS or the grid. This is not an unreasonable condition given the importance of this factual background for fully documenting foreseeable impacts to marine life.

3) New Regulations for Cooling Water Intakes Not Analyzed

The REIR fails to include all the relevant information currently available on marine life impacts, including the recently promulgated rules on cooling water intake structures [i.e., Clean Water Act 316(b)] and a recently completed impingement and entrainment study for HBGS.

It is uncertain how HBGS intends to comply with the recently promulgated Clean Water Act 316(b) regulations for cooling water intakes on existing power plants drawing more than 50mgd ("Phase II regulations"). These new regulations on cooling water intake structures require dramatic reductions in marine life impingement (80-95%) and entrainment (60-90%).

Relevant issues raised by the promulgation of these new rules include:

the land used for the footprint of the desalination facility would preclude the option of adopting closed-cycle cooling for HBGS by disallowing use of the same land for cooling towers;

reducing cooling water flows for HBGS, or installation of alternative technologies, may offer alternatives to meet the performance standards in the new regulations. However, such mandated changes may render the desalination facility economically or practically inoperable without continued use of the ocean water intake structure.

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Licensing of the Desalination Plant At This Time Would Foreclose HBGS From Using EPA's Preferred Technology

The Phase II regulations specify closed-cycle cooling as the best technology available for minimizing adverse environmental impact. While the rule allows compliance in other ways that meet closed-cycle performance standards, the EPA expresses the preference for closed-cycle cooling. In fact, for new power plants, closed-cycle cooling is essentially required. However, closed-cycle cooling demands available land for construction of cooling towers. Therefore, licensing of the desalination plant would likely foreclose the use of closed-cycle cooling due to the available space taken up by the desalination plant. Furthermore, the desalination facility's reliance on HBGS's once-through cooling water will effectively preclude the transition to closed cycle cooling, or force the continued use of the intake structure for desalination "source water" -- undermining the intent of the new regulations.

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By precluding HBGS from employing closed-cycle cooling, or prolonging the use of the ocean water intake structure for other purposes, the desalination facility is effectively undermining the intent of the new 316(b) regulations. This foreseeable impact should be thoroughly documented in the REIR.

If the Desalination Plant Attempts to Comply with the 316b regulations by means other than EPA's preferred technology, the viability of the desalination plant is suspect.

The Phase II regulations provide compliance alternatives other than the use of closed-cycle cooling. For instance, the plant can reduce cooling flows through reduced operations, install new technology, or perform a combination of these to comply with the performance standards. However, each of these alternatives has consequences on either the total water available to the desalination plant or the electricity available to consumers, the desalination plant, or both.

One potential HBGS compliance response would be to reduce the volume of intake water from the historical baseline. Assuming this response, the REIR is incomplete until it provides an analysis of how the desalination facility would make up for the

reduction in cooling water at HBGS. More importantly, the REIR should document the marine life mortality associated with this response.

Future 316b Regulations May Eliminate the Viability of The Desalination Plant Altogether.

The REIR indicates that, should the HBGS discontinue the use of the "once through cooling" system, Poseidon would take over operations of the cooling water intake structure to supply water to the desalination facility. In this scenario, all of the marine life mortality from the 100 MGD-plus withdrawal would be directly attributable to the desalination facility. The draft phase III regulations, which would likely apply to the desalination plant, would likely require the same reductions in impingement and entrainment from uncontrolled levels as the HBGS plant must meet. **The REIR does not indicate how the desalination plant might meet these requirements should it need to draw water directly from the ocean.**

Missing Relevant Information

It is our understanding that the California Energy Commission has recently released a comprehensive study of the marine life mortality rates at the HBGS. This "316(b) study" is currently available for public review, but has not been included in this REIR. It is also our understanding that there are significant differences in the scope of the analysis and the relevant information contained in that study as compared to the study provided in the REIR. **This is pertinent and significant information for the public and our elected representatives to make fully informed decisions. Absence of this information renders the REIR inadequate.**

Furthermore, the REIR does not summarize nor append copies of the recently adopted Clean Water Act 316(b) regulations controlling the use of "cooling water intake structures" for existing facilities, including the HBGS. **Again, this is essential information for fully informing the public of the scope of impacts related to this project proposal.**

Conclusion

In summary, the Phase II regulations were the focus of a great deal of discussion during public comment on the original DEIR, and should be treated as "significant new information" in this REIR. Before the HBGS demonstrates how it will comply with the Phase II regulations, it is premature for the City of Huntington Beach to license the desalination plant. Furthermore, relevant documentation of current impingement/entrainment is now available from the California Energy Commission, and that information is critical to a thorough understanding of the operations of HBGS as is, as well as predicted impacts from the co-location of a massive desalination facility. **Again, the absence of this pertinent and significant information precludes a fully informed decision and renders the REIR inadequate.**

4) End Users Not Identified and Consequently "Growth Inducement" Analysis is Inadequate

The REIR does not adequately identify the "end user" of the product water in a way that informs the public of the potential environmental impacts or allows informed decisions.

As noted in the REIR, water pollution in the surrounding region is the result of numerous point source and non-point source loadings. As mentioned above, improved water conservation and wastewater reclamation can provide a new source of fresh water while simultaneously reducing pollution loading. For example, see the Irvine Ranch Water District's "Residential Runoff Reduction (R3)" study – see: <http://www.irwd.com/> click on "Conservation", then "Landscape & Agricultural Irrigation", and finally "Conservation Research."

Alternatively, an overnight introduction of 50MGD into the water supply may exacerbate current difficulties meeting ever-stricter water quality regulations. This would be especially true in areas of the region where intractable non-point source pollution has yet to be abated; and/or sewage treatment facilities are under-capacity for the present water supplied to the service area.

The REIR seems to imply that the product water will simply be absorbed into the regional water supply and offset projected deficits in imported water. These conclusions are not substantiated with any discreet demand from specific water agencies and no way of disseminating the local environmental consequences. For instance, if the water were destined for delivery to the Rancho Mission Viejo area, the supply would raise serious concerns about the resultant land development – as well as the impacts on available sewage treatment capacity and the impact of a new source of water on polluted runoff into local streams and the ocean. Similarly, if the water is destined for areas within the Orange County Sanitation District service area, and in particular the Santa Ana River watershed, similar concerns would be raised concerning resulting development and the impact on sewer treatment capacity and urban runoff. However, should the water be destined for an area that is already "built-out" and has addressed predicted sewage treatment capacity demands and urban runoff problems – the impacts would be dramatically different.

In short, avoiding the documentation of the "end user" of this potential new source of water precludes an analysis of the "growth inducement" aspects of the project, as well as the consequential water quality impacts. The absence of this significant information renders the REIR inadequate. As a side note, it is reasonable to request this information and analysis prior to certifying the REIR because, absent any commitment to take delivery of the water, postponing the decision should not create any hardships on the project proponent.

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5) Discharge of Cleaning Solution is Not Fully Identified and Impact Analysis Inadequate

On page 3-26, the EIR indicates that chemicals used to clean the RO membranes would possibly be discharged directly to the ocean through the AES discharge conduit. Given that a major problem with operations of the Tampa Bay desalination plant revolved around filter clogging and the accumulation of excess cleaning chemicals, this EIR should fully explore the discharge of chemicals under a "worst case" scenario - similar to the experiences of the Tampa Bay facility.

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Furthermore, the predicted chemical concentrations of the membrane cleaning solutions are not directly compared to the discharge requirements applicable to either the Orange County Sanitation District or to the ocean through the AES discharge conduit. In the case of Orange County Sanitation District, the applicable discharge requirements are their industrial pretreatment requirements, and for ocean discharge the applicable limits are those found in the California Ocean Plan (COP). A cursory comparison of the COP limits with values presented in Table 14B of Appendix K of the EIR indicates that concentrations of lead, mercury and arsenic in some of the cleaning solutions may exceed water quality objectives in Table B of the COP.

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In conclusion, the REIR is inadequate in that it does not fully inform the public of the "worst case scenario" of the volume of cleaning solution, and the foreseeable impacts from the discharge of the cleaning solution.

6) No Cumulative Impacts Analysis of Energy Demand, Marine Life Mortality or Growth Inducement

The REIR does not adequately inform the public of the numerous desalination proposals in some stage of planning statewide or in the southern California region. For example, in southern California alone, there are proposals to build desalination facilities in San Diego, Carlsbad, San Onofre, Dana Point, Long Beach and 2 facilities in El Segundo. Some of these facilities are researching energy-saving alternatives and/or "source water" intakes that avoid marine life mortality.

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Consequently, without a thorough understanding of the several desalination proposals currently being planned, it is impossible to fully understand the cumulative impacts on regional energy demand and the associated marine life mortality and other environmental impacts.

Similarly, as noted in the section above on "Growth Inducement," the REIR does not allow a thorough consideration of cumulative impacts on growth inducement from the introduction of multiple desalination facilities region-wide. Nor does it provide any window into understanding the cumulative impacts on sewage treatment capacity and discharges, energy demand and associated environmental impacts, land use, traffic, etc - all potentially resulting from multiple desalination facilities and the associated growth induced by the introduction of new water to the region.

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Finally, the apparent "first come – first serve" result of individual desalination permit applications to local jurisdictions precludes a thorough alternatives analysis that identifies sound approaches to providing desalination in the region in a manner that would minimize the cumulative impacts noted above.

Absent a region-wide desalination planning policy, this REIR must make a reasonable attempt to document the cumulative impacts from this and several other desalination facilities currently proposed in southern California. Also, the REIR should compare the cumulative impacts from employing the technology proposed at this facility with the alternatives proposed by facilities like that being considered and currently researched in Long Beach and Dana Point.

7) Drinking Water Quality and Human Health Standards (Boron)

The REIR does not adequately address all the implications of the product water for human consumption and the applicable health standards, specifically as it concerns boron contamination.

A recent article on the subject concludes: "Reverse osmosis desalination has tremendous potential for a supply of new water for the 21st century, especially in areas of the world where water is scarce or the quality is inadequate. Its widespread application, however, is hampered by the fact that reverse osmosis desalination does not remove boron sufficiently (only 60 percent). As a result, desalination of seawater does not reduce the boron level below the new standard for drinking water in the European Union (and will be also problematic for the non-European Mediterranean countries adopting a similar drinking water standard for boron). Therefore, additional removal techniques must be introduced in order to bring boron levels down to drinking standards." See: http://www.geotimes.org/may04/feature_boron.html

Seawater contains about 4.5 mg/L boron. The California Department of Health Services (CDHS) has established an action level of 1 mg/L and the World Health Organization (WHO) has a guideline of 0.5 mg/L. Thus, you need about 78% removal to get to the CDHS limit and about 89% removal to get to the WHO guideline.

There is apparently ongoing research into boron removal technology and practices. For instance, the Long Beach Water Department (LBWD) says 43-78% is a range for boron removal. They also say "Boron rejection substantially deteriorates with warm water temperatures." See slides 13-27a:

<http://www.lbwater.org/pdf/presentations/ACEBoron2004.pdf>

LBWD is experimenting with a 2-stage RO process and has tried adding fluoride (unsuccessful) and a base (sodium hydroxide) to raise the pH to improve boron removal. This appears to be successful, but it adds to the cost and requires subsequent acid addition to bring the pH back down to neutral.

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In conclusion, the REIR is inadequate in that it does not fully inform the public or our representatives of the present difficulties addressing boron contamination, nor the potential environmental impacts. Furthermore, the REIR does not include a discussion of the on-going research and possible mitigation of boron contamination to levels considered not significant.

ai

8) Public vs. Private Ownership

7.3 Alternate Ownership Alternative: Assuming that the environmental impacts would be the same under either public or private ownership ignores the fundamental motive and fiduciary responsibility underlying private ownership: private profit. Poseidon's foremost goals are to return profit to their investors and protect investor interests, whereas the purpose of a public desalination plant would be to provide a sustainable, environmentally sound water supply with direct accountability to the public. Given that water is a public trust resource, government entities such as the Huntington Beach City Council should give public ownership of a desalination plant greater weight and not weaken its public trust responsibility by permitting the commercialization of this vital resource.

The Tampa Bay experience underscores how private ownership of a desalination plant can weaken public accountability. The project changed hands three times and the most recent owner, Coventa Energy, finally declared bankruptcy in order to avoid its contractual obligations. Poseidon's involvement in the Tampa Bay project does not set a good precedence for responsible public trust stewardship.

aj

The REIR also dismisses the potential concerns pertaining to international trade agreements as irrelevant because Poseidon is not an international investor nor should international trade law be evoked if regulation is uniform and non-discriminatory against foreign investors. International trade rules, such as NAFTA's Chapter 11, are written so broadly that international investors can challenge any government action that they might deem tantamount to expropriation or might indirectly discriminate against a foreign investor. The Methanex case challenging then Governor Davis' executive order banning MTBE is a good example of, in this case, a Canadian investor claiming indirect discrimination. They are seeking \$970 million in lost profits, including expected future profits. The case is being heard in a secretive NAFTA tribunal where environmental concerns have been blocked (petitions filed by Earthjustice Legal Defense Fund have been repeatedly rejected, for example).

Poseidon describes itself as a private water company that invests in water supply projects around the world. It is not inconceivable that in the future, if the desalination plant is not meeting public expectations and the public moves to seize the facility through eminent domain, Poseidon could use a foreign partner to file a claim in an international investment court. Bechtel, a San Francisco based company, is currently suing for \$50 million in compensation for a public-private partnership in Bolivia that was terminated under significant public opposition. Bechtel filed this claim under a bilateral investment treaty between the Dutch and Bolivian governments, claiming a small Dutch subsidiary

gave them legal standing. The case is currently underway in a highly secretive tribunal in a branch of the World Bank called the International Court for the Settlement of Investment Disputes. Clearly, corporations with a global reach are finding creative ways to circumvent domestic environmental laws. This threat can not be underestimated.

aj

CONCLUSION

In conclusion, we want to again emphasize the importance of setting a standard for CEQA review of this and future desalination facilities that fully informs the public of foreseeable environmental impacts. This REIR falls far short of meeting that standard.

We also want to incorporate by reference the comments submitted to you by Heal the Bay and the Planning and Conservation League.

The southern California region, like so many other areas of the state and nation, is facing intractable problems of water pollution, land use planning, energy demand, declining coastal and marine living resources, loss of coastal and marine habitat – amongst myriad considerations implicated by the development of desalination facilities. Proper planning for desalination facilities and other alternatives for meeting the increasing demand for fresh water in the region can either exacerbate these problems, or be a tool in resolving them.

The REIR will be the basis for several considerations in the future – well beyond the jurisdiction of the City of Huntington Beach. For example, the REIR will inform California Coastal Commission coastal development permit decisions, Santa Ana Regional Water Quality Control Board "Clean Water Act" decisions (including the ocean water intake and discharge permits for the HBGS), California Energy Commission permits, the California Department of Water Resources "California Water Plan", several Urban Water Management Plans, etc. With this in mind, certification of the REIR demands a rigorous and thorough review.

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For all the reasons stated above, the REIR fails to meet the mandates of the California Environmental Quality Act. The inadequate approach to documenting the environmental impacts of the proposed Huntington-Poseidon desalination facility fails to fully inform the public of the foreseeable impacts of this project on "stand alone" basis, within the context of changing regulations for the co-located HBGS, and within the context of the foreseeable cumulative impacts of multiple desalination proposals.

