

## **STATE COMMENT LETTERS**

## CALIFORNIA COASTAL COMMISSION

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May 26, 2005

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

**RE:** Draft Recirculated Environmental Impact Report (DREIR) No. 00-02 – Proposed  
Poseidon Resources Corporation Desalination Facility (SCH #2001051092)

Dear Mr. Ramos:

Thank you for the opportunity to comment on the above-referenced document. The proposed project would involve construction and operation of a desalination facility on the site of the AES Huntington Beach power plant. It would produce up to 50 million gallons of drinking water per day using seawater drawn from the power plant's cooling system. It would be the largest of its kind in the U.S. and several times larger than any other successfully operating seawater desalination facility in the country.

Our comments in this letter focus primarily on the DREIR's use for CEQA purposes. We will likely have additional and more detailed comments and questions about the proposed project during its coastal development permit review. The proposed project is within the coastal zone jurisdiction of both the City and the Coastal Commission, so it will require a coastal development permit from each. It is also within the Coastal Commission's appeal jurisdiction, so decisions by the City regarding its coastal development permit may be appealed to the Commission.

#### General Comments

- 1) There are numerous significant shortcomings in the DREIR that make it inadequate for purposes of CEQA review. Basic information about characteristics of several existing conditions seems to be in error, and as a result, many of the document's key analyses are likely inaccurate or misleading. Much of the document either mischaracterizes the relationship between the existing power plant and the proposed desalination facility or depicts the relationship inconsistently. The document includes several descriptions and analyses that are highly selective in their use of references and data so as to portray the proposed project as causing fewer adverse environmental effects than it is actually likely to cause. Substantial portions of the DREIR read as a justification for the proposed project rather than a reasoned, arms-length evaluation of its likely adverse effects and the measures needed to address those effects. Additionally, the document does not provide adequate explanation or justification of the proposed project's purposes or why it must produce 50 million gallons per day of drinking water, especially when some, if not all, of that supply

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could be available from water sources that are likely less costly, have fewer adverse environmental impacts, and represent a feasible and more appropriate part of the region's water supply portfolio. These and other concerns are discussed in more detail in the comments below.

Due to the concerns expressed in this letter and in our previous comment letters, we recommend the DREIR be thoroughly revised and then recirculated for additional review. We particularly recommend the document be revised so that the proposed project is evaluated both as a facility that would operate at times independently of the power plant and as one that would operate at times in conjunction with the power plant. This would more accurately reflect the way it would likely operate during its expected useful life and would better reflect CEQA's requirements to address likely project-specific impacts. This approach would also be consistent with the approach suggested in the October 2003 Water Desalination Findings and Recommendations report by the state's Desalination Task Force. We note that this report is one of those used in a highly selective manner by the DREIR, and we recommend that the next revision of the DREIR incorporate the complete set of findings and recommendations from that report that are applicable to this proposed project.

#### **Consideration of Comments Provided Previously**

- 2) Coastal Commission staff provided extensive comments during the proposed project's previous CEQA review during 2001-2003. It appears that the DREIR addressed some, but not all, of the concerns expressed in those comment letters. The DREIR states that comments provided during that previous review were considered and that revisions were made, but it does not state how those previous comments were addressed. It is evident from reviewing those past comments and comparing them with those in today's letter that several significant issues have not yet been adequately addressed in the current DREIR. It is also evident that we have identified consistent problems and concerns throughout both CEQA processes about the adequacy of the reviews.

Because it is unclear whether those previously-submitted comments will be further addressed during this current review, we are incorporating those earlier comments by reference. They are included in the following letters:

- June 14, 2001: comments on Notice of Preparation.
- November 4, 2002: comments on Draft EIR.
- May 8, 2003: comments on City's Response to Comments.
- July 7, 2003: letter to City's Planning Commissioners regarding relationship between CEQA and the Coastal Act, and the adequacy of the EIR.
- December 8, 2003: letter to City's Planning Director responding to several misstatements made about the CEQA baseline, the City's Local Coastal Plan, and the Coastal Act.

These letters will be provided as e-mail attachments along with this letter. The comments provided herein are to supplement those provided previously and to address our main concerns about this most recent DREIR.

## Jurisdiction

- 3) As noted above, the proposed project is within the coastal zone and under the coastal development permit jurisdiction of both the City of Huntington Beach and the Coastal Commission; however, the DREIR does not accurately reflect the review required by each. Please revise relevant sections of the document (e.g., Section 3.6 – Agreements, Permits, and Approvals Needed; Section 5.1 – Land Use/Relevant Planning; Section 5.10 – Ocean Water Quality and Marine Biological Resources; etc.) to include the permit required from the Coastal Commission and to describe applicable Coastal Act requirements.

## Project Need and Objectives

- 4) In its description of the need for the project (Section 3.4), the DREIR cites the Draft 2004 California Water Plan as recognizing the benefits of seawater desalination. We note that the DREIR uses a highly selective reading of that plan to create a sense of support for the proposed project. While recognizing that the Water Plan is still in draft form, we find that a more complete reading shows it includes a number of concerns about seawater desalination, cites the full set of findings and recommendations of the state's Desalination Task Force, and expresses the need to prioritize implementation of those Task Force recommendations as part of desalination in California. We recommend therefore either that the DREIR be revised to delete references to this still draft Water Plan or that it fully incorporate the other concerns and considerations included in the rest of the document.
- 5) The DREIR describes six primary project objectives (e.g., on page 3-45). Of these, portions of at least two of the objectives are of questionable validity since they appear to either inappropriately limit feasible and less damaging project alternatives or provide an unsubstantiated boost to the proposed project's benefits.

The first objective is to "provide a reliable local source of potable water to Orange County that is sustainable independent of climatic sources and the availability of imported water supplies or local groundwater supplies". The DREIR errs in not considering "local groundwater supplies" a "reliable local source" of water. Most water agencies, including, for instance, the Metropolitan Water District, categorize groundwater as a local and reliable source. Even if groundwater supplies are contaminated or have high salinity levels, they can serve as reliable local water sources through the use of the same technology proposed for use by this proposed desalination project, and are often available at much less cost and with fewer adverse environmental effects than desalted seawater. This project objective should therefore be changed and a new alternatives analysis be developed that considers local groundwater supplies to be part of the portfolio of reliable local water sources.

The fifth of the objectives is to "create ecosystem and biologic resources benefits that may accrue due to decreased pressures on existing water resources and reduced contamination within receiving waters". It is inappropriate to apply this objective to this proposed project for at least two reasons. First, the proposed project itself does not necessarily meet this objective, since as shown in several comments below, it is likely to result in substantially greater adverse ecosystem and biologic impacts than are described in the DREIR. Second,

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there is no way to measure whether the proposed project would actually achieve this objective. since the DREIR describes no mechanism to ensure whether the project, if built, would result in decreased pressures on existing water resources or reduced contamination. In actuality, the proposed project is more likely to increase pressures on existing water resources and cause increased contamination in receiving waters due to it resulting in more growth and use of fewer conservation measures in the region. We believe the intent of this objective is to suggest that the proposed desalination facility would allow more water to stay in the Colorado River, the Central Valley, or other water source used by the local area; however, unless the next revision of the DREIR can describe a particular mechanism to ensure this happens, we recommend this objective be dropped from the DREIR and its analyses.

#### **Relationship between operating characteristics of the power plant and the proposed facility**

- 6) Several key analyses in the DREIR are based on an incomplete or inaccurate description of the relationship between the proposed desalination facility and the power plant. The DREIR is based largely on the assumption that the proposed project will use only seawater that passes through the power plant condensers and will not require any additional water beyond what is used by the power plant. For several reasons discussed below, this assumption is likely incorrect, and the analyses in the DREIR related to water use need to be revised. In reality, water use by the co-located power plant and proposed desalination facility is likely to be substantially higher than water used just by the power plant. For CEQA purposes, the effects of the proposed project should include those caused by the proposed desalination facility operating on its own.

We therefore recommend the DREIR be revised throughout to describe the characteristics and effects of the proposed project operating on its own along with analyses of how it would operate in association with the power plant. This letter includes a number of examples of the analyses that need to be revised, such as the following:

- a) Incorrect data and assumptions: The analyses in the DREIR use several erroneous or incomplete characterizations of existing conditions at the proposed project site, including:
- Seawater temperatures: Several DREIR analyses and associated reports (e.g., Marine Biological Considerations Related to the Reverse Osmosis Desalination Project at the Applied Energy Sources Huntington Beach Generation Station, August 2004) are apparently based on seawater temperatures at the power plant intake ranging from 12 to 19° C (approximately 54 to 66° F). However, the California Energy Commission's analysis done in 2001 cited information provided by the power plant owner showing a somewhat higher range of ocean water temperatures at the intake. These higher temperatures could create very different conditions and effects than those described in the DREIR. Some of these changes are described in more detail below. We therefore recommend the relevant analyses be revised to better substantiate the actual temperature range and base the expected effects on that range.

- Power plant pump capacity and operations: The existing power plant has six pumps with capacities of 63.4 million gallons per day and two pumps with capacities of 66.7 million gallons per day. The DREIR uses a pumping rate of 127 million gallons per day as its “reasonable worst-case scenario” based on a minimum of two pumps operating at any given time.

This does not appropriately recognize the potential that the power plant may at times operate no pumps or perhaps only one pump. It is reasonably foreseeable that the power plant could shut down or be in standby mode due to maintenance needs or lack of electricity demand, and during those times could use much less than the 127 million gallons per day. These same conditions could result from implementing the recent U.S. EPA rule regarding entrainment and impingement at thermal power plants, since the power plant may need to decrease its entrainment effects by pumping less water at times or may need to substantially change its existing cooling system.

We therefore recommend the analyses be revised to reflect the likelihood that the power plant’s water use during some parts of the proposed desalination facility’s operating life will be either zero or less than 127 million gallons per day. This change is additionally appropriate since the DREIR does not sufficiently address the proposed project’s stated need to produce 50 million gallons per day of drinking water. The DREIR therefore needs to assess a feasible and smaller proposed desalination facility having available to it less than 127 million gallons per day of cooling water from power plant operations.

- Cumulative impacts: The DREIR does not adequately address cumulative impacts associated with the proposed project and its environmental setting. For example, it does not address at all the effects associated with impairment of nearby affected ocean and estuarine waters pursuant to Clean Water Act Section 303(d), and only partially addresses the numerous intakes, outfalls, and discharges of all types in the area affected by the proposed project. It also does not fully address the decline in the local and regional fishery caused in part by the multiple adverse effects occurring in the ocean waters. These aspects of the existing environmental setting need to be incorporated into a further revised DREIR.