We therefore request that the REIR be re-circulated once again with a more thorough documentation and analysis of the issues raised above. We are concerned that a traditional "Response to Comments" in finalizing the REIR will be insufficient.

Once again, thank you for your consideration of these comments.

Response No. 15

Group of Private Organizations

California Coastal Protection Network
California Earthcorps
Elkhorn Slough Coalition
Friends of the Sea Otter
Friends Artists and Neighbors of Elkhorn Slough
Public Citizen
San Diego Baykeeper
Save Our Shores
Save Our Waterfront Committee
Sierra Club
Southern California Watershed Alliance
Surfrider Foundation
The Ocean Conservancy

- 15a. This text provides an introduction to the comment letter and does not require a response.
- 15b. This text lists the co-authors of the comment letter and does not require a response.
- 15c. The commentator suggests that the purposes or objectives of the project have been too narrowly stated. As required under CEQA Guidelines section 15124(b), however, the project's objectives have been clearly stated. The City is not required to adopt new or different project objectives suggested by the authors of this comment letter or any other person or entity. Also refer to Response 2g, above. As to the discussion of alternatives, refer to Response 22i, below.
- 15d. The project is not based "on a drought period" as suggested by the commentator. Refer to Response 19d, below.
- 15e. Refer to Response 20f and 22f, below.
- 15f. Comment noted. No response is necessary.
- 15g. Comment noted. No response is necessary.
- 15h. Pages 4-21 and 4-22 in Section 4.8 of the DREIR reference Figure 3-1, "Orange County Water Supply Sources," located at page 3-43 of the DREIR. "Water Use Efficiency" (i.e. conservation) is recognized on the immediately preceding page of the DREIR (page 3-42) in Table 3-4 as a reduction to water demands instead of as a "supply source."
- 15i. Comment noted. No response is necessary.
- 15j. This text provides a summary of the comments provided above and has been responded to accordingly.

- 15k. Refer to Response 2ag, above, and Response 19d, below.
- 15l. Refer to Response 20e, below.
- 15m. Comment noted. No response is necessary.
- 15n. Refer to Responses 2t and 2af, above.
- 15o. The commentator criticizes the significance criteria used in the DREIR for considering potential impacts to marine life and characterizes the standards as "misleading." As explained on page 5.10-17 of the DREIR, "significance thresholds for biological resources that are identified in Appendix G of the CEQA Guidelines are applicable primarily to terrestrial biological resources. With respect to marine biological resources, guidance in developing appropriate significance thresholds has been taken from the California Coastal Commission." The standards used in the DREIR are taken directly from recent (March 2004 and September 2004) Coastal Commission reports and are clearly set forth at pages 5.10-17 and 5.10-18 of the DREIR. Refer to Responses 15p through 15u, below.
- 15p. Comment noted. Also refer to Response 16f, below.
- 15q. Tidewater goby larvae, the only potentially entrainable rare and endangered species potentially occurring in the area of the HBGS intake were not collected in the desalination project's intake entrainment studies. California State Government Code 425.6 making the Garibaldi the state fish included protection for the adults from sport fisherman, particularly spear- gunners who found the species easy prey and because the populations were declining. The DREIR looks to the State of California for guidance on the population level significance of early life stage losses of entrained fish species and to regulatory law such as the ESA for establishment of allowable take. Relying on both the science and practice of population management and protection, the DREIR estimated proportional entrainment losses due to the project's seawater intake represent a de minimus effect. These entrainment effects would never rise to significance in a population of unharvested species and are far below the State's recommendation for managing fisheries for harvested species.
- 15r. Refer to Response 15q, above.
- 15s. The assessment of desalination facility entrainment effects is based on a flow volume of 127 MGD, the minimum HBGS minimum cooling flow configuration, even though this volume, which is approximately 20 MGD more than will be used by the proposed desalination facility, over estimates the level of the desalination facility intake effects.
- 15t. Refer to Response 15q, above.
- 15u. This text provides a summary of comments 15o through 15t provided above and has been responded to accordingly.

- 15v. The desalination facility would receive its electricity from the state power grid. Refer to Response 2o, above.
- 15w. Refer to Response 1g above.
- 15x. Comments regarding the ability of the generating station to comply with the requirements of 316(b) because the desalination facility will occupy adjacent property is speculative under CEQA and not relevant. If the commentator is interested in more information on the options available to the power plant for future compliance of 316(b), the commentator can read a recent CEC study on aging power plants where this subject was discussed in some detail (see "RESOURCE, RELIABILITY AND ENVIRONMENTAL CONCERNS OF AGING POWER PLANT OPERATIONS AND RETIREMENTS"; AUGUST 2004 100-04-005D, California Energy Commission, Staff White Paper, pages 80 – 88). In addition, refer to Response 1g, above. It is also important to note that the proposed desalination facility is not subject to CWA Section 316(b) requirements.
- 15y. Refer to Response to 1g, above.
- 15z. Refer to Response 2u, above. It should also be noted that the proposed project's feedwater withdrawal is not subject to intake regulation under the CWA Section 316(b).
- 15aa. This text provides a summary to comments 15w through 15z and has been responded to accordingly.
- 15ab. Refer to Response 2as, above.
- 15ac. The DREIR indicates two scenarios for disposal of the process chemicals used for membrane cleaning: 1) disposal of the first flush of the cleaning chemicals (4,000 gallons – see page 5.10-37) to the sanitary sewer and blending of the remaining volume of flush water (87,000 gallons) with HBGS cooling water discharge and the concentrate from the desalination facility; and 2) disposal of the entire volume (91,000 gallons – see page 5.10-37) of cleaning chemicals generated to the HBGS cooling water discharge and the concentrate from the desalination facility prior to their discharge to the ocean. The preferred scenario is the first disposal method. As indicated on page 3-9 of the DREIR, the proposed seawater desalination facility will be equipped with a Washwater Tank, which would have capacity (200,000 gallons) capable of retaining the volume of first flush chemicals generated during membrane cleanings. Since the total number of membrane cleanings of all membranes needed annually is 26 under normal operational conditions and 52 under worst case scenario (long periods of red tides, rain events, etc.), the storage volume for the first-flush chemicals will be adequate to retain approximately one year of membrane cleaning water. Refer to Response 17d below.
- 15ad. Analysis of the chemical concentrations of the membrane cleaning solutions for compounds regulated by the California Ocean Plan and other applicable regulations was provided in Appendix K of the DREIR. The OCSD staff has been

contacted and asked to evaluate the information presented in Appendix K of the DREIR in order to establish if the discharge of the cleaning solution chemicals to the wastewater collection system is viable. The OCSD staff confirmed that this discharge is in compliance with their sewer system discharge requirements. The OCSD already accepts the same membrane cleaning chemicals used by other reverse osmosis membrane plants and is well familiar with their water quality.

As indicated on Page K-2, Appendix K of the DREIR, "most of the regulated compounds in the cleaning solution will already be below their detection and/or regulatory limits even before the cleaning solution is diluted with the desalination facility and HBGS discharges." Table 15B of Appendix K indicates the compounds that were determined to be above the detection limit – a limit below their concentration can not be measured. All other parameters regulated by the Ocean Plan and other applicable regulations are below their detection limit. Please note, that the parameters shown in Table 15B represent only the concentration of the cleaning solution before blending with the HBGS cooling water discharge and desalination concentrate. As indicated on page K-3, Appendix K of the DREIR, these levels will be further reduced significantly, with one or more orders of magnitude, when the discharge is further diluted in a 260:1 ratio with desalination facility concentrate, treated filter backwash water and HBGS discharge prior to their combined discharge to the ocean.

An example is the level of lead referenced in the question. As shown on Table 15B, the cleaning solution with highest level of lead contains 6.7 ug/L of lead. Because the discharge is intermittent (i.e. only two discharges of cleaning solution are planned per month), the applicable Ocean Plan Limits for lead are the daily maximum COP limits of 8 ug/L and the instantaneous maximum limit of 20 ug/L. Comparison of the lead level in the worst-case cleaning solution and COP limits indicates that the cleaning solution is in compliance with the lead limits, even before any dilution with power plant cooling water and desalination plant concentrate. If 91,000 gallons of cleaning solution that contains lead of 6.7 ug/L is diluted with 50,000,000 gallons of desalination plant concentrate that contains lead of less than 0.005 ug/L (see Table 15, Appendix K), the blended concentration will be $(6.7 \text{ ug/L} \times 91,000 \text{ gal} + 0.005 \text{ ug/L} \times 50,000,000 \text{ gal}) / (91,000 \text{ gal} + 50,000,000) = 0.017 \text{ ug/L}$. As a result, the total desalination facility discharge will have a lead concentration of 0.017 ug/L, which are several orders of magnitude lower than the Ocean Plan Limits of 8 ug/L and 20 ug/L. This dilution does not even account for the additional reduction which will be achieved when the desalination facility discharge is blended with the HBGS cooling water discharge.

Similar concern was expressed regarding mercury. The daily maximum and the instantaneous maximum COP limits for mercury are 0.16 ug/L and 0.4 ug/L, respectively. As shown on Table 15B, the worst-case mercury concentration of the cleaning solution is 1.57 ug/L, while the desalination facility mercury concentrate mercury level is less than 0.001 ug/L. When 91,000 gallons of cleaning solution that contains mercury of 1.57 ug/L is blended with 50,000,000 gallons of concentrate of mercury level of less than 0.001 ug/L, the maximum level of mercury in the total desalination facility discharge will be: $(1.57 \text{ ug/L} \times 91,000 \text{ gal} + 0.001 \text{ ug/L} \times 50,000,000 \text{ gal}) / (91,000 \text{ gal} + 50,000,000) = 0.0039$

ug/L. Therefore, the discharge of the desalination facility will contain a mercury level which is over 40 times lower than the daily maximum mercury limit established by the COP. This concentration will be reduced further by blending the desalination facility discharge and HBGS cooling water discharge.

The same conclusion is valid for arsenic. The daily maximum and the instantaneous maximum COP limits for arsenic are 32 ug/L and 80 ug/L, respectively. As shown on Table 15B, the worst-case arsenic concentration of the cleaning solution is less than 4000 ug/L, while the desalination facility mercury concentrate mercury level is less than 10 ug/L. When 91,000 gallons of cleaning solution that contains arsenic of level lower than 4,000 ug/L is blended with 50,000,000 gallons of concentrate of arsenic level of less than 10 ug/L, the maximum level of arsenic in the total desalination facility discharge will be: $(4,000 \text{ ug/L} \times 91,000 \text{ gal} + 10 \text{ ug/L} \times 50,000,000 \text{ gal}) / (91,000 \text{ gal} + 50,000,000) = 17 \text{ ug/L}$. Therefore, the discharge of the desalination facility will contain an arsenic level which is lower than the daily maximum mercury limit established by the COP. As in the previous examples, this concentration will be reduced further by blending the desalination facility discharge and HBGS cooling water discharge.

- 15ae. An analysis of potential cumulative impacts due to multiple desalination facilities proposed within the Southern California Bight is provided in Section 6.0 of the DREIR, *LONG-TERM IMPLICATIONS* (beginning on page 6-18).
- 15af. An EIR must provide both “a detailed statement of growth inducing impacts” and an analysis of cumulative impacts contributed to by the project. This is distinguishable from an analysis of “cumulative impacts on growth inducement” referenced by the commentator. No further response is necessary.
- 15ag. Refer to Responses 15ad and 15ae, above.
- 15ah. This text provides a summary to comments 15ad through 15ag and has been responded to accordingly.
- 15ai. The proposed seawater desalination facility will be designed to produce potable water which will be in compliance with all regulatory requirements applicable to this project at this time, including with the boron “action level” established by the California Department of Health Services of 1 mg/L. The World Health Organization Guidelines do not have direct relevance to this project nor are they accepted as the governing water quality regulations in the US, and in many other developed countries in the world. For example, the European Union’s drinking water quality limit for boron is 1 mg/l, while in Canada the boron standard is 5 mg/L.

The applicant will use the newest state-of-the art commercially available seawater reverse osmosis membranes which are designed to reject boron at levels significantly higher than the “60%” removal efficiency for boron indicated in the question. The writer refers to the older generation seawater desalination membranes, or the widely publicized dual-stage nanofiltration system proposed by the City of Long Beach, which performance is indeed limited to the referenced boron removal efficiency range of 43 to 78%. The experimental “Long Beach”

dual nanofiltration system relies on using nanofiltration membranes that have order of magnitude larger membrane openings than the proven state-of-the-art reverse osmosis membranes proposed to be used at the proposed desalination facility at Huntington Beach. While using nano-membranes with larger openings supposedly allows to reduce energy use (which has not been proven to date), the dual nanofiltration system has a disadvantage – i.e., the nano-membranes allow more salts, including boron, to pass through the membranes and contaminate the product water. In order to address this issue, Long Beach staff has tried to use chemicals to increase the size of the boron molecules and thereby to remove more boron from the seawater. We agree with the conclusion of the referenced internet site that the use of such chemicals would increase the overall cost of water treatment. Since the reverse osmosis membranes have an order of magnitude smaller membrane openings they are much more effective in removing boron and other contaminants.

The newest generation seawater reverse osmosis membranes planned to be used at the Huntington Beach seawater desalination facility have boron removal efficiency of 85 to 88% and would produce fresh water that consistently meets the boron product water quality action level requirement of 1 mg/L using a single-stage membrane reverse osmosis system. As indicated in project's product water quality specifications (page 5.11-10 of the DREIR), the proposed seawater desalination facility is projected to produce potable water in which boron concentration would be in a range of 0.6 to 0.8 mg/l. At a typical seawater boron level of 4.5 mg/l and rejection efficiency of 85%, the boron concentration in the product water is projected to be 0.68 mg/L.

The high boron removal efficiency of the proposed reverse osmosis membranes has been tested and proven at Poseidon Resources' seawater desalination demonstration plant located in Carlsbad, California. This plant uses the same single-stage seawater reverse osmosis membrane system configuration as that proposed for the Huntington Beach seawater desalination facility. The Poseidon demonstration plant has been in operation for over two years and has been producing high-quality desalinated water using warm power plant condenser seawater of similar quality as that of the Huntington Beach seawater desalination facility. This demonstration plant uses the newest generation of high boron-rejection seawater desalination membranes which allow it to consistently produce potable water of boron levels below 1 mg/L, and to comply with all applicable product water quality requirements.

If the applicable regulations change in the future and more stringent boron limit is introduced, than the reverse osmosis desalination system will be upgraded as necessary to accommodate these limits.

Please note that the boron removal experience in the non-European Mediterranean countries referenced in the question is not directly applicable to the site specific conditions of the Huntington Beach project. The Mediterranean seawater has higher salinity than the Pacific Ocean along the California coast (40,000 mg/L vs. 33,500 mg/L). Similarly, boron concentration of the Mediterranean seawater is higher than that of the Pacific Ocean seawater as well – 6 to 8 mg/L vs. 4 to 4.5 mg/L. Therefore, additional removal techniques are

often required to obtain water of boron levels below 1 mg/L, when desalinating Mediterranean seawater as compared to treating Pacific Ocean water.