- b) Operating scenarios: The DREIR describes at least two different and contradictory scenarios for how the proposed facility would operate. It first states that the proposed facility would operate full-time (24 hours per day, 365 days per year), but then states, conversely, that it would try to take advantage of off-peak electrical pricing by not operating during peak hours.

These two scenarios would result in very different characteristics for the facility and could have significantly different effects on coastal resources, project and produced water costs, and facility operations. The first scenario, for example, does not adequately recognize the wide variations in power plant operations over the course of a given day or long term based on market demand, the need for regular cooling system heat treatments, changes in regulatory requirements, or other factors that may result in full or partial

shutdown or standby of the power plant. Additionally, desalination facilities using reverse osmosis membranes tend to operate more efficiently, require less maintenance, and last longer when they are operated continually rather than in an on/off fashion. It is not clear from the DREIR whether these characteristics are evaluated. We therefore recommend that the DREIR be revised to clarify the operating methods the proposed facility intends to use and revise the applicable analyses accordingly (e.g., those related to costs, energy use, water use, maintenance requirements, etc.). The revised analyses should cite specific operating characteristics of the power plant and conditions of the operating agreement between the power plant and the proposed desalination facility and should reflect the likely effects of those conditions.

- c) Cooling water use and energy demand: The DREIR states that the proposed 50 million gallon per day desalination facility would use about 30 to 35 megawatt-hours of electricity (or about 720 to 840 megawatt-hours per day). Combined-cycle power plants such as HBGS using a once-through cooling system require about 15,000 gallons of cooling water per megawatt-hour of electricity generated. Therefore, the desalination facility's electrical demand would require roughly 450,000 to 500,000 gallons per hour of cooling water, or about 10 to 12 million gallons per day. While some of this water would likely be the same as that withdrawn from the cooling system for desalination use, the DREIR should assess the effects associated with any additional water use.

Additionally, it is not clear from the DREIR whether the stated energy demand for the desalination facility includes the energy needed to pump the produced water into the regional distribution system. Because the proposed desalination facility would be at sea level, it may require substantial energy to pump the water uphill into the distribution lines. The DREIR should incorporate this energy demand and costs into its evaluations.

- d) Cooling water use and water temperature: Reverse osmosis membranes are designed to be used in up to a particular water temperature (e.g., up to 95° F), with their most efficient operating temperature generally somewhat lower. The power plant's cooling water may at times exit the condensers at higher temperatures than optimal or usable for the membranes; therefore, the water used by the desalination facility may need to be cooled by using additional seawater that has been drawn into the power plant intake but has bypassed the condensers. As a result, the desalination facility may end up using much more than the expected 100 million gallons per day of water, and more than would otherwise be used by the power plant. These same characteristics would also result in the proposed desalination facility causing entrainment that would not otherwise be caused by the power plant. Additionally, and as noted above, the DREIR's analyses appear to be based on lower ambient ocean water temperatures than may actually exist at the site. These analyses should therefore be revised to incorporate the design operating temperatures of the membranes and the desalination process, their most efficient operating temperatures, and whether additional water would be needed to cool the desalination source water to usable temperatures. It should also describe any additional entrainment effects that would be associated with this additional water use.

- e) Operational characteristics and energy use: CEQA Section 15126.4 requires that EIRs consider the implications a proposed project may have on energy use. It further requires an energy conservation analysis that considers costs along with other measures of feasibility. Among the goals of such review is to decrease reliance on natural gas and oil, and increase reliance on renewable energy sources. Further, Coastal Act Section 30253(4) requires that new development minimize energy consumption.

Several recent studies – for example, the Pacific Institute's Waste Not, Want Not: The Potential for Urban Water Conservation in California (November 2003), and the Planning and Conservation League's Investment Strategy for California Water (November 2003) – conclude that seawater desalination is relatively costly and energy-inefficient, particularly when compared with other available sources of water such as conservation and recycling, brackish water desalination, and even many of the state's water import infrastructure projects. The DREIR should be revised to evaluate whether the proposed project supports the requirements cited and how it fits into California's increasing emphasis on energy efficiency and conservation.

- f) Costs: The DREIR does not describe the cost of the water to be produced. Because cost is a consideration of determining the feasibility of proposed projects, mitigation measures, and alternatives, it is a necessary part of environmental review. Further revisions of the document should include discussion of anticipated costs and the basis for those costs, and should then apply those costs to determine the feasibility of project alternatives and mitigation measures.

- g) Status of power plant approvals, permits, and contracts: The DREIR does not properly assess the short-, medium-, and long-term operational changes likely to occur in the power plant operations and how those changes may affect the proposed desalination facility. These changes include everything from daily variations in electrical demand, upcoming changes to existing energy contracts, and measures that may be required to minimize the cooling system's entrainment and impingement effects, including the potential to switch to alternative cooling methods that may not provide the same benefits for desalination (e.g., dry cooling, closed loop cooling, recycled water cooling, etc.).

These reasonably foreseeable changes could result from any of the following:

- The power plant's Units 3 and 4 are operating under a 10-year approval from the California Energy Commission (expires in 2011).
- The power plant's NPDES permit is up for renewal every five years. The next renewal will require review to ensure conformity to a recent rule change by the U.S. EPA (described in more detail below), and may result in substantial changes to the power plant's structures, operations, or mitigation requirements.
- The DREIR describes several energy contracts with remaining terms of less than a year, three years, or until 2018.
- The power plant's report on its future development plans, submitted to the Energy Commission in November 2004, discusses various alternatives, none of which mentions an on-site desalination facility or the effects of such a facility.

- The agreement between the project proponent and the power plant operator runs for 38 years. The DREIR does not describe in sufficient detail the conditions of the agreement, allowable ways to modify the agreement, and other elements that could result in substantial changes to how either of the two facilities operates.

All of these suggest that the DREIR analyses should incorporate several substantial and reasonably foreseeable changes and alternatives that would affect the proposed desalination facility. We recommend the DREIR be revised to fully describe these various permits and agreements and to assess the effects of likely changes.

#### **Marine Biological Resources – Effects of the Proposed Desalination Facility Intake**

- 7) Incorrect assumptions and incomplete data: As noted above, the proposed desalination facility would likely be associated with direct, indirect, and cumulative impacts caused by withdrawing substantially more water than needed by the power plant. The DREIR inappropriately separates the operations and impacts of the power plant from those of the proposed desalination facility, creating a false dichotomy between the two. Many of the revisions requested in other parts of this letter will require that analyses related to marine biological resources also be revised – for example, analyses showing the proposed desalination facility drawing in water that would not otherwise be drawn in by the power plant operating on its own would result in different effects on marine organisms. Further, the DREIR's marine biology analyses rely in some cases on highly selective references from various documents, or uses documents and studies based on data that are several years or decades old and not necessarily applicable to current environmental conditions offshore of Huntington Beach or that use out-of-date sampling and study methods.

One example of the highly selective references is the DREIR's citation of a draft paper on feedwater intake issues issued during the California Desalination Task Force process. This draft paper includes a statement that co-located desalination facilities would result in no additional entrainment or impingement. The DREIR should be revised to instead use more appropriate references, including the Desalination Task Force's final report, Water Desalination Findings and Recommendations (October 2003) and the Coastal Commission's report, Seawater Desalination and the California Coastal Act (March 2004). Both these reports recognize the importance of case-by-case and site-by-site consideration of such impacts and note that co-located desalination facilities may, in fact, cause adverse effects in addition to those caused by the power plant. Another selectively excluded reference, discussed immediately below, is the entrainment study recently completed pursuant to Energy Commission requirements.

- 8) Effects Associated with the Intake: The DREIR states essentially that the proposed desalination facility would cause no entrainment beyond that caused by the power plant. As noted above, there are several reasons why this statement is erroneous. The DREIR further errs in not including the most recent documentation of the scale of entrainment and impingement losses caused by the power plant. The DREIR includes an Intake Effects Assessment (November 2004) intended to describe the entrainment and impingement effects associated with the proposed desalination facility; however, it inappropriately excludes the

recently published AES Huntington Beach L.L.C. Generating Station Entrainment and Impingement Study (April 2005), required as a condition of the 2001 California Energy Commission approval of the power plant upgrade. While we recognize that the study was in progress during preparation of the DREIR, many of the data were available to provide an initial scope of the entrainment effects, and now that the final study is available during review of this draft CEQA document, it should be incorporated into the analyses.

The recently completed study describes, among other things, the loss of hundreds of millions of individuals of various species each year due to entrainment and impingement caused by the power plant. The study further concludes that organisms from just eleven target species lost due to entrainment are equivalent to those produced in up to almost two square miles of the nearshore waters off Huntington Beach. This is a significantly greater impact than the effects described in the DREIR. Some of the reasons for differences between the DREIR findings and the Energy Commission study's findings may be due to elements of the studies described below. We recommend further revisions of the DREIR incorporate the results of the Energy Commission study into its analyses.

- a) Source water: The DREIR describes the source water for the intake as the entire Southern California Bight. This is an inaccurate basis for entrainment and results in inaccurate representation of the ecological impacts caused by the cooling system. The Energy Commission study more properly based its source water volumes on the area of water that could be drawn into the intake that contained organisms of "entrainable" size – that is, for each species, the entrainment rate is based on when the affected organisms are at a particular size or life stage subject to entrainment, and the source water represents the area close enough to the intake (due to currents and other factors) than the water containing those organisms could be drawn in. This approach results in a substantially smaller area of source water than was used in the DREIR and a more valid assessment of intake-related adverse impacts. The analyses in the DREIR should therefore be revised to incorporate the approach used in the Energy Commission study.
- b) Rate of entrainment mortality: The DREIR states that testing at the power plant shows entrainment mortality to be about 94-95% and that the proposed desalination facility would increase that rate only marginally. The standard approach for such studies is to assume an entrainment mortality of 100%. Even if some individual organisms are able to survive the temperatures and pressures experienced when going through the cooling system, they are generally considered to have a survival rate of essentially zero when they are discharged from the system back into the water column.

Additionally, for the water withdrawn for the proposed desalination facility, any organisms that survive the power plant cooling system should be assumed to have 100% mortality, since desalination pretreatment, filtering, and other processes are meant to remove all organic particles from the water, which would naturally include eggs, plankton, and larvae. The DREIR entrainment analyses should therefore be revised using a 100% mortality rate for both the power plant and the proposed desalination facility.

- c) Standard of review: The DREIR states that the power plant meets the federal Clean Water Act's Section 316(b) requirements for thermal power plant cooling water structures. Please note that this does not equate to conformity to CEQA or the Coastal Act, both of which have more stringent standards for mitigating adverse effects. Please also note that the power plant's upcoming NPDES permit review will be subject to the recent changes to that section of the Clean Water Act. The DREIR should therefore not use past 316(b) conformity as the standard by which to determine conformity of the proposed desalination facility to applicable water quality and marine protection requirements.