- 15aj. The profitability of the proposed project does not alter the environmental requirements that the project will be required to meet. Also refer to Response 2aq, above.
- 15ak. These paragraphs provide a conclusion to the comment letter and do not require a response. As comment letters from Heal the Bay and the Planning and Conservation League are incorporated by reference into this comment letter, refer to Responses 16 and 20, below.



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COMMENT 16

City of Huntington Beach

MAY 31 2005

May 27, 2005

Mr. Ricky Ramos
City of Huntington Beach
Planning Department
2000 Main St.
Huntington Beach, CA 92648

RE: Comments on April 2005 Draft Recirculated Environmental Impact Report No. 00-02 for the Seawater Desalination Project at Huntington Beach

Dear Mr. Ramos,

Heal the Bay is a nonprofit environmental organization with over 10,000 members dedicated to making the waters of Southern California clean and healthy for marine life and people. We have been actively coordinating with the environmental representatives of the State's Desalination Task Force and we currently participate in the 316(b) working group led by the Los Angeles Regional Water Quality Control Board.

We have reviewed the April 2005 Draft Recirculated Environmental Impact Report No. 00-02 for the Seawater Desalination Project at Huntington Beach (dREIR) and have numerous concerns. Specifically, we find the dREIR fails to assess all potential environmental impacts of the proposed facility nor does it thoroughly evaluate alternatives to the proposed project as required by the California Environmental Quality Act (CEQA). The project applicant has not completed the necessary analyses nor provided the information necessary to enable responsible agencies and the public to determine the full range of environmental impacts, especially those relating to the impingement and entrainment of marine species.

Our specific comments are summarized below:

1. Huntington Beach Generating Station's (HBGS) compliance with 316(b) should be determined prior to approval of a co-located desalination facility

Cooling water intake structures operated by the electric utility industry are "[t]he single largest predators of our Nation's waters."¹ Noting the tremendous negative environmental impact of once-through cooling systems, the U.S. Court of Appeals for the Second Circuit recently upheld the United States Environmental Protection Agencies (USEPA) regulation mandating *closed-cycle cooling* as the national minimum technology for new power plants and factories, while striking down a provision that would have sanctioned inferior technology and attempts to replace damaged resources.² When applied to existing facilities, the USEPA has established stringent

¹ May, J.R., and van Rossum, M. K. "The Quick and the Dead: Fish Entrainment, Entrapment, and the Application of Section 316(b) of the Clean Water Act." 20 Vermont Law Review 376 (1995).

² Riverkeeper vs. U.S. Environmental Protection Agency, No. 02-4005 (2nd Cir. Feb. 3, 2004).



new regulations under section 316(b) of the Clean Water Act that are intended to dramatically decrease impacts to the marine environment by establishing performance standards that are projected to reduce impingement mortality by 80 to 95% and entrainment by 60 to 90%.³

Unfortunately, co-locating the proposed project with the HBGS would effectively preclude the implementation of the preferred compliance option, closed-cycle cooling. Not only would the proposed project result in a direct, permanent use for the cooling water, the structural footprint of the proposed project would occupy valuable space that could be utilized for the implementation of an alternative cooling technology. Rather than convert to closed-cycle cooling, the HBGS may opt to achieve compliance through one of the various other compliance options, the simplest of which would be a reduction of intake flow commensurate with required entrainment reductions. This option would serve to both reduce the amount of cooling water flowing through the facility and the amount of electricity produced by the plant.

There are no analyses in the dREIR as to how either of these, or other, compliance options would affect the operation of the proposed facility and what the subsequent impact might be on the marine environment. The dREIR makes the assumption that the HBGS will continue to use once-through cooling for the duration of the projected life of the proposed project. This assumption, however, is not binding to HBGS which is free to pursue any compliance option available, either immediately, or in the future, if new more efficient cost effective closed-cycle cooling technologies become available.

Without having a detailed understanding of how the HBGS will comply with the new Phase II 316(b) regulations, the applicant cannot simply assume that they can dovetail the proposed project on the existing cooling system. Not only will the proposed project preclude the ability of the HBGS to pursue the preferred compliance option under Phase II 316(b) but would "[p]rovide a justification for the continued use of once-through cooling technology...a technology [that] has well documented environmental impacts, including impacts on marine organisms."⁴ In addition, the California Coastal Commission has recognized the possible environmental impact of linking a drinking water supply with an "out-of-date" and environmentally harmful cooling technique.⁵

Finally, we would like to make it very clear that the proposed project, or any other proposed co-located desalination facility, should in no way be used by a power generating facility as an excuse to get out of 316(b) requirements to reduce the marine impacts of impingement and entrainment.

³ "National Pollutant Discharge Elimination System – Final Regulations to Establish Requirements for Cooling Water Intake Structure at Phase II Existing Facilities; Final Rule." *Federal Register* 40 CFR Parts 9, 122 *et al.*, July 9, 2004.

⁴ Department of Water Resources: "Water Desalination: Findings and Recommendations." October 2003. Recommendation 30, p.5.

⁵ Seawater Desalination and the California Coastal Act. California Coastal Commission. March 2004. p. 79.



2. The dREIR does not use current impingement and entrainment data

In May 2001, in the midst of the California energy crisis, the California Energy Commission approved the Application for Certification for the Huntington Beach Generating Station Retool Project. As a condition of the certification (BIO-3), the applicant of the permit was required to conduct a year long impingement and entrainment study to assess actual losses due to the cooling water intake system of the power generating facility.⁶ The sampling for this study was conducted from September 2003 through August 2004 and the Final Entrainment and Impingement Study was released in April 2005.⁷ Although this study did not come out until after the dREIR was prepared, the data most certainly could have been made available during the year long data collection process. For some reason, these data were not utilized for the analyses included in the dREIR. Consequently, there are several major discrepancies between the calculated impingement and entrainment (I/E) estimates between the two documents. For example, the dREIR states that "Species with high commercial and recreational importance, such as California halibut and rockfishes, were shown to be very uncommon in the HBGS intake flows." (p. T-7) This is not supported by the results of the recent I/E study that estimated 5,021,168 California halibut larvae and 54,349,017 northern anchovy larvae were entrained annually by HGBS flows. These mortality levels were calculated to be equivalent to an area of production foregone of 0.386 and 4.472 km² for each species, respectively.⁸

The source water calculations used in the dREIR were also flawed. The dREIR inaccurately characterizes the source water as the entire Southern California Bight. (T-23) The recent I/E study required by the Energy Commission more appropriately based its source water volumes on the area of water that could be drawn into the intake affecting target species. This was calculated as function of average current speed and direction and larval duration. This approach resulted in a much smaller source water volume which provided a more accurate assessment of entrainment impacts.

Even if the dREIR did use the new study to estimate I/E mortality, the methodology used to determine the "significance" of the impact would have to be adjusted. The dREIR relies on misleading standards for determining "significance" of impacts to marine life. The dREIR, concludes that, "Impacts due to operation of the proposed desalination facility in regards to impingement and entrainment are not anticipated to be significant." (p. 41) This conclusion is based in part on reliance on the harvest control rule adopted in the Nearshore Fishery Management Plan, a rule designed to manage active fisheries, and is not a rule used to determine the significance of a seawater intake. The harvest control rule is designed to regulate the sustainable harvest of specific species and is not intended to apply to non-harvested species of ecological concern or importance, which is at issue in this case.

⁶ California Energy Commission. Huntington Beach Generating Station Retool Project, Commission Decision. 00-AFC-13. May 2001.

⁷ MBC Applied Environmental Sciences and Tenera Environmental. AES Huntington Beach L.L.C. Generating Station Entrainment and Impingement Study, Final Report. April 2005. AES Huntington Beach L.L.C. and California Energy Commission.

⁸ *Id.* at 157



A more appropriate entrainment and impingement assessment approach would be to use the area of production foregone to determine the significance of the impact. The area of production foregone relates to the estimated area of marine habitat required to produce the number of larvae of a given species entrained in the cooling water flow. As stated above, the Energy Commission study calculated an area of production foregone as large as 4.5 km² for the northern anchovy, an area that could most certainly be considered significant.

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3. The dREIR inappropriately dismisses the use of alternative intake technologies

The dREIR is quick to point out, without any reference, that a co-located system is the most environmentally sound option. The use of alternative intake designs, such as sub-surface intakes are dismissed because they are purportedly not recognized by the EPA as Best Technology Available (BTA) under 316(b). (p. T-12) This is yet another example of the numerous instances when the dREIR selectively cites portions of a document or a decision to advocate for the proposed project. As stated previously, the preferred option for compliance under 316(b) is the conversion of the facility to closed-cycle cooling, an option that would preclude the co-location of the proposed project. The new 316(b) regulations are structured around performance based standards with BTA only to be used in conjunction with a comprehensive demonstration study in one of the 5 compliance options.

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Sub-surface intakes, such as beach wells or infiltration galleries, could most certainly be employed by the HBGS to meet 316(b) requirements if found to be technologically feasible. The dREIR erroneously dismisses the use of alternative intakes for cooling water flow, yet fails to mention that they may be feasible for the proposed project, or a scaled down version of the proposed project. The application of alternative intake technologies are currently being explored by several grants administered under Proposition 50. Several small scale desalination facilities currently utilize subsurface intakes and elsewhere in the world they provide up to 25 MGD.⁹ In addition, the California Coastal Commission clearly states that, "[f]acilities proposing to co-locate should not presume that use of the cooling system is the best available alternative, but should conduct the necessary feasibility study to determine whether subsurface intakes would work in the area."¹⁰

The dREIR is wholly inadequate by its omission of a thorough analysis of the feasibility of alternative intakes as both a co-located facility as well as a stand alone facility.

4. The dREIR fails to assess impacts of the proposed project as it would operate independently of the HBGS

To meet CEQA requirements, the dREIR must thoroughly assess the impacts of the proposed project as it would operate independently of the HBGS as well as one that work in conjunction

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⁹ CCC. Seawater Desal. p. 71

¹⁰ *Id.* at 81



with the plant. This would more accurately reflect the way the proposed project is likely to operate during its useful life and would better reflect CEQA requirements to address likely impacts. It is neither reasonable nor likely to expect the HBGS to operate at the stated "reasonable worst-case scenario" minimum capacity of 127 MGD, 24 hours a day 365 days a year. There is a high degree of likelihood that the HBGS would use far less than 127 MGD during periods of plant maintenance, heat treatments, times of low power demand, or due to compliance with 316(b) regulations.

In addition, should the HBGS permanently discontinue its use of once through cooling, the proposed project would be responsible for all impacts associated with the 100 MGD plus withdrawal of seawater. In either scenario, the dREIR demonstrably fails to evaluate, yet alone acknowledge, these likely direct impacts to the marine environment due to both I/E and discharge of hypersaline brine that has not been diluted due to mixing with the power plant effluent.

5. The dREIR fails to state how energy demands of the proposed project will be met

The dREIR clearly states that the proposed facility will require a tremendous amount of electricity to operate. Unfortunately, the dREIR fails to state where this energy will be obtained, leaving a tremendous hole in the impact analysis. It can reasonably be assumed that for cost and power efficiency the co-located HBGS would be the source of electricity for the proposed project. If this were to be the case, than a detailed analysis of historical and current operational output of the facility would be required to determine the increased electrical generation capacity required to meet the needs of the proposed project. The increased use of water associated with this increased production would be directly linked to the proposed project and thus must be assessed as part of the CEQA process. The only way these analyses could be excluded from the CEQA process would be if the proposed project was prohibited from receiving power from the HBGS.

Closing

In conclusion, Heal the Bay strongly recommends that significantly more analyses be completed and another draft EIR be released for public review and comment. We find the dREIR to be wholly inadequate in its assessment of the potential impacts to marine life and likely operating scenarios of the proposed project. We find that the dREIR is misleading in that it fails to provide references to support many assumptions, does not utilize current I/E data, and selectively cites specific sections of references to advocate for the proposed project. This document does not provide an unbiased assessment of potential project impacts and thus, falls far short of CEQA requirements.

Given that this is the first of many future projects concerning desalination in the arid climate of Southern California, we feel the this EIR is obligated to set a precedent to ensure all future desalination projects are held to the highest environmental standards. As currently written, this



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EIR sets a poor precedent and allows for the continued degradation of our precious marine resources.

Thank you for the opportunity to comment on the dREIR. Please call us at 310-453-0395 if you have any questions about Heal the Bay's comments.

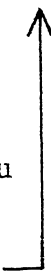
Sincerely,

A handwritten signature in black ink, appearing to read "Craig Shuman".

Craig Shuman, D. Env.
Staff Scientist

A handwritten signature in black ink, appearing to read "Mark Gold".

Mark Gold, D. Env.
Executive Director



Response No. 16

Heal the Bay

Craig Shuman, Staff Scientist, and Mark Gold, Executive Director

- 16a. These paragraphs provide an introduction to the comment letter and do not require a response.
- 16b. Refer to Response 1g, above.
- 16c. Comment noted. The proposed project would not alter the HBGS' permit requirements (including CWA Section 316[b]) in any way.
- 16d. Refer to Response 2u, above.
- 16e. Refer to Response 2u, above.
- 16f. The significance of impacts was analyzed in several ways including comparing the proportional mortality estimates with harvest control levels from the Nearshore Fishery Management Plan. The levels from the Nearshore Fishery Management Plan are relevant because they were established to provide protection to exploited species and would by nature be overprotective of non-exploited species. These levels would also be conservative when used with larval populations in order to account for any mechanisms that may act to compensate for the small levels of additional larval mortality resulting from operation of the desalination facility. In addition, refer to Response to 15o, above.
- 16g. Refer to Response 2u, above.
- 16h. Refer to Response 2y, above.
- 16i. Refer to Response 1g, above.
- 16j. Refer to Response 1g, above.
- 16k. Refer to Response 2o, above. In addition, refer to Appendix Q of the DREIR.
- 16l. This text provides a conclusion to the comment letter and does not require a response.



COMMENT 17

HUNTINGTON BEACH TOMORROW

"Making a difference today for Huntington Beach tomorrow"

P.O. BOX 865, HUNTINGTON BEACH, CA 92648

PHONE: (714) 840-4015 E-MAIL: INFO@HBTOMORROW.ORG

www.hbtomorrow.org

May 27, 2005

Huntington Beach City Council
2000 Main Street
Huntington Beach, California 92648

RECEIVED
MAY 27 2005

Subject: EIR Comments, Poseidon Draft Environmental Impact Report

Huntington Beach Tomorrow appreciates the opportunity to comment on the Poseidon Draft EIR. HBT has reviewed the document and finds information missing and insufficiencies in the proposal. HBT believes this new draft of the Poseidon EIR, as before, does not meet the standard necessary for approval.