The DREIR additionally argues in its discussion of potential alternative intake systems, that it is not necessary to consider a subsurface intake or beach well because they are not considered "Best Technology Available" (BTA) under the Clean Water Act. Again, this contention is immaterial to the review of the proposed project, since other applicable requirements, including CEQA, do not use this standard to determine feasible mitigation measures. Further, it is odd to see this contention in the DREIR since the document in almost every other instance takes great pains to distinguish between the effects of the proposed desalination facility and those of the power plant, yet here contends that a standard applicable to the power plant provides a reason to not consider measures that would likely reduce the adverse effects of the desalination facility. We additionally note that several recently published documents here in California strongly recommend the use of subsurface intakes for desalination to prevent the direct or indirect entrainment effects caused by open water intakes. We note as well that the power plant currently has a closed loop cooling water system for part of its operations that uses up to 56 million gallons per day. This suggests that additional implementation of closed loop cooling may be feasible at the power plant and would allow either complete avoidance or significant reduction in its entrainment and impingement impacts. This would also further support the need for the proposed desalination facility to be evaluated on its own for the proposed use of the power plant intake.

- d) Impingement: The DREIR states that the HBGS intake brings in water at a velocity of two feet per second. Please note that this flow rate is four times the 0.5 feet per second established by the U.S. EPA as "Best Technology Available" in its recent rule revision, which is among the requirements applicable to this facility. Unlike the BTA standard referenced above, this Clean Water Act requirement may result in a more stringent limit that, if required of the power plant during its next NPDES review, could substantially affect the operation of the proposed desalination facility. The DREIR should be revised to evaluate how such a change would affect the proposed project, its environmental effects, and the mitigation that may be necessary.

#### Marine Biological Resources – Effects of the Proposed Desalination Facility Discharge

- 9) Ocean water off of Huntington Beach has an average salinity concentration of about 33.5 parts per thousand (ppt), with variations over the course of the year of roughly 10%. The DREIR describes an area of increased salinity near the existing power plant discharge that would be caused by combining that discharge with the proposed desalination discharge. The document's analyses describe varying areas of increased salinity concentrations based largely

on either of two flow rates through the cooling system (i.e., either 253 or 127 million gallons per day). The areas affected by salinities of more than 10% above background range up to several dozen acres, while areas of between 1% and 10% above background can cover nearly 2000 acres. The area predicted to exceed the U.S. EPA guideline of 4 ppt increased salinity could extend up to about 600 feet downcurrent.

These areas of increased salinity, along with the area lost to biological production due to entrainment as described above, represent a significant portion of the Huntington Beach coastline, and do not appear to be the insignificant impact described in the DREIR. Further, because additional reasonably expected scenarios would have the power plant operating at much less than 127 million gallons per day, the affected areas could be much different in size or have much higher salinity concentrations than those described in the DREIR. As noted previously, the cooling water flow scenarios described in the DREIR are likely less than the "reasonable worst-case scenario" due to the likelihood that the power plant may either shut down entirely for periods of time or may need to operate only a single pump during standby periods. The DREIR's salinity evaluations should therefore be revised to include these scenarios.

The DREIR also concludes that the species within these areas that would be exposed to these higher salinity levels are either tolerant of the higher levels or would be able to move out of the affected areas. Its primary basis for this conclusion is that these species are exposed to these expected higher salinity concentrations elsewhere in their range. This does not appear to be a valid comparison for at least two reasons. First, the analyses do not differentiate between the range of tolerance for a species and the tolerance of particular individuals of that species. For example, while individuals of a particular species may do well in higher salinity waters in other parts of the species' range, it does not mean individuals living in the range of salinity found offshore of Huntington Beach would do well if those waters were to change to having salinity concentrations at 110% to 164% of those existing ambient conditions. Secondly, the analyses do not describe how quickly these organisms are able to adapt to these types of salinity differences. While the organisms may be able to adapt to the naturally occurring 10% change in salinity over the course of a year, they may not be able to respond to an immediate change of that range or greater. Additionally, some areas within the discharge plume will cycle back and forth through these salinity ranges relatively quickly based on the number of pumps that happen to be operating at the power plant at any given time, thus requiring exposed organisms to quickly adjust to salinity extremes far higher than normal conditions. It is likely that many organisms adapted to local conditions would actively avoid the higher salinity areas, thus creating a zone with lower biomass, less biodiversity, or with other substantial ecological changes.

The DREIR also includes a report (Marine Biological Consideration Related to the Reverse Osmosis Desalination Project at the Applied Energy Sources Huntington Beach Generation Station – August 2004), which provides for several species lethal salinity concentrations (LC<sub>50</sub>, which estimates the lethal concentration for 50% of the tested individual organisms). While a 48-hour LC<sub>50</sub> is a useful measure for some purposes, it does not adequately characterize an organism's response in the natural environment and does not detect behavioral or reproductive changes, chronic effects, or other sublethal or long-term stresses.

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The report also cites a study done in Antigua of the effects of much smaller desalination discharge in a different marine ecosystem than is found off of Huntington Beach. The DREIR should also provide monitoring and study results that apply more directly to the conditions and organisms of Huntington Beach and Southern California.

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#### Effects on Nearby Habitat Areas

- 10) The DREIR does not describe the habitat values associated with the flood control channel and wetlands immediately adjacent to the proposed project site. It appears from site photographs that there are several habitat elements that could be affected by project construction and operation. The document should be revised to include analyses of these elements and to evaluate feasible mitigation measures that would avoid or minimize adverse effects to these habitat features.

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#### Drinking water quality and public welfare

- 11) The presence of boron in drinking water is an emerging health concern. At elevated levels, boron is believed to cause human reproductive effects and is harmful to plants. Here in California, there is no drinking water standard for boron; however, the state has established an action level of 1.0 mg/L. Providers of drinking water that exceeds this action level must notify the consumers and local governments, and the Department of Health Services may recommend removal of the water source from service if concentrations of the contaminant significantly exceed the action level. The World Health Organization has established a guideline for maximum boron concentrations in drinking water of 0.5 mg/L.

Seawater contains boron at naturally occurring levels of about 4.5 mg/L. The DREIR states that the water supply provided by the proposed desalination facility would contain boron at levels around 0.6-0.8 mg/L. However, single-pass reverse osmosis systems like the one proposed to be used at the facility are generally considered to have only a 50-75% removal efficiency for boron, which would bring the boron concentrations down to roughly 1-2 mg/L, or about two to four times the recommended concentrations for drinking water. The DREIR revisions should provide more detailed information about the basis of the statement regarding expected boron levels in the product water, including a description of the materials and processes the facility would use to reach the stated levels. It should also identify any available measures that would further reduce the boron concentrations along with the costs and effects of those measures.

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#### Alternatives Analysis

- 12) Section 7 of the DREIR assesses several alternatives to the proposed project. These assessments include several problematic assumptions and use some questionable or incomplete information to arrive at their conclusions. Several of these problems were described above, including the DREIR's definition of groundwater as something other than a local reliable water source, the use of the wrong "reasonable worst-case scenario" for cooling water pumping, and others. The alternative analyses should be revised to incorporate those changes along with those described below.

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- a) No Project Alternative: The DREIR states that the “No Project” Alternative is not feasible, in part, because it would result in the proposed project site remaining contaminated and unsightly and would require the use of conservation measures to reduce regional water demand. Concerning the first contention, although the proposed project is one way to clean up and beautify part of the power plant site, it is not the only method for doing so and is not a valid reason to dismiss the “No Project” Alternative. With regard to the second contention – that the region would have to implement significant conservation efforts – the DREIR erroneously treats this as a negative, rather than a positive feature. A “No Project” Alternative that resulted in stronger water conservation measures would better conform to the stated goals of many water planning efforts and those of CEQA.

We note, too, that the DREIR states it would be difficult to conserve the equivalent of the 50 million gallons per day output of the proposed facility as early as 2008 when the facility is expected to be operating. It is inappropriate in this CEQA review to use that amount of water as a basis for comparison since that water currently is not available, is not being used, and is not under contract to be used. It is further inappropriate to use 2008 as the date by which this amount of water must be conserved since there is no certainty that the proposed project would be operating by that date. This is particularly the case since most of the DREIR’s other references to water demand and planning efforts have timelines stretching to 2025 or later. We therefore recommend that the “No Project Alternative” be revised based on the actual existing amount of available water, not the water that may eventually be available from the proposed facility, and that the full suite of available conservation measures be applied within the potential service areas for the same time period as is used in the cited water planning documents.

- b) Alternative proposed production: As noted previously, the DREIR does not adequately establish the need for the proposed project to produce 50 million gallons per day of drinking water. The alternatives analyses should be revised to recognize other amounts that would be feasible and useful. Clearly, lesser amounts should be feasible, since this proposed project would be several times larger than any other fully operating seawater desalination facility in the country.
- c) Alternative water sources: Given the concerns expressed throughout this letter and the additional impacts identified, the alternatives considered need to include other methods to provide source water for the proposed facility. These other methods should include:
- Beach wells or subsurface intakes: The DREIR’s alternatives analyses for these types of intakes include several flaws that require correction. As noted above, the analyses are based on an unsupported expectation that beach wells must produce 100 million gallons per day of water. Much smaller beach wells may prove to be adequate for a smaller and feasible facility.

The document also expresses concern about the low levels of dissolved oxygen often found in water from beach wells, and states that the desalination discharge would have such low dissolved oxygen concentrations as to not meet requirements of the California Ocean Plan or the U.S. EPA. This concern seems to be based on leaving out a key aspect of the proposed project that is included in all other parts of the DREIR – namely, that the discharge from the proposed desalination facility would be combined with the power plant discharge and its adverse effects diluted. For scenarios that include an operating power plant, such a combination would likely allow any very low dissolved oxygen levels to be mitigated so that the overall discharge could meet the applicable water quality standards. Additionally, the DREIR briefly mentions that there are measures available to increase the oxygen levels in the water before it is discharged, but does not provide the necessary description of those measures and an assessment of whether they are feasible.

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Please also note that desalination facilities currently approved or operating on the California coast use beach wells– for instance, in the cities of Marina and Sand City. In both those cases, the beach wells look nothing like the illustrations provided in the DREIR showing relatively large and invasive structures on the beach. In sum, most of the significant limiting factors the DREIR identifies for beach wells are misplaced and the alternatives analyses should be revised.

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- Recycled or reclaimed water: The proposed facility would be located a relatively short distance from the Orange County Wastewater Treatment Facility. Despite some concerns expressed in the DREIR described below, this appears to be a feasible option for both feedwater for, and discharge from, the proposed facility and is worthy of additional analysis. In fact, use of water from the treatment plant may result in much lower desalination operating costs since the levels of total dissolved solids in treated wastewater are often lower than levels in seawater. We therefore recommend that the DREIR revise its alternative analyses to further evaluate this option.