- The DEIR does not discuss the viability of other methods of water generation as alternatives to the Poseidon facility. These alternatives include expanded residential and commercial conservation efforts, agricultural conservation, water recycling, and groundwater and beach well desalination.
- It does not include a comparison of the environmental impacts and efficiencies of production of Poseidon's proposed desalination plan to alternative methods.
- Desalination by reverse osmosis (RO) has not been proven practical at this scale anywhere in the country. Most existing RO plants, such as in Carlsbad, California, are a fraction of the size of the proposed Poseidon plant and therefore cannot be used as a true comparison of its functionality and impacts. Since the only other plant near to the size of the proposed Poseidon plant is the recently completed Tampa, Florida facility, its major operational difficulties and deficiencies and cost overruns should be evaluated to assess what environmental impacts they have caused. What environmental impacts has the Tampa project created? And how do they apply to this project?
- There are still no specifics in this DEIR stating who will be the actual recipient of the water generated by Poseidon.
- The DEIR does not specify what measures Poseidon will take to ensure its claim that production will be used to meet existing needs rather than acting as a catalyst of more growth in Orange County.
- The DEIR states that since Poseidon uses AES' ocean water intake, there should be no new restrictions on that intake, such as improvements to AES' high level of impingement. If this were approved:
 - How would limiting restrictions to improvements affect currently required impingement studies, i.e. as part of AES' retooling of Units 3 and 4?
 - What effect would limiting restrictions to improvements have on requiring AES to modify the intake to meet current standards?
 - What effect would limiting restrictions to improvements have on requiring AES to update its facilities to comply with future standards?

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- The DEIR states that if the AES plant were to cease to operate, Poseidon would reserve the right to keep AES' ocean water intake lines, discharge lines, and main ocean water pumps. The DEIR doesn't disclose where these pumps would be located. The DEIR doesn't delineate a process of conversion to a completely self-contained Poseidon. Where would the pumps be located? What would the process be to convert to a Poseidon-only facility? What agency would have jurisdiction over the regulation of the facility under those circumstances? The DEIR should discuss these issues in detail. h
- The DEIR states that in some cases process water (water involved in cleaning of the system) would be allowed to go back into the ocean without treatment. Under what circumstances would untreated process water be allowed to go back into the ocean? How often would this happen? Why should this be allowed? i
- For safety of adjacent residents, the 1,000-gallon ammonia tank located outside on the plant grounds should be located in a structure so that if a catastrophic failure of the tank were to occur for whatever reason, the resulting ammonia leak could be contained. j
- The DEIR fails to address impacts on the OCSD systems. What effects will the additional load from this plant have on OCSD systems, especially in terms of how it will affect OCSD's ability to handle dry-weather runoff treatment? What long-term damaging effects will the chemicals in the discharge from the plant have on OCSD pipelines and/or plant? k
- The DEIR gives conflicting information about the plant's operating hours. In some portions, it talks about it running primarily at night to take advantage of cheaper energy, but in other portions, it talks about how the plant will run 24/7. Why is there a contradiction? What will the hours of operation be? l

While there are numerous other areas of concern, HBT submits that these issues and unanswered questions alone are sufficient to deny certification of this draft of the EIR and to require further development of the EIR to satisfy the aforementioned concerns. m

HBT recommends the EIR not be certified unless favorable answers to these questions can be provided.

Very truly yours,

HUNTINGTON BEACH TOMORROW


David Guido
President

Cc: Mr. Ricky Ramos, Planning Department, Huntington Beach

Response No. 17

Huntington Beach Tomorrow
David Guido, President

- 17a. This text provides an introduction to the comment letter and does not require a response.
- 17b. A discussion of alternative water supplies for Orange County is provided in Section 7.0, *ALTERNATIVES*, of the DREIR.
- 17c. Refer to Response 17b, above.
- 17d. A comparison of the Tampa Bay desalination facility's environmental impacts to the proposed project is not applicable due to substantially different environmental variables. However, as stated within Appendix X of the DREIR, *DESALINATION FACILITIES THROUGHOUT THE WORLD*, seawater desalination facilities operate in over 120 countries worldwide, primarily in the Middle East and Mediterranean. 10 large-scale production facilities (the smallest being 9.2 MGD and as high as 32 MGD) have been constructed within the past 10 years. Worldwide, seawater desalination facilities produce over 3.5 billion gallons of potable water per day.
- 17e. Comment noted. No response is necessary.
- 17f. Section 6.0, *LONG-TERM IMPLICATIONS*, of the DREIR provides information regarding population and housing projections for Orange County. Seawater desalination has been identified as a future water supply in both MWD's and MWDOC's UWMP's to accommodate growth in the County. No measures are necessary to ensure that the project would not result in adverse growth-inducing impacts. In addition, refer to Response to 2as, above.
- 17g. Refer to Response 1g, above. Note that the project would not result in any impingement impacts, since organisms would not be exposed to screening (beyond what already occurs at the HBGS intake) at the desalination facility.
- 17h. Refer to Response 1g, above.
- 17i. Under no circumstances would untreated process water (referred to as "spent cleaning solution" at page 3-26 of the DREIR), be allowed to go back to the ocean. As indicated in the DREIR, page 3-26, under all discharge scenarios, this process water will be "directed to a designated 300,000-gallon storage tank (wash water tank) for mixing and treatment".
- 17j. As indicated on page 5.8-8 of the DREIR, "Ammonia would be delivered and stored in liquid form and would be stored in a 1,000 gallon tank with 110-percent spill containment structure". The liquid ammonia storage system would be a double containment system. The liquid ammonia tank would be located inside a second containment tank that has a volume to retain 110% of the volume of the liquid ammonia storage tank. In the unlikely event of liquid ammonia tank rupture

or leak, the spilled ammonia solution will be contained in the secondary containment tank. This liquid ammonia containment system will allow for retention of the ammonia at the facility site under any circumstances, and thereby provide effective protection of the neighboring community from chemical spills. Similar double-containment systems are provided for all chemicals which are planned to be stored at the desalination facility site. The chemical storage protocol is currently used for most water treatment facilities.

- 17k. The impact of the desalination facility operations on the OCSD system will be minimal. The only two waste streams proposed to be directed to the sewer during dry-weather conditions are the treated first rinse water from the membrane cleaning and the sanitary waste generated at the facility.

The discharge of project wastewater will have no measurable impact on the ability of the OCSD treatment plant capacity to accept and treat dry weather diversion quantities because of the limited volume and frequency of the desalination facility discharge.

As indicated on page 5.10-36 of the DREIR, only the "first rinse" of membrane cleaning solution is proposed to be discharged into the local sanitary sewer for further treatment at the OCSD regional wastewater treatment facility. Review of Table 5.10-8, page 5.10-37 of the DREIR indicates that the volume of the first rinse (referred to as "concentrated waste cleaning solution" is only 4,000 gallons per membrane unit cleaning (i.e., 8,000 gallons per month, taking under consideration that an average of two membrane units are planned to be cleaned each month). Discharge of 8,000 gallons of wastewater per month to the OCSD treatment plant that is designed to treat over 14.4 billion gallons of wastewater per month (480 MGD) will have no measurable impact on plant capacity, operations or ability to receive any other flows.

Because of the small volume of this discharge as compared to the capacity of the nearby sanitary sewer, the effect of this volume on the sewer's hydraulic capacity will be negligible. Capacity availability was confirmed with the OCSD staff.

The discharge of process water to the sanitary sewer is not going to have any short or long term damaging effects on the OCSD sewer system. As indicated on page 3-26, of the DREIR, the concentration of the chemicals in the discharge will be so low that they could meet the Regional Water Quality Control Board's Ocean Plan and could be safely discharged to the ocean. In addition, discussion with OCSD staff indicates that the discharge of similar process water generated during membrane cleaning is already practiced by other membrane treatment plants discharging to the OCSD collection system and these discharges have not resulted in any damages of the sewer system or the OCSD treatment facilities.

The desalination facility will have only 18 employees. The sanitary sewer generated from the facility is insignificant.

- 17l. Refer to Response 2n, above.

- 17m. This text provides a conclusion to the comment letter and does not require a response.

COMMENT 18
COASTKEEPER
EDUCATION / ADVOCACY / RESTORATION / ENFORCEMENT

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www.coastkeeper.org

May 26th, 2005

RECEIVED
MAY 27 2005

Ricky Ramos
Planning Department
City of Huntington Beach
2000 Main Street
Huntington Beach, CA 92648

RE: Comments on the DREIR for the Seawater Desalination Project at Huntington Beach.

Dear Mr. Ramos:

Orange County Coastkeeper is a non-profit organization with a mission to protect and preserve the marine habitats and watersheds of Orange County through education, restoration, policy advocacy, and enforcement. In our previous comment letter regarding the Seawater Desalination Project Draft EIR we discussed issues that needed to be addressed to complete the DEIR. During our subsequent review of the Re-circulated EIR and our own research on the potential impacts the proposed project; we would like to submit the following additional comments.

1. The report states that the first rinse water from the filter cleaning process will be discharged to the OCSD for treatment. This water will have a high salt content that has the potential for damage to the bacteria treatment stage (secondary treatment) at OCSD. The report should include a discussion of how this water could impact the OCSD secondary treatment process. If dilution is the solution to this high salinity byproduct, where will the dilution water come from and how much will be required? In addition, the report states that if the first rinse cannot be sent to OCSD for treatment, it can be flushed into the ocean where, with dilution, it would meet MOST water quality standards. It must be explained what conditions would require flushing directly to the ocean and also to describe which water quality standards might not be met, to what degree, and how often this might occur.
2. The R-EIR indicates the project will generate upwards of 500,000 gallons of "second rinse" wastewater that will be discharged to the Orange County Sanitation District for treatment. Presently OCSD is accepting diverted dry

weather surface runoff for treatment to reduce the effects of bacteria in the runoff on the water quality at the beaches in Huntington Beach and other cities. OCSD has indicated that current diversion quantities are limited due to treatment capacity limitations. We are concerned that large quantities of project wastewater may result in a reduced diversion capacity to continue present dry weather diversions or limit additional future diversions to the sanitation district. We believe that the R-EIR should address this issue and provide information describing how the discharge of project wastewater could impact treatment of dry weather diversion quantities.

c

3. Although the project includes measures to minimize environmental damage, there is no discussion of what mitigation offsets would be included due to long-term environmental impacts. The R-EIR should include a discussion of how these potential long-term impacts will be monitored so that they can be quantified and what mitigation offsets would be provided. The project should include long-term monitoring of marine impacts and assurance that all adverse impacts will be mitigated.

d

4. The report states that fish species currently inhabiting the area (feeding at the outlet pipe discharge) will simply avoid the area due to the higher salinity thereby avoiding harm. The result is that fish will be displaced from the outfall site resulting in an area along the beach with fewer fish. This will result in a significant reduction of shoreline recreational fishing in the area. The report should discuss impacts to shoreline recreational fishing.

e

5. The report states that the elevated level of iron in the discharge water will be beneficial to plankton. There should also be a discussion of the potential impacts of iron on the occurrence of red tides that are common in this area. Also, in a different discussion it is mentioned that plankton will be affected by the higher salinity. If there are any negative impacts to the plankton, the discharge should not be considered a nutrient.

f

6. The plan states the project is necessary to meet expected regional water demands for the future. Future water demand and supply in Orange County is widely disputed. OCSD and the OCWD have recently started construction on the Ground Water Replenishment System (GWRS) and each water agency in the region is aggressively pushing conservation and recycling. There is the potential for greater conservation utilizing new technology and greater public awareness. As the cost of water increases to the point where the water from this plant becomes economically viable, the demand for new water due to consumer conservation, utilization of new technologies, and reclamation will potentially reduce, especially given the real cost in producing desalination water. Though water costs will continually increase, considering the cost of imported water, the cost of pumping water from wells and the aquifer, and even the cost of highly treated water from GWRS, it appears the real cost of desalination water from this project will be the most expensive water. There are many alternative models

g

and combinations of water sources in the near future. Granted we agree with the report that desalination water will be a necessary source of water in the future comprising up to 10-15% of our water supply. However, we would like to have the R-EIR address at what point in the future desalination will actually be a needed source of water and be economically viable.

g

7. In Southern California currently Poseidon is locating desalination plants for entitlement solely based on the existing location of a power plant's cooling system—not on criteria such as areas of most future need or existing pipeline distribution system. What are the accumulative impacts of locating these desalination plants without considering distribution system storage capacity and identifying specific areas of future need? As an example, If four equal capacity plants are built in Long Beach, Huntington Beach, South County and Oceanside in the next five years, is there storage/distribution capacity to handle a new source of water at 200 m.g.d? How much additional pipe must be installed to convey desalination water from the source to where it is needed?

h

8. We believe there is validity in addressing the question of "Should we develop a new source of water rather than develop reclamation and reuse to the maximum extent"? We have been told we can not have greater reclamation due to the lack of a pipeline distribution system for reclaimed water. At what point is it viable to construct a reclaimed water distribution system rather than paying 2-3 times the current price for water?

i

9. The industry of developing large volume desalination plants is in its infancy. There will be technological advances in treatment methods as well as advances in saltwater sourcing. The R-EIR provides in depth discussion on the issue of utilizing saltwater ground wells instead of intake pipes as a saltwater source. It concludes technology is not currently adequately developed for salt water ground wells to be a viable alternative to intake pipes. Ground wells would eliminate issues of impingement, entrainment, and would benefit the project in lower energy demand in treating water. The EIR should address what is the current status of research and development in the industry, particularly advances in sourcing technologies. Can the public anticipate any new technological advances in the near future?

j

Sincerely,



Garry Brown
Executive Director

Response No. 18

Orange County Coastkeeper
Garry Brown, Executive Director

- 18a. This text provides an introduction to the comment letter and does not require a response.
- 18b. Refer to Response 7af and 10j, above.
- 18c. To clarify, only “first rinse” washwater would potentially be conveyed to the OCSD treatment plant. Refer to Responses 10j, above, and 17k, below.
- 18d. Refer to Response 10d, above.
- 18e. Refer to Response 10o, above.
- 18f. Refer to Response 10n, above.
- 18g. Refer to Response 2as, above.
- 18h. The proposed project includes new pipelines to convey desalinated water to regional distribution points operated by MWD. Adequate capacity is available for distribution of desalinated product water to end users. Each individual desalination proposal would be required to evaluate pipeline capacities on a case-by-case basis, and would require acquisition of permits/approvals in order to use existing distribution facilities.
- 18i. This comment does not pertain to the DREIR and does not require a response.
- 18j. Refer to Response 1f, above.



PACIFIC
INSTITUTE

May 27, 2005

Research for People and the Planet

Ricky Ramos
City of Huntington Beach Planning Department
2000 Main St., Huntington Beach
California, 92648

Dear Mr. Ramos:

I serve as President of the Pacific Institute, an independent research institute in Oakland, California. I am writing with selective comments on the Poseidon-Huntington Desalination Environmental Impact Report (EIR). We very much appreciate your careful consideration of the EIR.

The Institute has 18 years of experience with California water management and supports careful development and management of water in California. I serve on the Department of Water Resources Public Advisory Committee for the California Water Plan. I serve on the U.S. National Academy of Sciences Water Science and Technology Board and am an Academician of the International Water Academy in Oslo, Norway.

Our review leads us to conclude that the draft Recirculated EIR (REIR) is seriously inadequate and flawed in its analysis of future water demand — a critical part of the analysis is whether there is need for the plant, compared to the alternative of improved efficiency of use. There are several components to these flaws, which we address below.

As a result, the EIR as presented runs the risk of misleading decisionmakers and the public about certain issues of importance.