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- d) Alternative discharges: Numerous studies cite the advantage of blending the high salinity discharge from a desalination facility with an existing wastewater discharge, not only because they can share the same outfall but because the increased overall salinity helps the discharge blend more rapidly with the receiving water. The DREIR notes concerns about the capacities of the nearby wastewater outfall and concludes that the lack of capacity makes this option infeasible. However, it does not consider the benefits of having the proposed desalination facility take more water from the treatment plant than it would return – for example, if it used 100 million gallons to create drinking water, it would return much less to the treatment facility to be discharged. We recommend this alternative be explored further.

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- e) Alternative sites: The DREIR includes three analyses for alternative sites – at the power plant site, within two miles of the proposed project site, and more than two miles from the site. With regard to the first analysis, the DREIR should include in its discussion of alternative sites at the power plant the effects the proposed location could have on the power plant's ability to change to an alternative cooling system.

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For the second type of analysis, the DREIR considered open areas within two miles of the proposed site. This two-mile radius appears to be arbitrary, as it does not relate to the proposed project's objective to provide water throughout the region or any other aspect of feasibility. Additionally, using "open areas" as a criterion resulted largely in a selection of nearby parks, schools, and wetlands, all of which were dismissed as inappropriate. This is clearly an inappropriate criterion to use, since the preferred project site itself – an existing industrial-zoned power plant – is not an "open area" and would not be considered feasible. We therefore recommend the DREIR change these two criteria to exclude the arbitrary two-mile radius and to look at sites other than "open areas" that may include sites with existing compatible uses, sites that provide redevelopment opportunities, or other such situations similar to the primary proposed site.

The third analysis, of sites further than two miles away, appears to be perfunctory and does not fully address the feasibility of sites that are located somewhere other than immediately adjacent to the beach or sensitive coastal resources and does not consider different approaches for handling the proposed water source other than a standard open water intake and outfall. The analyses should be revised to identify other feasible options, such as existing intakes or outfalls, locations inland from the immediate shoreline, and other characteristics fitting of a proposed regional water supply project.

- f) Long-term viability: As noted previously, the DREIR does not adequately address likely changes to the power plant's existing permit requirements, approvals, and contracts. The DREIR should therefore more fully incorporate the conditions of these various agreements and requirements into its analyses to better evaluate feasible alternatives that may not be subject to the same limitations or potentially changing circumstances.

- g) Alternative ownership: The DREIR evaluates "alternative ownership" of the proposed facility to address a concern that operation of the facility by a private entity could result in more environmental impacts than those resulting from a publicly-operated facility. Section 7.3 of the DREIR states that alternative forms of ownership – i.e., changing the facility from being privately operated to being operated by a public entity – would not change how it would affect the environment. In support of that assertion, the document cites a passage from the 2004 California Water Plan, which states, in relevant part, "So long as government regulations are applied in the same manner to water projects involving multinational corporations as they are to water projects owned or operated by domestic companies or public utilities, there would be no conflict with international trade treaties." The DREIR goes on to state that the project proponent, Poseidon Resources Corporation, is a U.S. corporation, not a multi-national corporation.

There are several problems and shortcomings with the analysis provided in the DREIR. First, the analysis does not accurately portray the issue of concern – it is private ownership of the facility, not its operation, that is of concern, due to provisions of international treaties that suggest such facilities may escape certain locally-imposed health and environmental standards. Second, the cited passage from the Water Plan does not address the concern that provisions of international treaties may lessen or remove the

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ability of local and state government from regulating private multi-national entities or regulating a resource that is controlled, sold, or otherwise marketed by these entities. The passage merely states that there would be no conflict with these treaties if regulations were applied in the same manner to both private entities and public agencies. The concern about the international treaties is that they may create a “lowest common denominator” system of regulation, in which the least restrictive standard imposed by a country subject to a treaty becomes the standard applicable to any entity here in California providing a service covered by the treaty. We recommend the DREIR incorporate other sources of information about this issue – for example, instead of using the statement above from the Water Plan that doesn’t apply to the issue of concern, we recommend the analysis incorporate the concerns of the California Office of the Attorney General and the California Senate Select Committee on International Trade Policy and State Legislation, both of which have expressed significant concerns about potential loss of local and state authority over proposed projects such as this one.

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Lastly, we note that the DREIR states that the applicant, Poseidon Resources, is not a multi-national corporation because it is based in Connecticut. That is incorrect. Many multi-national corporations are based in the U.S., as is Poseidon. What makes a corporation multi-national is not where it is based, but that it has operations in several countries. If Poseidon operates in a country subject to treaty provisions that provide lesser environmental or health standards than California, and those standards become applicable to their operations here in California, the proposed project may have far greater adverse effects than those described in the DREIR.

### **Growth-Inducement**

- 13) The DREIR’s discussion on growth-inducement in Section 6.2 is based on some questionable analyses and includes some troubling statements. It mixes growth projections contained in adopted plans with projections from various growth assessments not adopted by any particular planning or governmental entity. It includes in its areas of potential water service several that have already exceeded adopted General Plan build-out levels. It cites the need for water conservation as a part of water planning, but does not provide the necessary descriptions of what water conservation measures are in place in each of its potential service areas and what feasible measures are still available to be implemented.

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It also includes the troubling statement that any growth resulting from the proposed project would not be due to the project itself, but would be entirely dependent on how the water would be allocated by various local and regional water purveyors buying the water provided by the project. While this statement may correctly identify the immediate cause of a particular result, it clearly misses the CEQA requirement to address reasonably foreseeable consequences of a proposed project. It is akin to saying that a new water supply doesn’t cause growth; it’s all the people drinking the water, or that a new road doesn’t cause growth; it’s all those cars driving on it. This is clearly not the analysis anticipated from CEQA review. The statement also ignores the CEQA Guideline (Section 15126.2(d)) cited earlier in that same discussion that the analysis of growth-inducement discuss the ways the proposed project “...could foster economic or population growth, or the construction of additional

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housing, either directly or indirectly, in the surrounding environment.” Further, absent some reasonable level of certainty about where the proposed new water supply would go, the DREIR does not meet the necessary standard for determining potential growth-inducing aspects. This lack of certainty is due in part to some shortcomings noted above and also because the DREIR does not adequately establish the need for the proposed 50 million gallons per day of water versus any other amount that may be feasible to produce.

For purposes of CEQA review, the DREIR clearly does not provide an adequate evaluation of growth-inducement. The document should be revised in a number of ways to address these shortcomings. Its analyses should properly evaluate the proposed project’s potential for growth inducement by using valid and consistent adopted growth projections. With regards to the needed level of certainty, the document should either base its growth-inducement analyses on known locations of where the water will go (i.e., based on contractual obligations or other legal mechanisms) or should develop various scenarios that would allocate different amounts of water to different service areas and then identify the resulting growth.

#### Closing

Thank you again for the opportunity to comment on this document. In closing, we wish to reiterate that much of the DREIR is based on inadequate or dated information, uses incorrect assumptions, or is otherwise flawed. The document, therefore, is not yet sufficient for CEQA review and does not yet provide adequate information upon which to begin review pursuant to Coastal Act requirements.

We recommend, therefore, that rather than publish a Final EIR that includes only responses to comments, you thoroughly revise the DREIR based on the comments above as well as others you may receive and then recirculate the newly-revised document for additional public comment before publishing a final version.

Sincerely,



Tom Luster

Energy and Ocean Resources Unit

Cc: Poseidon Resources – Peter MacLaggan  
California Energy Commission – Rick York, Donna Stone  
Regional Water Quality Control Board, Santa Ana  
Surfrider – Joe Geever  
Heal the Bay – Craig Shuman

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November 4, 2002

Mr. Ricky Ramos  
City of Huntington Beach Planning Department  
2000 Main Street  
P.O. Box 190  
Huntington Beach, CA 92648

RE: Draft Environmental Impact Report: Poseidon Seawater Desalination Project, September 2002 – City of Huntington Beach (State Clearinghouse #2001051092)

Dear Mr. Ramos:

Thank you for the opportunity to comment on the above-referenced Draft Environmental Impact Report (DEIR). The proposed project would be built adjacent to the AES Huntington Beach Generating Station (HBGS) and would use water drawn in from the Pacific Ocean through the HBGS once-through cooling system as its source water to produce approximately 50 million gallons per day (mgd) of desalinated potable water for local and regional use.

The proposed project is located within the coastal zone and is primarily within the jurisdiction of the City of Huntington Beach's Local Coastal Plan (LCP). Additionally, the Coastal Commission has retained jurisdiction over portions of the proposed project that would affect coastal waters. The project, therefore, would require two Coastal Development Permits (CDPs) – one from the City for upland portions of the proposal and another from the Coastal Commission for portions affecting coastal waters. The entire proposal is also within the Coastal Commission's appeal jurisdiction; therefore, any appeal of the City's permit decision may be heard by the Commission.

The proposed project would be the largest desalination facility in the U.S., and would be the first to be built in California in over a decade. The proposal raises significant issues related to compliance with several local and state policies and regulations and therefore deserves a thorough review, first at the CEQA level and then during subsequent permit determinations. The comments below are focused primarily on issues related to conformity to the Coastal Act and the proposal's possible effects on coastal resources. Please note that these comments reflect our concerns and questions at this time in the EIR review, and that we will likely request additional or more detailed information during the CDP review process related to the proposal's conformity to the Coastal Act. These comments also provide a follow-up to the June 14, 2001 comments we provided regarding the "Notice of Preparation" for the EIR. Those comments requested that the DEIR address several significant areas of concern; however, in some cases, the information provided in the DEIR does not adequately respond to those comments.

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General Comments:

1) *Water Quality and Marine Biological Impacts due to the Facility's Proposed Use of Ocean Water:*

The proposed project is located adjacent to the HBGS and is dependent on the electrical generating facility's use of ocean water for once-through cooling. The California Energy Commission recently approved an upgrade at HBGS through an expedited review process that allowed the applicant to delay some studies of potential impacts to coastal resources and identification of feasible mitigation measures until after the project was approved and the facility was operating. One of these studies was to determine the entrainment, impingement, and thermal impacts related to the facility's once-through ocean water cooling system. There is also an ongoing study to determine whether an interaction between the HBGS intake and the nearby Orange County Sanitation District discharge may be leading to local beach closures due to increased levels of bacterial contamination.

Results of the HBGS cooling system study are needed to identify impacts to water quality and marine organisms, and the feasible measures that would allow these impacts to be avoided, minimized, or otherwise mitigated. We will therefore likely need the results of this study as part of our review of the proposed facility's conformity to the Coastal Act. Additionally, the DEIR cites the City's LCP Policy 6.1.19, which states: "Prior to approval of any new or expanded seawater pumping facilities, require the provision of maximum feasible mitigation measures to minimize damage to marine organisms due to entrainment in accordance with State and Federal law." Pursuant to this policy, the study results should also be included in the EIR review.