The issues raised by our review indicate that there are critical questions that remain unresolved. These should be addressed successfully before approval of such a substantial and potentially costly investment for local ratepayers.

Thank you for your consideration of the comments below.

Sincerely,

Dr. Peter H. Gleick
President
Pacific Institute

COMMENTS of the Pacific Institute

"Project Objectives" are Inadequate

As stated in the current revised EIR (REIR), "Project Objectives" include production of a drought-proof supply of local water, salt-reduction of imported water, site remediation, and ecosystem benefits. The Project Objectives are inadequate. Specifically, the water supply/management objectives should include a goal of identifying cost-effective ways of meeting water demands, not simply providing supply independent of costs.

The REIR grossly misrepresents the ability of a range of alternatives to meet these narrowly defined objectives. The inappropriate characterization of "objectives" results in an incomplete and inadequate analysis of "water conservation" and "efficiency" as alternatives to the construction of facilities to supply new freshwater for the region. Section 7.1 ("No Project" alternative) states:

The "No Project" alternative is not presently being considered because it fails to meet the basic project objectives." (page 7-3)

The conservation and efficiency discussion is limited and inaccurate. A separate, and thorough, discussion of cost-effective water conservation and efficiency is warranted. In addition, this section misquotes future demand projections, misrepresents conservation potential, and misunderstands concepts of efficiency.

Summary: The REIR fails to provide an adequate analysis of alternatives for meeting the projected demands (which are themselves inadequately analyzed, as noted below) for freshwater in the region. In particular, water conservation and efficiency are not, but should be, considered a separate "alternative."

Specific Problems in Conservation and Efficiency Analysis

Throughout the REIR, there is little to no consideration of conservation as a means to reduce future demand. EIRs are required to include such alternatives. While a "No Project" alternative is put forth, efficiency improvements are inappropriately dismissed without consideration because they don't meet the basic objective of the project, which is to provide a "drought-proof, high quality, new potable water supply." There are two errors to this conclusion:

First: there is insufficient support for the argument that such a "drought-proof, high-quality...water supply" is needed, given more realistic projections of future demand.

Second, no actual analysis was done to see if conservation and efficiency programs are capable of meeting such an objective in this area. Some such programs are capable of providing high-quality potable supplies, usually at costs below the cost of new supplies.

e

We understand that previous responses to similar comments by project developers argued that conservation and efficiency are contingent upon imported water supplies and consequently do not meet the purposes of the narrow project description. This narrow and specious approach undermines the intent of CEQA to offer the public full disclosure of the impacts of the project compared with those of feasible alternatives. Moreover, this argument is false. Conservation and efficiency improvements have a direct effect on reducing the need for imports, exactly the same as new supply from desalination, and almost always at lower cost.

f

Incorrect Description of Water Need/Demand

The REIR Section 3.4 (Project Needs and Objectives) identifies a need for increased supply in the context of droughts. The actual vulnerability of supplies in the affected region to future droughts has not been demonstrated. Even if such vulnerability could be clearly shown, conservation and efficiency improvements are precisely the alternatives most successful at reducing impacts of droughts, as shown by the fact that the current long-term drought in the Colorado River system had been handled easily with minimal conservation and reclamation efforts -- alternatives rejected by the REIR. A similar incorrect assumption was made when the Santa Barbara desalination plant was built, with disastrous economic result to local ratepayers. As the price of the plant grew, the price to consumers grew, and efforts at efficiency and conservation substantially reduced total demand, eliminating the need for the plant. That very expensive plant has remained idle and mothballed, and ratepayers are still paying it off.

g

Demand Projections May Be Wrong

The REIR lays out a set of assumptions about future demand that misquote and misrepresent estimates in the California Water Plan, the State Department of Water Resources' (DWR) long term planning tool ("Bulletin 160-2005"). Section 7 (Alternatives) relies on baseline assumptions about both increases in future demand and the potential for conservation improvements that are inadequately substantiated. The REIR takes as a fundamental assumption that there will be demand for its water up to 56,000 acre-feet per year. Yet this assumption is based on both old data, and on inadequate evaluation of actual future water needs. Orange County per capita water use is high, ranging from a low of 197 gpcd in very wet years (1995) to 233 gpcd in drier years (1990) (source: Metropolitan Water District, 2005, Integrated Resource Plan Update). This suggests that a significant amount of conservation potential still exists and that a more complete and comprehensive demand analysis is needed before any estimate of future water demand can be evaluated.

h

More importantly, there is evidence to suggest that the REIR estimates of conservation potential are far too low. The Pacific Institute, for example, in a statewide review of urban conservation potential, identified the potential for 30% reduction, cost-effectively (i.e., at costs far lower than desalination costs) in current urban water demand, using

existing technologies (Pacific Institute, 2005, "Waste Not, Want Not: The Potential for Urban Water Conservation"). The conclusion of this report was adopted by the DWR in its estimates of future urban conservation potential, but has been ignored here.

As a single example, recent work at the Irvine Ranch Water District documents that use of a single efficiency technology -- readily available residential irrigation controllers -- can reduce total residential water demand by 10%, reduce local urban runoff by 70% in the dry (high demand) season, and can reduce pollutant loadings in receiving waters. (See: www.irwd.com (Residential Runoff Reduction (R3) Study, Executive Summary July 2004).

Summary: Many alternative indoor and outdoor residential efficiency options are available, as are a wide range of commercial and industrial options. Proper and consistent implementation of these has the potential to substantially or even completely eliminate the need for the water provided by a proposed desalination plant, but this inadequate REIR fails to appropriately evaluate this alternative.

The Proposed Approach Conflicts with Recommendations of the State Desalination Task Force.

California's State Desalination Task Force recommended that desalination should be included in a water supply portfolio where it is "economically and environmentally appropriate" and when recycling and conservation have been implemented to the "maximum extent practicable." This REIR fails to adequately address this or adopt this recommendation.

-- end --

Response No. 19

Pacific Institute

Dr. Peter H. Gleick, President

- 19a. This text provides a description of the Pacific Institute and does not require a response.
- 19b. This text provides an introduction to the comment letter and does not require a response.
- 19c. The commentator opinion is noted. Objectives of the California Water Plan may be as general as that championed by the comment. However, the project requires project-level objectives and such specific objectives that include “a drought-proof supply of local water” are adequate and reasonable under CEQA. Refer to Responses 2f and 2ag, above.
- 19d. If the water supply is not needed, then the project will fail on economic grounds as dictated by the market. To the extent that the project results in impacts that cannot be mitigated, the lead agency is required to balance the benefits of the project with the resulting environmental impacts (see CEQA Guidelines Section 15093). Aside from this balancing requirement of the lead agency, CEQA does not require a “needs” analysis. While a comment questioning the “need” for the project may be relevant to the exercise of “the agency’s ultimate discretion on the project” (see, CEQA Guidelines Section 15121[b]), it is not considered to be a “comment on environmental issues” (see Guidelines Section 15088[a]), and does not require a response.
- 19e. The commentator’s belief that “some such [conservation] programs are capable of providing high quality potable water supplies usually at costs below the costs of new supplies” is appreciated. However, no specific conservation program has been identified that warrants a more detailed response. If the commentator’s statement is valid, demand for imported water supplies would not be increasing and the California Water Plan would not need to consider all feasible water supply opportunities including desalination of water. Also refer to Response 2ag, above.
- 19f. Conservation and efficiency improvements were considered as part of the “No Project” Alternative in the DREIR. Refer to Response 2ag, above.
- 19g. Refer to Response 19d, above. The commentator’s suggestion that conservation and economics eliminated the need for the Santa Barbara’s desalination facility is misleading. In fact, immediately upon completion of the Santa Barbara’s desalination facility, water supply and political circumstances changed. Rainfall filled local reservoirs and connection to the State Water Project was approved.
- 19h. The commentator claims that the DREIR misquotes and misrepresents estimates in the California Water Plan. Citations to the California Water Plan are provided whenever the DREIR sets forth information from that document. In addition, the

entire California Water Plan has been incorporated by reference. Also refer to Responses 2f and 19f, above.

- 19i. Refer to Response 2t, above.

OFFICERS
Sage Sweetwood
President
Kevin Johnson
Senior Vice President
Gary Patton
Vice President
J William Yates
Secretary-Treasurer



PLANNING AND CONSERVATION LEAGUE

COMMENT 20

Orange County
Phyllis Faber
Bay Area
Dorothy Green
Los Angeles

May 27, 2005

Mr. Ricky Ramos
City of Huntington Beach
Department of Planning
2000 Main Street
Huntington Beach, CA 92648

Re: Comments on the Draft Recirculated Environmental Impact Report (REIR) No. 00-02 for the Seawater Desalination Project at Huntington Beach.

Dear Mr. Ricky Ramos,

The Planning and Conservation League submits the following comments on the Draft Recirculated Environmental Impact Report (REIR) No. 00-02 for the Seawater Desalination Project at Huntington Beach. We appreciate this opportunity to comment on this project and request careful consideration of these comments and those received by other individuals.

Large scale desalination has not yet been successfully achieved in California or in the United States. In the United States there is only one large scale seawater desalination facility. That facility, located in Tampa Bay Florida, has never functioned as intended.

The proposed project under the REIR would be the first large scale reverse osmosis facility in California, with a projected capacity of twice Tampa Bay's non-operational facility. Careful and thoughtful consideration must be given to the proposed project in Huntington Beach to ensure that all concerns and outstanding issues are addressed prior to moving forward with such a large scale facility that will have enduring impacts on the Huntington Beach community and on the coastal and marine resources of Southern California.

As the comments below demonstrate, this REIR does not provide information essential to assessing the long term feasibility and impacts of the proposed project. Specifically, the REIR does not adequately demonstrate a need for the project; it fails to adequately analyze growth inducing impacts, environmental justice impact, impacts on marine life, or cumulative impacts of the proposed project. In addition, the REIR does not provide information on how private ownership of the desalination facility impacts the operation of the proposed facility and how the responsibilities of the private company will differ from that of a public owner.

This project will impact future Clean Water act compliance, coastal zone management, land use planning, electricity generation, and the marine ecosystem of the Southern California Bight. Such a decision requires thorough information and careful consideration of the full impacts and alternatives available.



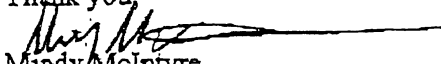
921 11th Street, Third Floor, Sacramento, CA 95814 Phone 916-444-8726 Fax 916-448-1789
Website: www.pcl.org Email: pclmail@pcl.org



Unfortunately, this REIR is inadequate, flawed, and sets an unacceptably low precedent for future reviews of desalination in California. The REIR does not provide essential information to the Huntington Beach City Council and to residents of the Huntington Beach either on the impacts or the alternatives available to the community.

We strongly urge the Huntington Beach City Council to reject the current REIR and attain all the information essential to making an informed decision before moving forward with any proposed seawater desalination project in the Huntington Beach community.

Thank you,


Mindy McIntyre
Water Policy Specialist

COMMENTS

The REIR does not adequately demonstrate a need for the proposed project.

The REIR states the project is 'currently being proposed to meet Orange County's ongoing water needs.' However, the recently released Draft California Water Plan Update indicates that the Southern California region could feasibly use less water in 2030 than it does today.¹ The Draft Water Plan Update scenario indicates that Southern California will use about 100,000 acre-feet less water with minimal implementation of conservation measures.² Accordingly, the REIR should provide documented information that explains the need for an additional 56,000 acre-feet in Orange County. Without such information, there is no need for this project.

The REIR states that over all demand in California has increased since the last drought of 1992. This statement is unsubstantiated and incorrect. In fact, the Draft California Water Plan Update states, "As has been demonstrated in various regions of the state, an increase in population does not necessarily result in a proportionate increase in urban water use." For example, the Los Angeles Department of Water and Power reports in their Urban Water Management Plan Update 2002-2003 that "water conservation continues to play an important part in keeping the city's water use equivalent to levels seen 20 years ago."³

The REIR does not fully analyze alternatives to the proposed project.

¹ California Water Plan Update Public Review Draft, Highlights, page 4

² California Water Plan Update Public Review Draft, Highlights, page 4.

³ California Water Plan Update Public Review Draft Volume 2, Chapter 22, page 22-1.

The REIR fails to include an analysis of how other water supply reliability methods could meet the water needs suggested in the REIR. In particular, the REIR fails to analyze an alternative that includes conservation, recycling and groundwater treatment.

Water for California and the Planning & Conservation League recently released an analysis of cost-effective strategies to meet California's future water needs. The document, the *Investment Strategy for California Water (Investment Strategy)* demonstrated that California can more than meet water needs with implementation of cost-effective water conservation, water recycling and groundwater clean up. The chart from the *Investment Strategy* below summarizes these findings.⁴

Additional Needs	million acre-feet
Population Increase	2.0-2.4
Environmental Restoration	1.0
Total additional needs	3.0-3.4
First Priority Options	million acre-feet
Urban Water Conservation	2.0-2.3
Agricultural Water Conservation	At least 0.3-0.6
Recycled Water	1.5
Groundwater Treatment and Desalination	At least 0.29
Total First Priority Potential	At least 4.09-4.69

In addition to the *Investment Strategy*, State of California documents also indicate that water conservation, recycling and groundwater management can more than meet water needs in California. As stated above, the Draft California Water Plan Update indicates that California and in particular Southern California could feasibly use less water in 2030 than is used today.⁵ In the scenario that California needs more water, the Draft Update identifies several options that are more reliable and cost-effective than large scale seawater desalination, including water conservation and water recycling. The Draft California Water Plan Update also identifies water management options that will help augment existing water supplies and increase water reliability.

According to the Update, Urban Water Use Efficiency holds the greatest potential as a water management option with a potential to provide 2.0-2.3 million acre feet of water. The Update states that recycled water has a potential to provide another 1.4 million acre

⁴ *Investment Strategy for California Water*, page 2.

[http://www.pcl.org/pcl/pcl_files/Investment%20Strategy 11 18 04.pdf](http://www.pcl.org/pcl/pcl_files/Investment%20Strategy%2011%2018%2004.pdf)

⁵ California Water Plan Update Public Review Draft, Highlights, page 4.

feet of water. Groundwater management and storage is also identified as having a significant potential at greater than 2.0 million acre feet.⁶

The REIR does not provide an alternative that includes the finding of the *Investment Strategy for California Water* or the information from the Draft California Water Plan Update. Omitting such an alternative falsely indicates that Southern California and in particular Orange County have no alternative to expensive seawater desalination.

Because the REIR fails to include an analysis of an alternative including water conservation, water recycling and groundwater treatment, the REIR omits essential information on how such an alternative would compare to the proposed project. In fact, as outlined in the *Investment Strategy* and the Draft California Water Plan Update, this alternative could more than meet the stated objectives in a more reliable, less energy intensive, more cost-effective and less environmentally damaging way than the proposed project.

Conservation, water recycling and use of stored groundwater are proven reliable drought responses. In the past these responses have been successful in offsetting drought impacts. Recent developments of these water management strategies have increased drought reliability in Southern California. In Orange County, recycled water is being stored in natural local aquifers providing a secure supply that can be accessed during drought periods.

For example, there have been no cutbacks or restrictions in Southern California even with the 1996-1997 drought, with the recent current long-term drought in the Colorado River system, or over the past four years which were some of the driest years in Southern California. Over these dry periods, water needs have been met with minimal conservation and reclamation efforts.

Alternatively, large scale seawater desalination has not proven to be a reliable drought supply. The REIR mentions that during drought the proposed facility could provide a substitute supply for water imports. However, in times of drought hydroelectricity throughout California and the Pacific Northwest is also reduced and prices of remaining electricity increases. The proposed desalination facility would be a significant strain on the energy grid, requiring more energy than any other source of water. The REIR fails to address how energy shortages and increased cost will affect the reliability of the proposed project. Therefore, the REIR does not provide sufficient support for conclusion that the proposed project would in fact increase drought reliability in Orange County.

The REIR should be re-drafted to include an alternative based on the *Investment Strategy for California Water* and the Draft California Water Plan Update so that a full comparison of alternatives is considered by Huntington Beach's community and elected officials.

⁶ California Water Plan Update Public Review Draft, Highlights, page 15

The REIR fails to analyze the full impacts of the operation of the proposed large scale desalination facility.

The REIR states that because the proposed desalination facility will be co-located with the Huntington Beach Generating Station and will make use of an existing once-through cooling intake, the project has no significant impacts on the marine life from impingement and entrainment. This finding is misleading, untrue and inconsistent with the recommendations of the State of California.

The California Department of Water Resources convened a Desalination Task Force on and published the Task Force Findings and Recommendations in October of 2003.

According to the Desalination Task Force Findings, co-locating a desalination facility with a coastal power plant, as is proposed with the REIR, can provide a justification for the continued use of once-through cooling technology. Once through cooling technology has well-documented environmental impacts, including impacts on marine organisms from impingement and entrainment, according to the Desalination Task Force.⁷

In order to ensure all impacts from a desalination facility are understood, the Desalination Task Force recommended that impacts from a proposed project be assessed separately from the existing power plant.⁸ The REIR fails to follow this recommendation.

Assessing impacts of the desalination facility apart from the power plant is important because power plants may be shut down or the operation of the power plant may change in way that is incompatible with desalination operations. In those cases, the desalination facility would need to function separately from the existing facility, and therefore the impacts of the desalination operation would be different that the impacts from the existing facility.

Older power plants such as the Huntington Beach Generating Station (HBGS) use open ocean intakes to gather water for once through cooling. This method of cooling requires vast amounts of water and the unscreened intake results in very high marine life loss. Numerous species of marine life in the Southern California Bight are currently under extreme pressure and several are estimated to have been depleted to less than ten percent of their historical populations.

However, there are new technologies for power plants that recirculation cooling water or use dry methods of cooling which significantly reduce the water needed for power generation which in turn reduces the impacts on the marine environment.

Under the Federal Clean Water act, a power plant must have a current 316 (b) permit for an intake to the ocean. The Federal EPA recently adopted new rules for permitting ocean water intakes. The new rule requires all large existing power plants to reduce

⁷ Water Desalination Task Force, October 2003. Department of Water Resources, page 5.

⁸ Water Desalination Task Force, October 2003. Department of Water Resources, page 21.

impingement and entrainment of marine life by the cooling water intake structure by 80 to 95 percent. In addition, the law requires cooling intakes to utilize the best available technology for reducing entrainment and impingement.

There is a process underway to update the 316 (b) permit for HBGS. The current intake for the HBGS does not reflect the best available technology for reducing impacts, as required by the new rules. The California Energy Commission recently completed a study on the impacts of the HBGS cooling water intake. It is uncertain how HBGS intends to comply with the recently promulgated Clean Water Act 316(b) regulations on cooling water intakes. One potential HBGS compliance response would be to reduce the volume of intake water from the historical baseline.

This course of action would make the proposed project infeasible because the desalination facility would require a vast amount of water to produce potable water as well as to dilute the brine wastewater produced by the desalination process. In this case, the operation of the desalination facility would be significantly different than the operation of the intake for the power plant. Failing to assess the impacts of the intake on marine life separate from the impacts of the power plant is a significant flaw in the REIR.

In addition, the REIR does not indicate how the project will affect areas in the designated as Area of Special Biological Significance by the State Water Resources Control Board.

Because the REIR does not adequately assess the environmental impacts of the proposed desalination facility, the REIR is fatally flawed and must be rejected.

The REIR does not provide clear information about the source of energy for the proposed project.

The proposed project would require a significant amount of energy to operate. The REIR states that the operation of the proposed project would require 720 to 840 megawatts hours per day, enough for 30,000 to 35,000 residential units. However, the REIR is not clear as to the source of the large amount of energy required for this project.

The energy source for this project is important because it will affect the air quality impacts of this project, the cost of this project, the impact of the project on the availability of energy in the Huntington Beach area, and the greater energy grid.

Regardless of source, the REIR is required to identify and mitigate for the air quality impacts of generating the energy necessary for this project. If the energy source for the REIR project will come from the HBGS, the air quality impacts to Huntington Beach should be included in the REIR. If the energy for the project will come from the energy grid, a discussion of the impact on energy costs and availability needs to be included so that impacts on Huntington Beach and Orange County are fully understood.

The greatest expense in the operation of reverse osmosis facilities is energy. The cost of operation and the economic feasibility of this project will be based on the cost of energy.

If there is no secure source of energy for this project, the cost of the project operation will increase according to the market rate for energy. Increased energy costs could result in much higher operations cost, which would then increase the cost of water. The claimed benefits of this project would be greatly reduced if the price of water from the facility became prohibitively expensive.

The REIR does not provide information necessary to adequately assess how the energy consumption of the proposed project will affect the Orange County community, and therefore the REIR should be rejected.

Growth inducing impacts have not been adequately analyzed.

The REIR states that the growth inducing impacts of the proposed project would depend entirely on how the local and regional water purveyors allocate the water produced by the project. Essentially, the REIR fails to identify a use or user for the project water. This calls into question the need for the project, but it does not excuse the REIR from addressing the growth inducing impacts of the proposed project. The project would be connected to the Orange County water distribution system, and therefore could be used in a limited area. Therefore, growth inducing impacts of an additional 56,000 acre-feet of water supply in Orange County should be analyzed.

As indicated in the REIR, no local water purveyors have indicated a need or a desire to purchase water from the project. The REIR also notes that the proposed project is not included as part of the regional desalination program by Metropolitan Water District. Neither was there a specific target or project for desalination like the proposed project in the Municipal Water District of Orange County's last Urban Water Management Plan. The City of Huntington Beach has indicated that there is no use for the project water within the City. This water has no specific intended use, which implies that it will be used for unidentified purposes, including growth.

The REIR has not adequately assessed growth inducing impacts or identified a need for this project, and therefore the REIR should be rejected.

The REIR fails to assess Environmental Justice Impacts from increased water costs and proliferation of the HGBS power plant operation.

As discussed above, the proposed project may provide justification for the extended operation of the HGBS power plant. In the absence of the proposed project the HGBS may close as newer, more efficient and less environmentally damaging power generation is developed. Operation of the proposed project would provide justification for the continued use of HGBS even if less environmentally damaging power becomes available. The REIR therefore should analyze the impacts of continued power plant operation on the local community, and in particular the environmental justice impacts that result from the continued use of the HGBS power plant.

In addition, the water produced from seawater desalination is recognized as the most expensive source of water. Even with technological advances, seawater desalination still requires costly upkeep, including filter and membrane maintenance and replacement and energy consumption for reverse osmosis processes are greater requirements for other water options. In fact, according to the Department of Water Resources Desalination Task Force Findings, seawater desalination requires 30 percent more energy than any other supply source to Southern California, including imported water.

In addition, cost savings have never been realized as of yet for seawater desalination. In California a seawater desalination plant constructed in Santa Barbara has never been used because operation of the plant is too costly. In Tampa Bay, the seawater desalination plant operation became significantly more expensive when it was realized filters and membranes would have to be replaced much more frequently than project proponents had indicated. The Tampa Bay plant currently operates far below capacity, primarily because operations cost are so high.

If the proposed project were to provide water to the residents of Orange County, the expensive water could increase the cost of water throughout Orange County. This potential increase in price could be marginal, but even a marginal increase in cost could severely impact residents on limited incomes. Therefore, the REIR should include an analysis of how increased water costs will impact water rates in Orange County and how the increase will affect low income residents. This information is essential in order for the Huntington Beach City Council members to determine how this project will affect their community.

This is consistent with the recommendation of the Desalination Task Force that states: "Environmental justice considerations include the siting of desalination facilities, determining who accrues the costs and benefits of desalination and who has the opportunity to use higher quality (desalinated) water, and the possible impacts of replacing low-cost with high-cost water."⁹

The REIR does not indicate how the privately owned facility will operate as a supplier of public water.

The Desalination Task Force Findings & Recommendations states: "There are implications associated with the range of public-private possibilities for ownership and operation of desalination facilities. Local government has the responsibility to make the details of these arrangements available to the public."¹⁰

The proposed project will not be publicly owned. As a private organization, the proposed project operators would not be subject to the same requirements as public agencies. The REIR does not address how private ownership of this desalination facility will affect the

⁹ Desalination Task Force Findings & Recommendations October 2003, page 6

¹⁰ California Desalination Task Force, October 2003, page 5

facility operator's responsibilities regarding the Coastal Act, the Clean Water Act and other important environmental and public health laws.

Before this REIR is approved, this information must be provided to the public.

The Cumulative Impacts of desalination on the Southern California Bight are not adequately assessed.

The REIR states that the total production from proposed desalination on the Southern California Coast is 260,000 acre-feet per year. The REIR then states that there will be no growth inducing impacts from the cumulative development of desalination. However, 260,000 acre-feet is well above the targeted regional desalination production identified in the Metropolitan Water District's Integrated Regional Water Plan that sets a target of 150,000 acre feet. In addition, 240,000 acre feet per year is well above the target set forth in the Draft California Water Plan Update of 187,000 acre feet of desalination production statewide. Therefore, existing plans do not account for the cumulative impacts, including growth inducing impacts from the proposed seawater desalination facilities. The REIR fails to assess the cumulative growth inducing impacts on Southern California and is therefore inadequate.

In addition, the REIR fails to address how the proposed desalination projects in Southern California will perpetuate the use of harmful open ocean intakes on the Southern California Bight.

Because of the flaws identified above the Huntington Beach City Council is required to reject this REIR.

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Response No. 20

Planning and Conservation League
Mindy McIntyre, Water Policy Specialist

- 20a. This comment provides an overview of seawater desalination in California, and does not require a response.
- 20b. This text provides an overview of the comment letter and does not require a response.
- 20c. The information provided by the Draft Water Plan Update is noted. Nevertheless, as disclosed and explained, the California Water Plan relies on both conservation measures and desalination of water to meet projected water use in California. If conservation measures are effectively implemented (as speculated by the commentator), then conservation and desalination water production will together provide a greater opportunity to reduce imported water demand in the region. Refer to Response 19d, above.
- 20d. Comment noted. The Municipal Water District of Orange County's 2000 Urban Water Management Plan reports that water demand in Orange County increased from 1990 to 2000, even with implementation of water use efficiency measures. See Table 3-4 at page 3-42 of the DREIR.
- 20e. Increased conservation efforts, increased use of groundwater supplies and construction of additional water recycling projects are all discussed as part of the "No Project" Alternative in Section 7.1 of the DREIR. Refer to Response 19d, above.
- 20f. The document prepared by the Planning and Conservation League (the commentator) entitled "Investment Strategy for California Water" includes interesting and insightful information pertaining to management of California's water supply. The summary information included in this comment is noted. There is no requirement that the "Investment Strategy for California Water" be considered as an alternative to the project. Refer to Responses 2af and 20e, above and 22f below.
- 20g. This comment suggests that energy shortages and increased costs will affect the reliability of the project. If the project is not operational, most – if not all – of the project's potential environmental impacts would not occur. Refer to Response 19d, above.
- 20h. Refer to Response 20f, above.
- 20i. Refer to Responses 1g, above.
- 20j. Refer to Responses 1g, above.

- 20k. Comment noted. However, it should be noted that the HBGS intake structure is equipped with a mechanical screening system (described on p. 4-3 of the DREIR).
- 20l. Refer to Responses 1g, above.
- 20m. The nearest Area of Special Biological Significance (ASBS) as designated by the State Water Resources Control Board (SWRCB) is located approximately seven miles southeast of the proposed desalination facility (Newport Beach Marine Life Refuge), and would not be impacted by the proposed project.
- 20n. This paragraph provides a summary for comments 20h through 20m and has been responded to accordingly.
- 20o. Air quality impacts due to the project's electrical consumption are addressed within Section 5.4, *AIR QUALITY*, of the DREIR. For a discussion of local and regional impacts on the electricity market in Southern California, refer to Response 10h, above. In addition, the effect of electricity on the costs of operation of the proposed project is not an environmental issue, and does not require a response.
- 20p. Refer to Response 2as, above.
- 20q. Refer to Response 2as, above.
- 20r. The proposed project would not "provide justification for the extended operation of the HBGS power plant." See DREIR, page 4-8 and Appendix Q. In the event that the HBGS were to cease operations, the project applicant would assume ownership of the existing HBGS intake and outfall. The ownership transfer would be treated as a separate project. The transfer would be subject to applicable CEQA and regulatory agency permit requirements. Avoidance, minimization, and mitigation measures for such a transfer would occur at that time.

The proposed project would be privately funded, owned, and operated. Water would be sold to local water purveyors seeking a high quality, drought-proof water supply. Decisions regarding cost effects on customers would be made at the discretion of the local water provider, and it would be speculative to analyze a potential increase in water costs at this time. In addition, the cost of seawater desalination has steadily decreased over time due to technological advances in reverse osmosis processing. It is expected that the cost of desalinated seawater would continue to decrease as the cost of existing water supplies increases in the future.

- 20s. The commentator's recital of the Desalination Task Force's opinion about local government responsibility is noted. In addition, regarding the commentator's argument that the "project operator" would not be subject to the same requirements as public agencies, refer to Response 2aq. Substantial evidence in the DREIR indicates that the project (privately owned and operated) would fully comply with the Coastal Act, the Clean Water Act, and other environmental laws and regulations. One example of this obvious factor is the commentary by the

California Coastal Commission that the project applicant is required to obtain a Coastal Development Permit in accordance with the California Coastal Act.

- 20t. An analysis of potential cumulative impacts due to multiple desalination facilities proposed within the Southern California Bight is provided in Section 6.0 of the DREIR, *LONG-TERM IMPLICATIONS* (beginning on page 6-18).
- 20u. The proposed project would not perpetuate the operation of HBGS. It would not result in a cumulative impact (nor is it related to) the perpetuation of other open intakes within the Southern California Bight due to other desalination proposals.
- 20v. This text provides a conclusion to the comment letter and does not require a response.

COMMENT 21

SEHBNA

Southeast Huntington Beach Neighborhood Association

P.O. Box 5696 Huntington Beach, CA 92646

sehbna@sehbna.org

RE: OPPOSITION TO THE PROPOSED DESALINATION PLANT

SEHBNA, the Southeast Huntington Beach Neighborhood Association has spent a considerable time and effort in examining the facts regarding the proposed desalination project in Huntington Beach. Additionally, several of our members have been in contact with other citizen groups within the city and county as well as in search of an objective evaluation by experts of a project that is bound, if implemented, to influence the quality of our life and the economic, health and environmental future of generations to come. We have also examined carefully the performance history of Poseidon trying to judge the credibility of its informational campaign and current promises to the Huntington Beach community verses its actual performance in other parts of the country.