Results of the studies mentioned above will likely answer several of the questions and comments below. In the interim, please respond to the comments based on currently available information, where possible.

- 1a) Applicable water quality standards: Section 4.3 of the DEIR describes the beneficial uses of the Pacific Ocean's nearshore waters as industrial service supply, navigation, contact and non-contact water recreation, commercial and sport fishing, wildlife habitat support, and others. The California Ocean Plan also describes a number of specific water quality objectives for marine water. The listed beneficial uses and objectives do not include drinking water or potable water supply.

Please provide an evaluation of whether the proposed project's use of ocean water for drinking will conform to state water quality standards, including the Ocean Plan, and whether such a proposal requires a change in the listed beneficial uses of ocean water or a change in discharge limits to ocean waters to protect those waters as a source of drinking water. Please also discuss the beneficial or adverse effects these types of changes might have on those resources.



- 1b) Facility operations: Please describe the relationship between the HBGS facility and the desalination facility. For example, please describe whether the desalination facility will continue to operate during times HBGS is shut down for short-term or long-term maintenance, planned outages, or other reasons. If it will, please describe the desalination operations that would occur during these shutdowns, including a description of the facility's entrainment effects and the characteristics of its discharge, including thermal characteristics and concentrations of salinity and constituents as they compare to allowable NPDES permit limitations. This should also address the area of increased salinity around the discharge and its effect on water quality and marine organisms.

Also, please describe, if known, how adverse entrainment and discharge effects will be "partitioned" between the desalination facility and HBGS for purposes of NPDES permit compliance, determining mitigation requirements, etc., during times both facilities are operating as well as when just one is operating.

- 1c) Modeling and analyses used: The DEIR and its appendices include several analyses of the proposed project's effects on marine organisms and water quality. For example, the DEIR describes impacts to water quality and benthic areas due to salinity levels in the proposed project's discharges from the existing HBGS outfall. The "worst case" scenarios in these analyses are based on the desalination facility operating while only one of the four HBGS generating units is operating, and when there is no mixing of the discharge plume in the receiving water. The resulting analyses describe the salinity levels at various distances from the outfall as ranging from less than 10% to roughly 60% greater than the local mean seawater salinity (at 33.5 ppt). They also include maps showing the anticipated areas of higher salinity levels at various depths. These maps do not include a distance scale, but appear to show increased salinity in areas of the water column and benthic surface of from a few acres to several hundred acres during different conditions.

We are concerned that the "worst case" scenario used in the DEIR may not be the actual "worst case", and in fact, may understate adverse conditions that would occur during the normal course of operations. The actual "worst case" scenario is likely one in which the desalination facility operates while none of the HBGS generating units are operating. Therefore, the analyses of entrainment, impingement, thermal discharges, salinity changes, and others should be re-assessed based on the desalination facility operating when HBGS is not.

- 1d) Mitigation measures: The DEIR does not include identify mitigation measures available to avoid or minimize the impacts associated with entrainment, impingement, or thermal discharges. Results of the cooling water study mentioned above will likely be needed to complete this portion of the environmental review. There are a number of measures that could be considered, such as operational or structural changes to the intake to reduce water velocity and entrainment rates, changes to the outfall to either increase mixing and avoid salinity increases to the benthic community at the seafloor, and others.

- 1e) Information from other desalination facilities: Our June 14, 2001 comments on the NOP requested that the DEIR include a review of other similar desalination facilities to assess whether monitoring requirements at those facilities were adequate to identify project impacts and establish necessary mitigation measures, and whether similar or improved requirements would be appropriate for this proposed facility; however, the DEIR does not include this review. Please provide an evaluation of the known impacts associated with other existing desalination facilities, the measures taken to avoid, minimize or compensate for those impacts, the types of monitoring used to determine the impacts as well as the performance of the selected mitigation measures, and any contingency measures that are in place or have been required due to the identified impacts.

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2) ***Energy Demand:***

Our NOP comment letter requested that the DEIR address the energy requirements of the proposed facility, including the effects of its energy demand on local and regional energy supplies and measures available that would minimize energy use, and that these analyses be done using a reasonable range of possible energy prices. The DEIR states that the desalination facility would use approximately 30 to 35 megawatts (MW) per hour, or about 720 to 840 MW per day, and that it would attempt to use off-peak power when practicable, but does not include any additional analysis on energy use.

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Please describe the effects of the desalination facility on local and regional energy supplies during times of typical electrical demand as well as during peak demand times. Please also describe the effects of this significant base load demand (assuming the facility would operate continuously, or nearly so) on the local and regional energy capacity. This should include an analysis for the facility's energy demands when the HBGS units are shut down for short-term or long-term maintenance.

3) ***Site and Facility Hazards:***

The DEIR states that the project objectives include providing a reliable source of potable water for the area. The proposed project site, however, is located in a seismically active area with very high liquefaction potential, and is designated as being prone to flooding. Recognizing the benefit to the applicant of siting the proposed facility where it can use an existing intake and outfall system, we are still concerned that locating the facility in a site with these hazards may not meet the desired objective of providing a reliable source of water during emergencies.

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- 3a) Seismic Activity and Liquefaction: The site is described as being subject to high levels of seismic activity and ground shaking, and as having a very high potential for liquefaction. The DEIR states that a geotechnical report has not yet been prepared, but that one will be required as part of the building permit application. This report is likely to include recommended mitigation measures necessary to protect the facility from seismic activity. Recommended mitigation measure GEO-7 (at page 4.2-13), for example, states that the project will comply with the Uniform Building Code standards on seismic safety, but also states that more stringent measures may be required due to the site's location near two faults.

Please describe what additional mitigation measures would be required to ensure the facility's safety during the anticipated level of earth shaking, based on measures that may have been required at other similar facilities that have been built nearby, and any adverse effects those measures are likely to have – for example, will facility construction require larger or deeper excavations, and therefore require treatment of higher volumes of contaminated groundwater, or will the facility require a larger amount of paved surface and therefore additional stormwater treatment?

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- 3b) Flooding: The DEIR states that the site is subject to flooding and that additional hydrologic analysis will be needed to determine if the site drains adequately. This analysis would clearly influence the appropriateness of the site for the proposed development. Please provide currently available information about the types and frequency of flooding or high water at and near the site and the types of analysis anticipated to be done. Please also describe the types of mitigation measures that would likely be necessary to prevent flood or high-water related impacts.

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Additionally, the DEIR states that the Orange County Flood Control District will be placing sheet-piles along the flood control channel adjacent to the proposed project site. Please describe the purpose of this project, their relationship to the proposed development, the impacts they are meant to address, and the mitigation measures that may be needed as a result of these sheet-piles, especially as they relate to the proposed project and its site.

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4) **Alternatives Analysis:**

The DEIR's discussion of alternatives presents several options for alternative sites, desalination methods, or different locations of various elements of the proposed project; however, it does not evaluate possible alternative sources of water that might be available to meet all or most of the project objectives. The current proposed source of water may involve significant adverse impacts to marine organisms and water quality, and there are likely other water sources available that would result in no impacts to these coastal resources, and fewer impacts overall.

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Subsequent environmental documents should evaluate the availability of all water supplies in the region against demand to document the shortage and/or surplus in the various areas and how this proposed project would affect that balance. Section 3.5 of the DEIR discusses some of the local and regional water demands and supplies, but does not adequately discuss other sources of water, such as groundwater, reclaimed water, or conservation that may be available throughout the region to be served, and whose use could result in fewer adverse impacts to coastal resources. For example, it states that the "Southern California Integrated Water Resources Plan" has identified 80 projects providing over 150,000 AF/year to the region and another set of projects with the potential to provide as much as 800,000 AF/year. The proposed desalination facility would produce about 150,000 AF/year, but would result in impacts to ocean water quality and marine resources not likely to occur with the other projects identified above. The DEIR should compare the benefits and effects of projects such as those in the above-referenced plan with the benefits and effects of the proposed desalination facility.

5) *Growth-inducing Impacts:*

Our comments on the NOP requested that the EIR include a thorough examination of growth-inducing impacts. The NOP stated that the proposed project was "intended to supplement existing Orange County water supplies and is not intended to foster additional growth or accelerate growth. However, depending on the ultimate destination of the project's water supply, provision of additional potable water may lead to growth-inducing impacts."

The purpose or scope of the proposed project has apparently changed. The DEIR states that the desalination water made through the project will be available throughout the South Coast Hydrologic Region, which stretches from northern Ventura County to San Diego. The DEIR also reiterates the statement in the NOP that the facility may or may not induce growth, depending in part on its final end-users.

For purposes of both CEQA and conformity to the Coastal Act, subsequent environmental documents should provide additional specific information about the proposal's possible growth-inducing impacts. For purposes of determining conformity to the Coastal Act, we are particularly interested in those impacts in coastal areas. For example, please provide information about how water produced at the desalination facility will be allocated to various water purveyors, or if that has not yet been determined, how those decisions will be made. Also, please identify, if known, how the water supply provided to various purveyors will be tied to approved growth-related plans in the various service areas – for example, will allocations be limited in some way depending on the plans in place?; what degree of public review and oversight will be available for both the facility's operations and the allocation decisions?; etc.

6) *Cumulative Impacts:*

The proposed project would contribute to cumulative impacts at both a relatively localized level as well as a regional level. Regional cumulative impacts are likely to be associated primarily with issues related to growth-inducement, and project alternatives, and may also be associated with water quality, marine biology, and energy impacts.

Regarding cumulative impacts related to growth, the analysis provided in the DEIR is limited to possible impacts in the City and in south Orange County. All but two of the projects listed in the DEIR as possibly contributing to the cumulative impacts of the proposed facility are within one mile of from the facility site. This is clearly inadequate when the proposed facility is anticipated to affect water use throughout the South Coast Hydrologic Region. While we do not believe the DEIR needs to evaluate the potential cumulative impacts of all anticipated projects in the entire region, it should at least assess the cumulative impacts of those projects known to or anticipated to benefit from the increased supply of water, including those that may be some distance from the proposed facility. Additionally, and pursuant to the CEQA Guidelines related to cumulative impact analyses, it should base its analysis on the growth projections in the general plans of those jurisdictions that may be affected by this water supply, and should evaluate feasible options for mitigating these impacts in the affected region. The DEIR states (on page 5-9) that potential cumulative impacts are not being quantified or evaluated because such

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an exercise would be "speculative"; however, it is reasonable and necessary to expect the environmental review for this proposed project to include an evaluation of these impacts and potential mitigation measures based on information in these locally adopted plans. These plans are perhaps as equally "speculative" as an evaluation of cumulative impacts, but they still provide the basis for other similar CEQA-level reviews and permit decisions.