All of our investigation has led us to the conclusion that we must express strong opposition to the proposed Desalination Facility in the midst of our community.

In addition to strong opposition to Poseidon's plans, we are unequivocal in stating the need for honest and complete answers from all concerned regarding the short and long-term impacts of this project. In this regard, we ask that you accept your moral and professional responsibility to the citizens of Huntington Beach in leading the effort to make sure that this objective is realized in all aspects of the process including a truly critical evaluation of what we believe to be an inadequate Environmental Impact Report.

Our primary concerns include:

- 1- Our air quality and the quality of life near the proposed desalination plant (B).
- 2- Pipeline Assessment--- traffic, noise and the impact of air and noise pollution on neighbors (G).
- 3- RO membrane cleaning solution discharge data, including cleaning fluids, water contamination, wastewater and the impact on ocean life and human health in a host of areas ranging from possible allergic reactions to potential impact on the immune system and the overall health status of the population (K).
- 4- Disinfection Byproducts Formation--- Local impacts on ocean, fish, mammals and other marine life (N).
- 5- Local and regional power requirements--- impact and future power available, including restraints and realistic costs (Q).
- 6- Failure of other desalination facilities located elsewhere-- including Florida.

This should include detailed data on cost and environmental impact as well as proof that this would not happen here (X).

Poseidon comportment at the Tampa Bay Installation has risen more than a few concerns at our meetings and in meetings with other concerned citizen groups. Given the vicissitudes of operating a facility of this kind, it becomes clear that problems can and do arise. Yet, Poseidon has convincingly provided neither full disclosure any adequate mitigation measures. The potential of long term, serious environmental damage is there and it far out weights any short-term effects that may or may not be corrected. Yet, the response to these concerns by the project principals is woefully inadequate. This leads us, and many other reasonable people, to conclude that the information we have received from Poseidon proponents and from Poseidon representatives are either intentionally deficient of all the facts or are specious at best.

We realize that some individuals in the Huntington Beach City Council, the Mayor's Office, the City Development Agency and others with heavy demands on their time may find it difficult to explore all relevant data; and thus become dependent on information provided by special interest groups or individuals who can benefit from the proposed desalination project. We submit that such an approach is not in the best interest of the citizens who placed their public trust in such individuals and organizations. We expect that all elected representatives and public servants insist on receiving all information in order to make decisions based on knowledge and to avoid any appearance that other factors such as insufficient data or false information have strongly affected them. Respect for their opinions and the integrity of the process demand that all facts be known.

The proposed plant poses a serious environmental and public health risk to the ecosystem of Huntington Beach and its citizens due to high concentrations of brine and litany of toxic chemicals. Yet, serious discussion of these issues is lacking. How could the matter be concluded without asking the proponents of the project to provide detailed analysis of possible synergistic effects of the new pollutants and existing levels of ocean contaminants? This is particularly true in view of the insufficient data on the environmental and public health impact of the recently expanded facilities of a polluting AES. Add to this that we do not have a clear picture of the pollution sources That has caused recent beach closures. These facts are among those that point to the failure of Poseidon to provide an environmental base line that can be used as a benchmark to judge its true harmful impact on the environment and health or to judge the value of any mitigating measures. More work is needed before their report can be seriously considered. We urge your refusal of a report that has not addressed all the facts. Some have asked the relevant question: Is it fair to ask our community to live with the toxic effluent of a facility whose product will not be used by the community that carries the environmental and health burden?

The answer to this question requires attention to the long-term environmental impact of the proposed project. One important area that is not addressed adequately is the impact on AES, which will supply infrastructure support, land, and ostensibly, the kilowatts needed

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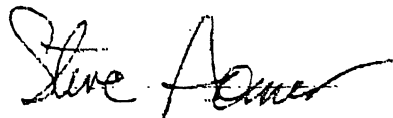
to power the proposed project. What is the impact on the environment, on the power grid, on the consumer's energy cost, on the operating hours and conditions of AES? What is the magnitude of added noise and air pollution? What are the effective mitigating measures of the burden on the environment and the human population? Can such a project be considered without answering these and other long term adverse affects in a clear manner?

The potential economic impact can be serious as well. This proposed project can possibly erode tourism and harm the economic health and Huntington Beach's image as a clean resort destination. This is a definite by product as opposed to a speculative promise of tax revenue that is neither credible nor proven. Additionally, such a proposed project is likely to lengthen the life of an aging and polluting AES with a combined effect of increasing the blighted appearance of the area leading to a possible decline in the city's property value. The economic health of Huntington Beach is at risk.

The previously noted facts point to a logical conclusion. The proposed desalination project is ill conceived and it does not fit in or benefit our community. The Environmental Impact Report is deficient in several major areas. It does not provide necessary information to judge its true impact on the environment, health and economy of Huntington Beach. It does not seriously address the short and long-term impacts on the environment. It does not adequately provide mitigation measures of adverse effects. The cost of polluting our air and our ocean that represent our major natural resources, the cost of adversely affecting the health of our community that represents our human capital and the cost of threatening tourism that is essential to the economic strength of our city--- is simply too high. Huntington Beach cannot afford Poseidon.

We urge you to join us in opposing the proposed desalination plant, to protect the environmental quality of Huntington Beach and to support our call for amassing the facts in an honest and complete manner as a necessary ingredient to making decisions based on knowledge.

Your thoughtful consideration of this matter and your prompt response will be deeply appreciated.



Steve Homer,
Chairperson
Southeast Huntington Beach Neighborhood Association
714-968-9545

Response No. 21

Southeast Huntington Beach Neighborhood Association
Steve Homer, Chairperson

- 21a. These introductory paragraphs provide an introduction to the comment letter and do not require a response.
- 21b. There are not specific comments in this text that have not previously been addressed within the DREIR. No response is necessary.
- 21c. The statutory scope of the California Environment Quality Act (CEQA) requires that physical changes to the environment that would occur as part of a project be analyzed, disclosed, and mitigated where feasible. The CEQA statute requires that “substantial evidence” (i.e. facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts) be provided to support any conclusions made about potential physical changes to the environment that occur as a result of a project. The financial problems, construction delays, or other adverse issues that concern the Tampa Bay seawater desalination plant do not constitute any type of legitimate evidence for analyzing the environmental effects of the proposed project.
- 21d. Refer to response 17d.
- 21e. This paragraph contains commentary on the City of Huntington Beach’s public review process. No response is necessary.
- 21f. This paragraph states that proposed desalination plant poses a “serious environmental and public health risk” because of discharge of brine and “toxic chemicals.” In addition, this paragraph states that the DREIR does not provide detailed analysis of the concentrated seawater discharge and existing ocean water quality issues. On the contrary, detailed analysis of potential impacts on ocean water quality and marine biology were conducted in Section 5.10 of the DREIR, (*OCEAN WATER QUALITY AND MARINE BIOLOGICAL RESOURCES*). Research found that discharges from the proposed project would have a less than significant impact on ocean water quality and marine biology, and that the OCSD wastewater plume does not reach the HBGS intake or outfall. Note that this conclusion is based upon the findings of technical reports prepared for the DREIR. These technical reports are available in Appendix C (*HYDRODYNAMIC MODELING REPORT*) and Appendix E (*WATERSHED SANITARY SURVEY*). In addition, refer to Response 22h, below.
- 21g. Impacts in regards to energy consumption of the proposed project are included in Section 6.0, *LONG-TERM IMPLICATIONS*. Air and noise impacts are analyzed within Sections 5.4 and 5.5 of the DREIR, respectively. Mitigation measures are provided throughout the DREIR when applicable. In addition, refer to Responses 2o and 10h, above.
- 21h. Economic impacts are outside the statutory scope of CEQA unless substantial evidence can demonstrate that an economic effect would result in a physical

change to the environment. In this instance, the author suggests that the proposed project would adversely impact tourism revenues, causing blight and ultimately resulting in adverse effects to the City's finances. No substantial evidence is presented to support this assertion that the proposed project would result in blight. Consequently, this statement is considered speculative and further analysis is not required.

- 21i. This text provides a conclusion to the comment letter and does not require a response.



Surfrider Foundation

Huntington Beach/Seal Beach Chapter

City of Huntington Beach

MAY 31 2005

To: City of Huntington Beach Planning Department
2000 Main Street, Huntington Beach California 92684
Attn: Ricky Ramos

May 27, 2005

From: Surfrider Foundation, Huntington Beach/Seal Beach Chapter.
P.O. Box 3087, Long Beach, CA 90803
Don Schulz PE Blue Water Task Force

Re: Draft Recirculated Environmental Impact Report (EIR) No. 00-02 for the Seawater
Desalination Project at Huntington Beach-Comments.

Dear Mr. Ramos;

Our Huntington Beach/Seal Beach Chapter of Surfrider Foundation appreciates the opportunity to provide the following comments to the above referenced Draft Recirculated Environmental Impact Report (dREIR). As you are aware, comments from our chapter were submitted to the originally circulated Draft EIR which continue to remain unresolved.

After review of the contents to the new dREIR, there appears to be several additional issues of concern to our membership. The comments to those specific dREIR contents which are either (or both) misleading and incorrect, or not supported by the facts, are summarized in the accompanying attachments to this letter.

It is recommended that unless, (or until) these dREIR issues are resolved, certification to the above referenced document be denied.

Your attention to these dREIR comments is sincerely appreciated.

a

Don Schulz
Executive Committee Member
Surfrider Foundation, Huntington Beach/Seal Beach Chapter

MAY 31 2005

ATTACHMENT:

Seawater Desalination Project at Huntington Beach (dREIR) Comments:

1.2 ENVIRONMENTAL SUMMARY

States: (PG.1-3)

5.1 LAND USE/RELEVANT PLANNING

LAND USE

The proposed desalination facility is not anticipated to create any impacts to surrounding uses with regards to air quality, noise, aesthetics, hazards and hazardous materials, and short-term construction. Significance: Less than Significant.

COMMENT:

Applicant's definition of the term "significant" is unique to this EIR. (see comments to 5.0 below). The proposed desalination facility will have a short-term impact during construction on all of the above.

states: (Pg. 5-6)

ELECTRICITY

The desalination project may create impacts in regards to increased electricity demand. Significance: Less than significant.

COMMENT:

The Huntington Beach desalination project peak energy demand of 840 MWh may not be a significant load on the total state-wide power grid during periods of less than peak power service to the grid as a stand alone project. However, due to the fact that there are several similar desalination projects presently in various stages of planning along the California coast the cumulative impact of the total energy load to the power grid may be quite significant, and should be carefully considered by the State Energy Commission prior to issuing even a single permit for a specific project.

During periods of peak service demand on the State power grid the margin between available power and energy demand is small (sometimes zero) and will likely result in an increase in the occurrence of blackouts or rolling brownouts. Purchasing energy at spot demand prices from out-of-state suppliers during these peak energy periods increases the electricity cost for all citizens.

Coordinating the logistics of curtailing the energy usage from a number of privately owned desalination plants statewide during periods of peak energy demand, as the applicant has suggested, in order to reduce the likelihood of brownouts may be a great deal more complex than the dEIR has indicated.

Issuing permits for co-locating desalination plants with existing power plants on a first-come, first serve basis could lead to a statewide unbalanced and chaotic power distribution system. It is

b

c

suggested that the State Energy Commission should be the lead Agency responsible for determining the location and adequacy of co-located power/desalination plants before even the first large scale permit is issued.

3.0 Project Description States: (pg. 3-9)

Aboveground Product Water Storage Tank (approximately 215' in diameter and 40' high [30' above grade and 10' below grade]): The aboveground product water storage tank would be circular in shape and would have an approximate capacity of 10 million gallons.

COMMENT:

The detention time in a 10 million gallon storage tank for a 50mgd desalinated water distribution system is insufficient to provide an adequate margin of safety for potential users. For example, if pathogens were detected in the storage tank (24-48 hour laboratory test delay time) up to 90 million gallons of contaminated desalinated water would be in homes and in the distribution system before the tank could be purged.

3.0 Project Description:

States: (pg. 3-27)

Energy Consumption

A 50 MGD desalination facility would require approximately 30 to 35 megawatt hours of power to operate. Based on 24 hour per day operation, the daily energy consumption of the proposed desalination facility is estimated to be between 720 and 840 megawatt hours per day. This amount of electricity could provide power for the average demand of between 30,000 and 35,000 residential units. The total amount of power required to produce desalinated water for one family per year is approximately the same as the amount of power used by the family's refrigerator in one year.

COMMENT:

The applicant confuses the terms "power" and "energy." Units of power are kilowatts and megawatts. Units of energy are kilowatt-hours and megawatt-hours.

The amount of energy required to produce desalinated water for one family per year is almost twice the amount of energy used by the family's refrigerator in one year.

3.0 Project Description

States: (pg. 3-36)

- C. The project would provide a new water supply source to accommodate Orange County's increasing water needs as shown in the water plans adopted by state, regional and local water agencies.

COMMENT:

A report "Investment Strategy for California Water" dtd. Nov. 18, 2004 coordinated by the Planning & Conservation League provides the following data:

Additional Needs (year 2030)	million acre-feet
Population Increase.....	2.0-2.4
Environmental Restoration.....	1.0
Total additional needs.....	3.0-3.4

First Priority Options (by year 2030)	million acre-feet
Urban Water Conservation.....	2.0-2.3
Agricultural Water Conservation.....	at least 0.3-0.6
Recycled Water.....	1.5
Groundwater Treatment and Desalination.....	at least 0.29
Total first priority potential.....	at least 4.09-4.69

In other words, by just employing moderate conservation and recycling options there will be no need to even consider seawater desalination plants statewide until the year 2030.

The report is supported by independent studies from the California Desalination Task Force, the Southern California Watershed Alliance, and the State Water Resources Control Board. The Orange County Water District has also determined that there is no present need to consider a seawater desalination project for our district residents.

5.0 Overview of EIR methodology and Significance Determination

States: (pg.5.0-2)

The following is an explanation of the different significance determinations made in this EIR:

A. Not Significant

This determination is made when any of the three following cases apply:

- 1) *No Impact*: Due to the nature or location of the project, this impact will not occur. For example, underground facilities do not have the potential for long-term visual impacts.
- 2) *Less Than Significant*: Although an impact may occur, it will not be at a significant level based on the above described standards. For example, construction-related air emissions that fall below the adopted air quality standards are less than significant.
- 3) *Potentially Significant Impact "Mitigated" Through Existing Requirements (No EIR mitigation required)*: In this case, there is an impact which, although it is potentially significant, will be reduced to less than significant levels through adherence to and/or implementation of various existing requirements. These existing requirements include the City of Huntington Beach Ordinances, engineering and design requirements (through the Uniform Building Code and other regulations), and from other regional, state, and federal agencies.

COMMENT:

With regard to ocean water quality parameters such as oil, grease, suspended solids, salinity, turbidity, and loss of marine life by impingement and entrainment, the California Ocean Plan (COP) clearly defines significance as follows:

“SIGNIFICANT difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.”

Since the desalination plant reduces the amount of cooling water discharged into the ocean by 50mgd all of the constituent concentrations referenced above will be increased by an equivalent amount, and will therefore meet the numerical definition of significant as stated above. Regardless of the fact that the constituent concentrations may still meet COP pollutant limits, remediation for the degradation of the AES power plant discharge into the ocean due to the brine from the desalination plant should be determined and mitigated.

EXISTING CONDITIONS

OCEAN WATER QUALITY

States: (Sect. 4.0)

The Pacific Ocean in the vicinity of the intake is high quality and, in fact, has concentrations of some chemicals that are far below the drinking water MCLs prior to any treatment. An MUN designation would not provide any additional protection because the intake water quality is not influenced by storm water discharges, the Santa Ana River, the Talbert Marsh, or the Orange County Sanitation District (OCSD) wastewater discharge, as described in the hydrologic modeling studies included in Appendix C, *HYDRODYNAMIC MODELING REPORT*. Requiring these discharges to meet MCLs in ambient waters would provide no improvement in water quality at the intake to the desalination facility.

AND:

Elevated Bacteria Levels in the Huntington Beach Surf Zone

As stated above, extensive bacterial studies have shown that the Santa Ana River and Talbert Marsh appear to be the primary sources of fecal indicator bacteria to the near shore ocean. In addition, bird droppings and a reservoir of bacteria stored in the sediment and on marine vegetation may continue to be the source of bacteria at the mouths of the river and marsh. Modeling studies and monitoring data indicate that there is likely another unidentified source of bacteria in the vicinity of Stations 6N and 9N. However, three separate studies conducted between 2001 and 2002 have demonstrated that HBGS is not the source of bacteria in the surf zone.

COMMENT:

Neither of the conclusions stated above in this section of the dREIR is supported by the data and facts included in the most recent reports from Orange County Sanitation District "Marine Monitoring 2004 Report." and the Orange County Health Care Agency "Annual Beach Monitoring Report."

The beach water quality in the near-shore and surf zone near-by and directly in front of the AES (HBGS) power station (OCSD sites at 6N-9N) continues to exhibit both wet and dry weather bacterial concentrations in excess of AB411 standards, and, in fact frequently above maximum detection limits for the methods uses by the monitoring agencies, OCHCA and OCSD (> 400 cfu mpn for enterococci). Further studies of the water quality bacterial concentration in this area are currently being planned by Southern California Coastal Ocean Observing System Nearshore Observation and Prediction Study (NOPS) project. (www.sccoos.org). The HBGS discharge pipe has not been dismissed as a possible source for these episodic occurrences of bacterial contamination.

Ref. www.ocsd.org and www.ocbeachinfo.org.

7.0 ALTERNATIVES

States:

1. Increased Conservation Efforts

Adding an extra 56,000 acre-feet per year to the 84,000 acre-feet of annual conservation that is occurring in Orange County would be difficult because the MWD 2003 IRP Update already set significantly increased conservation targets for Orange County to reach by 2020. The 1996 IRP target of 882,000 acre-feet for the MWD service area was increased to 1,028,000 acre-feet in the 2003 IRP Update – a regional increase of 145,600 acre-feet per year (see Table 7-2). This equates to increased conservation expectations in Orange County of 64,000 acre-feet over and above the 84,000 acre-feet per year projection for 2005. To realize an additional 56,000 acre-feet of conservation savings each year would essentially require doubling of the County's future conservation efforts. To double the future conservation efforts of the County in such a relatively short time period would require, at a minimum, the imposition of prescriptive conservation standards for activities, like outdoor residential irrigation, that are today considered discretionary consumptive water use.

COMMENT:

The comments included in the above statement regarding the MWD 2003 IRP are in conflict with the information received from the Planning and Conservation League referenced in the section **3.0 Project Description** discussed above.

Recommended alternatives to the proposed project include:

- 1) Urban water conservation.
- 2) Agricultural water conservation.
- 3) Wastewater replenishment (recycled water).
- 4) Groundwater treatment and desalination.
- 5) Moratorium on new water connections.

It is suggested that the dREIR is both unresponsive and incomplete unless a full description and comprehensive discussion of all of the possible alternatives are included.

Response No. 22

Surfrider Foundation
Huntington Beach/Seal Beach Chapter
Don Schulz, Executive Committee Member

- 22a. This text provides an introduction to the comment letter and does not require a response.
- 22b. Refer to Section 3.0 of the Responses to Comments, *ERRATA*, for revisions to this conclusion. Note that mitigation measures for air quality, noise, aesthetics/light and glare, hazards and hazardous materials, and construction are also applicable to land use, as stated within the Environmental Summary table.
- 22c. As stated within Section 6.0, *LONG-TERM IMPLICATIONS* of the DREIR, the proposed project's electricity consumption would compose approximately 0.1 percent of all electricity loads in Southern California. Moreover, the facility would utilize off-peak electricity to the maximum extent practicable. As stated within the DREIR, this nominal increase on a cumulative, regional basis is not significant. In addition to the comments above, the State Desalination Task Force examined the future state-wide demand of desalination facilities and found energy requirements would not be significant (*ENERGY OPTIONS WHITE PAPER, CALIFORNIA DESALINATION TASK FORCE*, September 15, 2003, page 1). Also refer to Responses 2o and 10h, above.
- 22d. Contamination issues apply to all water sources and water storage tanks – the DHS does not differentiate between desalinated seawater, groundwater or surface water. The proposed aboveground product water storage tank will be of comparable size to all other existing water storage tanks servicing the City of Huntington Beach and the Orange County distribution system and will follow the same safety protocol.

In order to address the issue of concern, which is an issue for every water treatment plant and water storage facility in California, the California Department of Health Services has stringent requirements for maintaining disinfectant concentration in drinking water to ensure that any potential pathogens (bacteria, viruses, etc.) are killed. The desalination disinfection system and storage facilities have received conceptual approval and will be designed as per the requirements of the Department of Health Services and all other applicable regulations.

The treated desalinated water will be chlorinated both prior to entering the 10 MGD product storage tank and after leaving the storage tank, in order to maintain the DHS required chlorine residual. In addition, the disinfection process of the desalinated water does not end at the 10 MGD product water storage tank located at the desalination facility site. The desalinated water does not enter into the existing distribution system immediately after it leaves the tank site. The disinfected desalinated water will travel through approximately 5-miles, of 42 to 48-inch diameter product water delivery pipeline before it enters the existing

distribution system. This pipeline provides additional disinfectant contact time of the water thereby further ensuring that the desalinated water will be safe for public consumption before it enters the distribution system.

Furthermore, this project will also include continuous operational monitoring of product water quality, including concentration of disinfectant at the tank site (before entering and leaving the tank site) and at the entrance point of the existing distribution system. As indicated on page 5.11-20 of the DREIR, "A monitoring program would be implemented for this location incorporating the following parameters: coliform bacteria, heterotrophic bacteria, chlorine residual, disinfection byproducts, and aesthetic parameters such as turbidity, odor and color, as well as corrosion indices. The purpose of this sampling point is to verify on a regular basis that no degradation of water quality has occurred during any period of storage at the facility site or in the transportation pipeline and that mixing of desalinated water with water from other sources continues to be compatible".

- 22e. Comment noted. The amount of energy required to produce desalinated water for one family per year is approximately the same as the amount of energy used by the family's refrigerator in one year. One family of four consumes approximately 400 gallons per day (400 gpd x 365 days/yr = 146,000 gallons/yr). The energy used to produce 50 MGD of desalinated water is 30 MW/hr x 24 hrs = 720 MW/day. Therefore, the energy used to produce 1 gallon of water is 720,000 kilowatts/day / 50,000,000 gallons/day = 0.0144 kilowatts/gallon. Therefore, the total amount energy needed to produce water for one family per year is 146,000 gallons/yr x 0.0144 kilowatts/gallon = 2,102.4 kilowatts/yr. (i.e. approximately 2.1 MW/yr). According to the US Department of Energy Internet Site (<http://www.eere.energy.gov/consumerinfo/factsheets/ec7.html>), a typical 16-cu ft refrigerator uses 725 watts of power. As indicated in this internet site, the annual amount of energy used by the refrigerator should be estimated assuming the refrigerator runs only one-third of the time. Therefore, the annual amount of energy used by one refrigerator is 725 watts x 24 hrs x 365 days / 3 = 2,117,000 watts (i.e. 2,117 kilowatts/yr), which is slightly more than the amount of power needed to produce desalinated water for a family of four (2,102.4 kilowatts/yr). In addition, refer to Response to 2o and 10h, above.
- 22f. The information from the report "Investment Strategy for California Water" is noted. As stated by the commentator (refer to Comment 22i), this information conflicts with information provided in the IRP Update recently adopted by MWD, the region's largest water provider. This DREIR has been prepared in accordance with CEQA Guidelines Section 15121(a) to "inform public agency decision makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project." Although not required under CEQA Guidelines Section 15124, information about "Orange County's increasing water needs" and the "need" for the project has been provided in the DREIR at pages 3-36 through 3-45 to supplement the required "statement of objectives sought by the proposed project." As noted by the commentator, this information has been gleaned from "the water plans adopted by state, regional and local water agencies" and did not include information from the "Investment Strategy for

California Water” report. While a comment questioning the “need” for the project may be relevant to exercise of “the agency’s ultimate discretion on the project” (see, CEQA Guidelines Section 15121[b]), it is not considered to be a “comment on environmental issues” (see Guidelines Section 15088[a]) and does not require further response here.

- 22g. The California Ocean Plan is discussed at pages 5.10-14 and 5.10-15. The “significant difference” definition in the California Ocean Plan is a specific definition to be used when comparing sampling results and is not the correct criteria under CEQA to be used to analyze this project’s potential impacts. Instead, the project’s impacts have been extensively studied and evaluated based on the significance criteria clearly stated at pages 5.10-17 and 5.10-18 of the DREIR. The study included in the DREIR (Appendix S) specifically addresses potential effects of the desalination facility discharge on local species passing through the area and surrounding the point of discharge as well as the potential effects on benthic organisms living in the area surrounding the discharge structure.

The detailed analysis of the effect of the discharge from the proposed desalination facility on the marine biological resources provided in the DREIR states that this discharge will not cause a significant environmental impact on the marine habitat nor would it impact any endangered species (see page 5.10-36). Therefore, no mitigation measures to accommodate this discharge are required.

- 22h. As stated in the DREIR, there are various theories as to the cause of bacterial pollution at Huntington State Beach. The theory that HBGS may be a contributor is noted, but does not change any significance conclusions in the DREIR. No further response is necessary.
- 22i. As required by CEQA, Section 7 of the DREIR describes a “reasonable range” of alternatives to the project which would “feasibly attain most of the basic objectives” of the project. Increased conservation efforts, increased use of groundwater supplies and water recycling are described as part of the “No Project” alternative in Section 7.1. Also refer to Response 22f, above.

MAY 24 2005



1076 Skyline Dr.
Laguna Beach, CA 92651
(949) 494-8960

www.waderllc.com

May 20, 2005

Mr. Ricky Ramos
Planning Department
PO Box 190
Huntington Beach, CA. 92648

Dear Sirs:

Re: Seawater Desalination Project at Huntington Beach

We appreciate the opportunity to comment on the Draft Recirculated Environmental Impact Report for the above Project.

As a small organization, Wader LLC was established to support the research and development of inventions in oceanographic technology. The company is dedicated to the creation of inventions that benefit ocean ecology. The company holds patents on methods of generating energy through a process involving the mixing of salt and fresh water. During April 2005, an additional patent application (described below) was filed on a method of mitigating water pollution, especially concentrated seawater from desalination treatment plants

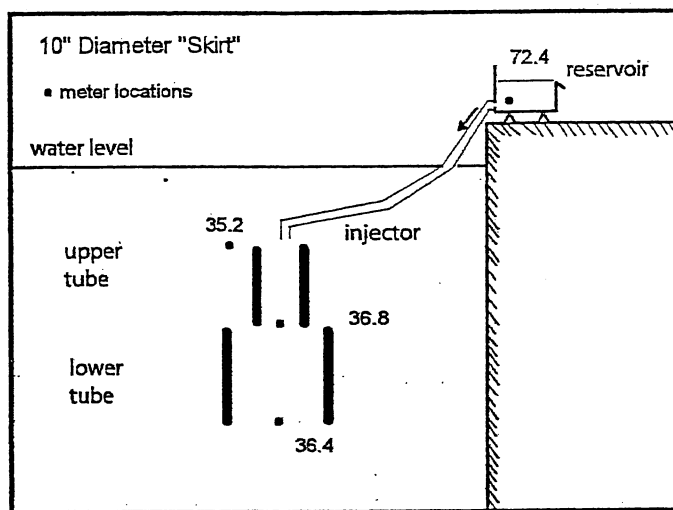
Obviously, a critical aspect of the project as pointed out in the EIR related to the selected site is "to utilize existing ocean intake/discharge lines of sufficient seawater volume to avoid the impact of constructing new intake/discharge facilities". However, based on the hydrodynamic modeling, we believe we can offer a solution to the brine issue. Currently under development, we have demonstrated, with our device, dilution of 70 ppt brine into 35 ppt tanks to a level of 3% above ambient.

The background salinity near the Huntington Beach project varies around 33.0 to 34.0 ppt. An average salinity value of 33.52 ppt was used in earlier calculation (see Jenkins and Wasyl, 2001). The desalination plant anticipates recovering 50% of the 100 mgd intake from the discharge cooling lines of the generating facility. The reject water from the membrane treatment would yield salinity about double the salinity of the seawater intake or 67.04 ppt. This high saline water would be discharged into a pond prior to entering the outfall. At the terminus of the outfall, the concentrated seawater discharge salinity is a function of the number of power generator operating (more precisely, the number of pumps to service the generators). From the hydrodynamic model study, if only one generator is operating, the plant discharge could reach 55.37 ppt. (pg. C-114). The EIR states that during "low flow case", the

salinity exiting the discharge outfall is anticipated to be 55.4 ppt while during "average flow cases", the salinity exiting the discharge outfall is estimated to be 41.7.

The point of greatest salinity difference is where the reject water from the desalination treatment enters the pond. Our device should be able to maintain a 3-4% above ambient level of salinity.

To highlight our system, we enclose a diagram below of a typical set up with averaged salinities noted in parts per thousand (ppt).



We have generated electricity from the kinetic energy available at the exit of the smaller tube (labeled "upper tube in drawing) in a substantially similar device.

We are engaged in research and development of a prototype that will enable the desalination facility operator to recover through self-generation a portion of the expended energy, thus dramatically saving costs of energy.

We would be happy to arrange a demonstration at our test facility, a 50,000-liter tank in Laguna Hills at your convenience for you or your staff. Please call Warren Finley at 949-494-8960 or email him at wfinley@waderllc.com if you desire such a demonstration. For technical advice, please email Dr. Anthony T. Jones, Ph. D. at jxocean@dc.rr.com.

Yours Truly,

Warren Finley
Warren Finley

Response No. 23

Wader LLC
Warren Finley

- 23a. This comment letter does not contain information pertinent to the DREIR, and does not require a response.