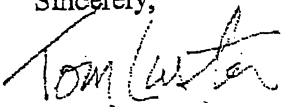
Regarding cumulative impacts associated with project alternatives, please provide an evaluation of the cumulative impacts associated with any alternative sources of water that may be available (per our comments in the Alternatives Analysis section above). For example, if there are sources of water other than ocean water drawn from the HBGS facility that may feasibly supply potable water for the region, the subsequent environmental document should assess the cumulative impacts of those sources compared with this proposed facility.

**Specific Comments:** These comments address specific statements in the DEIR.

- 7) Section 3.5, p. 3-23, Table 3-2: This table shows a recent and an anticipated water budget for the South Coast region for both average and drought years. However, it shows that use during the drought years was generally higher than during average years. Please correct or explain.
- 8) Section 4.3, p. 4.3-12: The DEIR states that salinity modeling is based on a local mean seawater salinity level of 33.5 ppt. Please identify how much this level varies and how that variation affects the results of the various modeling efforts.
- 9) Section 4.3, p. 4.3-18 and 19: This section describes some of the cleaning compounds that may be used at the desalination facility. Table 4.3-2 shows the total discharge of cleaning compounds to be approximately 91,000 gallons, while the text below states that a typical day's cleaning solution would be in the range of 200,000 to 300,000 gallons. Please correct or explain.

Thank you again for this opportunity to comment. Please contact me at (415) 904-5248 or [tluster@coastal.ca.gov](mailto:tluster@coastal.ca.gov) if you have questions or would like additional information.

Sincerely,



Tom Luster  
Environmental Analyst

Cc: Poseidon Resources – Andy Shea  
State Clearinghouse  
Coastal Commission, Long Beach Office – Steve Rynas  
Santa Ana Regional Water Quality Control Board – Mark Adelson

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May 8, 2003

Mr. Ricky Ramos  
City of Huntington Beach Planning Department  
2000 Main Street  
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VIA FACSIMILE (714) 374-1648

RE: Coastal Commission staff review of City's Response to Comments for proposed Poseidon Seawater Desalination Project Draft Environmental Impact Report.

Dear Mr. Ramos:

Thank you for providing the Responses to Comments document of March 21, 2003 for the proposed Poseidon Seawater Desalination Project. The document provides responses to comments the City received on its Draft Environmental Impact Report (EIR) for the proposed project, including comments provided by Coastal Commission staff in a letter dated November 4, 2002. The proposal involves constructing and operating a desalination facility to be located at the Huntington Beach Generating Station (HBGS) in Huntington Beach. A portion of the proposed project is within the City's Local Coastal Plan jurisdiction and will require a coastal development permit from the City. Additionally, part of the proposal is within the Coastal Commission's retained jurisdiction as well as within the Commission's appeal jurisdiction, so it will require additional review and approval by the Commission.

We have several concerns about the responses that we would like you to incorporate into the CEQA review before the City considers adopting a Final EIR for the proposed project. We understand the Planning Commission has scheduled a hearing on the matter for May 27, 2003. Our concerns are based on the level of information needed to review the proposed project's conformity to the Coastal Act as well as to provide adequate evaluation under CEQA. We are especially interested in ensuring this proposal undergoes proper review, since it represents what would be the largest coastal desalination facility in the U.S. and the first one to be reviewed in California for over a decade. To better ensure this environmental review is done comprehensively and efficiently, we recommend the comments below be incorporated into the City's EIR review before the City and the Coastal Commission start their reviews for coastal development permits.

**General Comments:**

The responses in several issue areas do not provide adequate information for reviewing the proposed project for conformity to the Coastal Act, and may not be adequate for review under CEQA. Our primary concerns relate to the EIR's evaluation of the proposed project's biological impacts, the alternatives analysis, growth-inducement, and cumulative impacts.

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One additional area of concern that underlies several of the comments in our November letter regards the applicability of various ordinances, regulations, and laws to this proposed project. The proposal involves using a private entity to produce potable water from a public resource (i.e., seawater), and selling that product to one or more public water districts. Providing a public water supply has, in the past, been done most commonly by public entities. Our concerns in this matter take two forms:

- Whether laws, ordinances, and regulations applicable to public entities providing a water supply apply differently, if at all, to private water suppliers. Public water districts are subject to a number of requirements that are based in part on their characteristics as public agencies. For example, rates are set for public water districts based largely on the operational and maintenance costs of providing a public service, not on profitability. Additionally, the Coastal Act includes several policies with provisions or requirements for public works facilities, but not for similar "private works facilities." We recommend the EIR provide an analysis of this issue to ensure that anticipated regulatory requirements and mitigation measures would indeed apply to this proposed project. Of course, a more fundamental question to be asked and answered outside the context of CEQA is whether privatizing water supplies is sound public policy.
- Whether international trade law adversely affects the ability of state and local jurisdictions to regulate proposals such as this. Recent decisions by international trade tribunals and other developments in international trade law raise concerns that private companies operating internationally may not be subject to state or local environmental regulations if those regulatory actions interfere with profitability. For example, a company may argue that producing and selling water in California includes restrictions, such as flow limits, mitigation requirements, or compliance with Coastal Act resource protection policies, that are not required in other countries where the company produces and sells water, and that these restrictions adversely affect profitability. Such an argument could limit or eliminate state and local environmental protection requirements, and may abrogate many of the mitigation measures identified during environmental review. We therefore recommend the City consider how international trade agreements, treaties, and laws may apply to this proposal, and whether anticipated environmental mitigation measures could be compromised.

Attached is a copy of a presentation given to the Coastal Commission in February of this year regarding Coastal Act policies that may apply differently to public and private proposals. The City may wish to evaluate its own Local Coastal Plan policies and other applicable City ordinances in a similar manner and include the evaluation as part of the EIR.

Please also note that at several places in our November comment letter, we requested additional information be provided in "subsequent environmental documents". This was meant to refer to subsequent CEQA-related documents to be developed as part of the City's CEQA review, such as a supplemental EIR, an addendum, or other similar documents.

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Specific Comments:

- Water Quality and Marine Biological Resources: Our comment letter requested that the EIR include additional information about the proposed project's impacts on biological resources. We note that several other federal and state regulatory agencies (including the U.S. Fish and Wildlife Service, California Department of Fish and Game, the Regional Water Quality Board, and the State Lands Commission) also stated in their comment letters that the DEIR did not adequately address various aspects of the proposed project's impacts to biological resources. However, rather than make changes to the analyses based on comments from these agencies, the "Responses To Comments" document largely re-iterates what was stated in the DEIR.

There are a number of assumptions used in the EIR analysis that do not appear to accurately reflect conditions at the project site or characteristics of the existing and proposed facilities; therefore, the EIR's determination that there are no significant impacts to marine resources may not be accurate. We have provided more detailed comments on this issue below.

- Entrainment: Our comment letter stated that results of the HBGS entrainment study would be needed to identify the existing level of impacts to marine biological resources and to help determine impacts of this proposed project. Our letter also cited the City's LCP Policy 6.1.19, which requires mitigation be identified before approving any new or expanded seawater pumping facilities. The City's response to our comments states that the project would not result in increased entrainment, entrapment, or impingement of marine organisms, and that results of the study would therefore not be necessary. We disagree, for several reasons:
  - o First, the DEIR appears to base its assumptions about entrainment impacts on the permitted water use at HBGS rather than actual use. We note that several recent CEQA-equivalent analyses by the California Energy Commission to review proposed changes to coastal power plants have used as their baseline the actual amount of water used by a power plant, rather than the maximum permitted amount. This approach provides a more accurate assessment of existing versus proposed conditions and meets the CEQA requirement to establish baseline levels by determining the actual, existing environmental conditions at the time of review. The EIR analysis should therefore be based on the actual amount of water used at the power plant during a recent representative period of time, and the analysis should compare this rate and pattern of use with the water use anticipated for the desalination facility.
  - o Next, the DEIR states that the desalination facility would not increase entrainment over that caused by the power plant because some of the power plant's pumps would be used to circulate water for use by the desalination facility even when the power plant was not generating electricity. While this measure might reduce the difference between the rates of entrainment caused by either process, it does not provide the level of information needed to determine entrainment impacts for either facility. Without additional detailed information about each facility's pumping rates, the relationship between water use for power generation and for desalination (e.g., the

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timing and rate of desalination operations during power plant shutdown, long-term operation of the desalination facility without power production, etc.), and the different entrainment effects that may result from power generation and desalination, we are unable to determine whether entrainment rates would increase, decrease, or remain the same.

- o Additionally, the entrainment study currently underway for the power plant is meant to not only determine entrainment impacts but to identify what mitigation measures are available and necessary if the study results show significant impacts. The study could therefore result in mitigation measures that might require structural or operational changes to the once-through cooling system affecting both the power plant and the desalination facility. Since part of the purpose of CEQA review is to identify significant impacts and available mitigation, we believe it is necessary to include the results of the entrainment study as part of the review for the proposed desalination facility.
- o Finally, we note that the California Energy Commission (CEC) and the Regional Water Quality Control Board (RWQCB) will use the results of the entrainment study to help determine whether alternative cooling systems may be feasible and necessary at the power plant. The CEC recently provided a 10-year certification for the power plant, and the power plant's NPDES (National Pollutant Discharge Elimination System) permit is subject to review and renewal by the RWQCB every five years. Since alternatives to the existing cooling system such as dry cooling, wet-dry cooling, and others will likely be considered during these upcoming reviews and within the approximate 20-year planning horizon of this CEQA analysis, the EIR should evaluate the effect that selecting a cooling system other than once-through cooling would have on the desalination facility, and should also evaluate the effect the presence of an existing desalination system might have on the choice of alternative cooling systems.

The issues and concerns above regarding marine biological resources and entrainment should also be incorporated into the EIR's cumulative impacts analysis. This issue is of particular concern because the offshore waters that would serve as both source and receiving waters for the facility are subject to significant ongoing stresses that adversely affect water quality and biological resources. Additional adverse effects related to entrainment or brine discharges may exacerbate these existing adverse conditions.

Modeling water quality and biological impacts: The EIR needs to include more detailed information about the modeling and assumptions used to develop and evaluate the "worst-case" scenario for impacts to water quality and marine biological resources. The modeling results provided show increased salinity extending over up to several hundred acres of water surface and benthic habitat. While the EIR points out that part of this increase is within the natural range of variability in seawater, it does not describe how that variation correlates seasonally or with ambient ocean conditions in the vicinity of the discharge, and does not describe the effect an ongoing increased salinity discharge would have on marine organisms that would otherwise experience seasonal or ambient conditions. Additionally, the modeling identifies an impact that may be significant and

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that would occur over a relatively large area, but does not evaluate mitigation measures to avoid or minimize that impact, such as structural or operational changes to the facility's outfall. We recommend these be included in the EIR.

- Lack of site-specific or general information: We also requested that the EIR include information about the impacts of other similar desalination facilities and mitigation measures used at those facilities. We believe this would help determine whether there were issues or knowledge gained elsewhere that might be applicable to the proposed project. The City's response states that this information is not necessary. However, we refer back to our concerns mentioned above about another of the City's responses, which stated that the findings of the current entrainment study are not needed, either. We are therefore left with no recent, applicable data about the effects of desalination facilities in general, or about this proposed facility in particular. The absence of one set of these data may be acceptable, but the absence of both provides very little credible information on which to base the CEQA analysis.
- Inadequate Alternatives Analysis: There are likely several reasonable and feasible alternatives that have not yet been incorporated into review of the proposed project, and that will be needed both for completeness under CEQA and for conformity to Coastal Act policies. In our November comment letter, we requested additional alternatives analyses be done that identified other sources of water that might be used to provide drinking water. In its response, the City stated that alternatives were not needed because the use of ocean water would not cause significant impacts. However, based on our concerns about entrainment and water quality mentioned above, we believe the City should reconsider this position, since the proposal may indeed result in significant entrainment impacts.

The City also stated that other water sources were not being considered because part of the project purpose is to provide a reliable local source of drinking water, and that sources such as reclaimed or recycled water were not considered local since they were derived from imported water or groundwater. We note, however, that the recent Metropolitan Water District (MWD) document, "Report on Metropolitan's Water Supplies" (March 25, 2003) considers recycled water as a local water source. Since the proposed facility is within the MWD service area, and is subject in part to MWD planning projections, we believe it would be reasonable to define the sources of supply consistent with the definitions used by MWD. This approach would allow for an adequate alternatives analysis under CEQA and would also allow for consideration of recycled or reclaimed water sources that may have fewer adverse environmental impacts. Even if seawater were to be the only water source evaluated, there are several methods of using seawater, such as beach wells, covered intakes, etc., that would avoid or reduce what may be significant levels of entrainment caused by using a once-through ocean water cooling system. While these alternatives may require that new structures be built or existing structures be modified, the construction-related impacts may be relatively short-term and minimal compared to the ongoing adverse entrainment effects that may occur. We therefore recommend the EIR provide additional evaluation of these or other similar alternatives.

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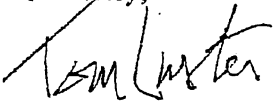
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- Inadequate Analysis of Growth-Inducement: The EIR does not provide adequate information about the known or likely use of the water to be produced by the proposed facility; therefore, it is not possible to adequately evaluate the growth-related or cumulative impacts of that use. Regarding growth-inducement, CEQA requires a discussion of how the proposed project could foster growth. The analysis should, at the very least, include information about where the produced water is either known to be going (due to existing contracts to purchase the water) or is likely to go (based on the economics of producing and transporting water from coastal, low-elevation Huntington Beach to other locations in the water supply service area). The analysis should also evaluate effects of the potential growth on the resources of the surrounding area, pursuant to the CEQA guidelines, and should also address the impacts of that growth on coastal resources, as required by the Coastal Act.

In closing, we recommend that these concerns be incorporated into either a Final or Supplemental Draft EIR before review begins to determine the proposed project's conformity to the Coastal Act. Thank you for the opportunity to comment, and please feel free to contact me at (415) 904-5248 or [tluster@coastal.ca.gov](mailto:tluster@coastal.ca.gov) if you have any questions.

Sincerely,



Tom Luster  
Energy and Ocean Resources Unit

Cc: Poseidon Resources – Billy Owens  
U.S. Fish & Wildlife Service – Jonathan Snyder  
CA Dept. of Fish & Game – William Paznokas  
Regional Water Quality Control Board, Santa Ana Region – Mark Adelson  
State Lands Commission – Jane Smith

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by

## CALIFORNIA COASTAL COMMISSION

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July 7, 2003

VIA FACSIMILE (714) 374-1648

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

RE: City of Huntington Beach Review of Proposed Poseidon Desalination Facility

Dear Commissioners:

I have been asked to respond to several questions about the City's review of the proposed Poseidon desalination facility as it relates to Coastal Act and related CEQA requirements. The main questions relate to the overall scope of the Environmental Impact Report (EIR) and its adequacy in addressing elements of the proposed project that would affect coastal resources. Our primary concern, as expressed below and in comment letters provided earlier during the CEQA review process, is that the EIR does not yet adequately describe the proposed project's impacts to coastal resources and the mitigation measures that may be necessary to address those impacts. We believe, therefore, that the EIR does not yet provide an adequate basis for making a decision about the proposal's conformity to the City's Local Coastal Program (LCP) or the Coastal Act. This letter discusses several, but not all, of our concerns about the currently inadequate EIR and recommends that the City significantly revise several sections of the EIR before adopting it as final.

Part of our interest in this proposed project and in having the CEQA work done adequately is that the proposal would be the first coastal desalination plant in California in about a decade, and would be the largest coastal desalination facility in the U.S. Given its location in California's coastal zone and its potential to cause significant impacts to coastal resources, we believe the CEQA review should be thorough enough to adequately inform decision-makers about the proposal's conformity with applicable policies of the City's LCP and the Coastal Act. To reflect that interest, Coastal Commission staff previously provided comments during several stages of the City's CEQA review, including a June 14, 2001 letter in response to the City's Notice of Preparation, a November 4, 2002 letter on the Draft EIR, a May 8, 2003 letter regarding the Response to Comments, and a June 3, 2003 in response to requests from several Planning Commissioners. The comments focused on elements of the proposed project that will need to be evaluated during the coastal development permit review by both the City and the Coastal

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Commission.<sup>1</sup> This letter expands on a number of the comments we provided previously, including those related to growth-inducement, entrainment, project and mitigation alternatives, and the ability of state and local agencies to adequately regulate the proposal. We have also been asked to address the scope of the City's role as lead agency in review of the project.

**Extent of CEQA review:** There have been several questions about the jurisdictional scope of the City's CEQA review and about whether the City, as lead agency, needs to consider project impacts or mitigation measures outside of its jurisdiction. The CEQA statute and guidelines are very clear in establishing that a lead agency is to review a proposed project in its entirety, without limiting its review to the particular jurisdiction of that agency. For example, the CEQA definition of "lead agency" makes no distinction about only reviewing aspects of the proposal within the agency's jurisdiction; in fact, the lead agency is required to consult with other agencies that have jurisdiction over parts of the proposal and incorporate their concerns and recommendations into its review.<sup>2</sup> If lead agencies were required to address only those issues within their jurisdiction, many proposed projects would be reviewed under a number of separate EIRs produced by several different agencies, which is clearly not the case.

One example with this proposed project of an element that may be outside the City's jurisdiction but within the City's responsibility as lead agency is "growth-inducement". In our previous comment letters, Coastal Commission staff requested the EIR include a more thorough analysis of the growth-inducing effects of the proposed project. However, the discussion of growth-inducement in both the EIR and the Response to Comments is inadequate, in that it only describes the 50 million gallons per day of water to be provided by the facility as being used as part of the overall water supply for somewhere in Orange County or Southern California. Apparently, the City has been informed that the applicant has contracted to provide half of the produced water to the Santa Margarita Water District. At the very least, the EIR should evaluate the growth-inducing effects of these 25 million gallons per day on the Water District's service area, and should also determine where the remainder of the water will be sent and its anticipated growth-inducing impacts. Even if the contract includes conditions (which is a normal aspect of contracts), it is reasonable to assume that the water is meant to be provided to the Santa Margarita Water District and therefore risks above the level of being speculative. Additionally, this information about growth-inducement will be needed as part of the Coastal Commission's permit review.

<sup>1</sup> *Note:* Part of the proposed project is within the retained jurisdiction of the Coastal Commission and will require a coastal development permit from the Commission. Portions of the proposal are also within the Commission's appeal jurisdiction; therefore, the City's decision as to whether or not to issue a coastal development permit may be appealed to the Commission.

<sup>2</sup> Section 21067 of the CEQA Statute defines "lead agency" as meaning "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment". Other sections of the CEQA Statute and Guidelines identify the lead agency's obligation to coordinate with other agencies with jurisdiction, to adequately incorporate the concerns and responsibilities of those agencies, and to produce an environmental document that adequately assesses the proposed project's environmental effects and necessary mitigation measures.

**Entrainment:** The proposed project, in and of itself, would result in entrainment and mortality of marine organisms at what could be significant adverse levels of impact beyond what is caused by the power plant; however, this is not addressed in the EIR. Information about entrainment caused by the desalination facility is needed as part of the EIR for several reasons – first, to determine the effects of the facility on the marine environment; next, to identify mitigation measures that may be necessary to address those effects; and finally, for both the City and the Coastal Commission to determine whether the proposal conforms to policies of the City's Local Coastal Program and the Coastal Act. The analysis needed in the EIR to determine conformity to these policies is separate from any requirements under the federal Clean Water Act or state water quality standards.

The City's LCP Policy 6.1.19 states:

*"Prior to approval of any new or expanded seawater pumping facilities, require the provision of maximum feasible mitigation measures to minimize damage to marine organisms due to entrainment in accordance with State and Federal law."*

Sections 30230 of the Coastal Act states:

*Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Section 30231 of the Coastal Act states:

*The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

The proposed facility includes new seawater pumping facilities (see, for example, Exhibit 3 in the Draft EIR); therefore, the above LCP policy applies to the proposal. However, neither the EIR nor the CDP Staff Report identify the entrainment effects associated with new seawater pumping or the mitigation measures needed to minimize those effects. In fact, the EIR analysis erroneously assumes that any entrainment mortality that would be associated with the desalination facility is already occurring due to power plant operations. In the City's Response to Comments (issued March 21, 2003, p. 8), the City stated: "No increase in entrainment or impingement of marine organisms would occur upon project implementation, as project operation would not result in an increased intake of ocean water through the AES intake

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structure. The desalination facility would divert ocean water for desalination subsequent to its use as cooling water by the AES Generating Station." However, in the Errata section of the same document, the City adds the following to the EIR: "It should be noted that the proposed project would utilize pumps circulating a total of 126 mgd. These pumps would operate constantly and would be independent of the AES Generating Station. Should the AES facility cease to operate, the proposed desalination facility would continue to produce and distribute potable water."

The proposed desalination facility would cause entrainment mortality when it operates while the power plant is not generating electricity. Although the desalination facility is tied closely to the power plant, there are likely to be times when maintenance requirements or market conditions would cause the power plant to shut down, and entrainment mortality occurring during those periods would be due largely to desalination. During those periods when the power plant is not producing electricity but is only running its circulation pumps, the entrained organisms are not likely to experience the same mortality rates since they will not be subjected to the higher temperatures and pressures that occur during power generation. However, the desalination process itself will cause entrainment mortality and without the results of an appropriate entrainment study, it is not possible to determine the type and scope of those impacts or the mitigation that may be needed, nor is it possible to ensure compliance with CEQA or applicable LCP or Coastal Act requirements. Therefore, the characterization in the EIR that there would be no change or increase in entrainment is in error, and the document does not include the analysis necessary to conform to CEQA or the LCP and Coastal Act sections cited above.<sup>3</sup>

To address this inadequacy, at the very least, the City needs to include in the EIR the results of an entrainment study describing the entrainment and water quality impacts associated with the proposed use of 126 mgd of ocean water, and describes the maximum feasible mitigation measures to minimize these entrainment impacts. The entrainment study being implemented by AES, due to start later this month, will likely be adequate for purposes of the EIR. Although the study results will not be available for approximately 14-16 months, they are necessary as part of the EIR's environmental review. [Note: We first identified the need for this type of information in our comment letter on the City's NOP in June 2001. At any time, the City or the applicant could have initiated the entrainment study on its own rather than wait for the AES study to be concluded.]

Results of this study are of particular interest for this proposed project because entrainment data have never been collected at AES Huntington Beach. Information provided previously about entrainment at the facility is based on data collected in the late 1970s from other power plants along the coast. Therefore, absent the results of the study about to be initiated (or a similar study using the same protocols), there is no recent, local, and scientifically valid data about the likely entrainment impacts that would result from the desalination facility, and therefore no way to determine conformity to CEQA, the LCP, or the Coastal Act.

<sup>3</sup> We note further that the EIR does not adequately describe the relationship between AES and Poseidon, either as it relates to operation of the power plant and desalination facility or as it relates to any leases or contracts between the two parties. As part of the application for a coastal development permit from the Coastal Commission, the applicant (Poseidon) will need to provide documentation of the underlying landowner's approval, along with any conditions of that approval that may affect operations.

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**Project and Mitigation Alternatives:** The discussion above on entrainment impacts and mitigation measures that may be necessary to address those impacts leads to consideration of alternatives. Without the results of the entrainment study, the EIR cannot adequately address alternatives that may be necessary to mitigate entrainment impacts. The current EIR dismisses the necessary alternatives analysis because of its conclusions that there would be no increase in entrainment. As shown above, this conclusion is not yet timely and may be erroneous. Therefore, along with incorporating the results of the entrainment study and determining whether there are significant adverse entrainment impacts, a revised EIR would need to evaluate whether there are feasible alternatives that would avoid or reduce those significant impacts. Again, this cannot be done before the entrainment study is completed, but would likely require consideration of alternatives that could significantly alter the proposal, including using recycled water, siting the facility or pipelines in different locations, and others.

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**Applicability and enforceability of local and state requirements:** One important part of CEQA review is to identify the regulations that would apply to a proposed project. In a previous comment letter, we identified two specific concerns about this issue:

- Whether laws, ordinances, and regulations applicable to public entities providing a water supply apply differently, if at all, to private water suppliers; and,
- Whether international trade law adversely affects the ability of state and local jurisdictions to regulate proposals such as this.

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Even though these issues may not be entirely within the City's jurisdiction, they are within the City's responsibility as CEQA lead agency, since the answers to the questions raised will affect how and whether the proposed project's environmental effects are regulated.

Regarding the first issue, the Coastal Act includes several policies that differentiate between public and private entities. We therefore again request that the EIR provide an analysis of this issue to ensure that the regulatory requirements and mitigation measures described in the document would indeed apply to this private proposal. Concerning the second issue, because of recent trade agreements and decisions by international trade tribunals, there is some question as to how and whether local and state regulations apply to private entities operating in the international arena. We again request that the EIR include an evaluation of how international trade agreements, treaties, and laws may apply to this proposal, and whether anticipated environmental mitigation measures could be compromised.

**Closing:** In summary, the existing EIR and the Response to Comments are not adequate for CEQA, nor are they adequate to determine whether the proposal conforms to applicable LCP or Coastal Act policies. To address these shortcomings, we recommend the City revise the EIR to include the assessments described above. We also request that the City re-open the comment period for the EIR so that we may provide further comments on these and other areas of concern. Finally, we refer the City to our previous comment letters for more details on the issues raised in this letter as well as other issues raised about the adequacy of the EIR.

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*Comments to Huntington Beach Planning Commission re: Poseidon Desalination EIR*  
*July 7, 2003*  
*Page 6 of 6*

Thank you for attention to these issues. I hope this is helpful in your deliberations. Please feel free to contact me at (415) 904-5248 or at [tluster@coastal.ca.gov](mailto:tluster@coastal.ca.gov) if you have questions.

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Sincerely,

Tom Luster  
Energy and Ocean Resources Unit

Cc: Poseidon Resources – Billy Owens  
Department of Water Resources – Jonas Minton, Chuck Keene  
Coastal Commission, Long Beach Office – Steve Rynas

## CALIFORNIA COASTAL COMMISSION

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December 8, 2003

Mr. Howard Zelefsky, Planning Director  
City of Huntington Beach  
200 Main Street  
Huntington Beach, CA 92648

**RE: Comments on the City of Huntington Beach Environmental Impact Report (EIR)  
for the Proposed Poseidon Desalination Facility**

Dear Mr. Zelefsky:

I am writing regarding the City's environmental review of the desalination facility being proposed by Poseidon Resources. I received a copy of your November 17, 2003 memo, Interoffice Communication from the City's Planning Department to the Mayor and City Council Members, which was written in response to concerns expressed by California Energy Commission (CEC) staff about the analysis of the proposed project in the City's EIR. I wish to provide some comments regarding three of the issues raised by the Planning Department's memo. These comments are meant to help ensure the City's decision conforms to the California Environmental Quality Act (CEQA) and applicable provisions of the City's Local Coastal Program and the Coastal Act. I am also providing copies of this letter to members of the Huntington Beach City Council to use in their deliberations on this proposed project.

This letter does not address each as-of-yet unresolved concerns we have with the EIR as expressed in our previous comment letters, but focuses on three points raised in your recent memo:

- First, the EIR does not use an appropriate baseline to establish the existing marine biology and water quality conditions at the site;
- Second, the EIR's use of the maximum allowable water volume described in the NPDES permit for the associated power plant does not equate to CEQA's requirement to base impacts on existing physical conditions at the site; and,
- Third, regardless of the City's eventual position on the above two points, the current version of the EIR is not adequate to determine whether the proposed project will conform to applicable provisions of the City's Local Coastal Program and the California Coastal Act.

Each of these three points is discussed in more detail below. We raised similar concerns in several comment letters we sent earlier during the EIR process, many of which highlighted inadequacies in the EIR that create what is likely a substantial understatement of the proposed project's impacts to marine life and water quality and result in insufficient information for decision-makers.

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- 1) **The EIR does not use an appropriate baseline to establish the existing marine biology and water quality conditions at the site.**

The EIR bases its analysis and its determination of no significant adverse impacts to marine biology and water quality on the review done by the RWQCB during renewal of the power plant's National Pollutant Discharge Elimination System (NPDES) permit in June 2000. The RWQCB used a 1983 entrainment study as the basis for its NPDES decision. CEQA allows EIRs in some circumstances to use for baseline conditions the levels of impact identified in previous CEQA reviews. Your memo cites *Fairview Neighbors v. County of Ventura* as supporting this approach.

However, because NPDES permit review is exempt from CEQA, it is not appropriate in this case to use it to establish baseline conditions. The NPDES permit review, pursuant to federal and state water quality standards, is meant primarily to determine whether the existing once-through cooling system at the power plant provides the "Best Technology Available" for power plant cooling. Section 15263 of the CEQA Guidelines specifically exempts NPDES permits from undergoing CEQA review (except in the case of new sources, which does not apply at the AES Huntington Beach facility). This determination that NPDES review is CEQA-exempt, and that it involves a different type of review than the review required under CEQA, is further supported by the recent decision in *City of Burbank vs. State Water Board*<sup>1</sup>.

If the City wishes to use an acceptable previous review in the EIR, it would be more appropriate to use the CEC's more recent review from May 2001, which was done as part of the CEC's Application for Certification (AFC) process used to review proposed new power plants and power plant upgrades. Section 15251 of the CEQA Guidelines designates the review that occurs during this AFC process as "CEQA-equivalent", and the CEC process incorporates elements of CEQA review not required during NPDES permit review. In its CEQA-equivalent review, the CEC determined that the entrainment data at the facility were out-of-date, and required the power plant owner to perform a new entrainment study, which is currently underway<sup>2</sup>.

The CEC's reasons for requiring an updated entrainment study are the same as the reasons these study results are needed for the City's current CEQA review – to incorporate relevant and necessary information about existing conditions at the project location, to determine whether the proposed project will cause impacts, and to determine

<sup>1</sup> From p. 20-21 of the decision: "We conclude that Water Code section 13389 not only relieves Regional Board of the requirement to prepare an EIR or cause an EIR to be prepared (pub. Resources code, § 21100, subd. (a)), but also relieves Regional Board of those CEQA obligations that ordinarily are satisfied through preparation and consideration of an EIR, including the obligation to consider potential environmental impacts, project alternatives, and mitigation measures."

<sup>2</sup> The usual CEC review process, as evidenced in the recent Moss Landing and Morro Bay power plant proceedings, is to require up-to-date entrainment data be provided before a permit decision is made. The CEC's review of the AES power plant was done under a special emergency provision meant to expedite decision-making during the Governor's declaration of a state energy crisis, and is the only recent proceeding in which the CEC allowed a required entrainment study to be completed after its decision.

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what mitigation measures may be necessary to address those impacts. By not using the more recent and CEQA-equivalent CEC review, the EIR is likely providing inadequate information for decision-makers and likely understating the impacts of the proposed project.

- 2) **The EIR's use of the maximum allowable water volume described in the power plant's NPDES permit does not equate to CEQA's requirement to base impacts on existing physical conditions at the site.**

Section 15125(a) of the CEQA Guidelines states:

*"An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant."*

In addition to the NPDES permit review not providing the necessary CEQA-equivalent basis for the EIR, the maximum allowable flow established in the NPDES permit does not represent actual site conditions. The EIR uses for its baseline the maximum allowable flow permitted in the power plant's NPDES permit (517 million gallons per day). However, the power plant has rarely operated at that maximum level and has generally operated for the past several years at levels far below that maximum (averaging around 250 million gallons per day). This period of lower flow operations coincides with the time of the City's environmental analysis for the proposed desalination facility. Therefore, for this EIR, it is not appropriate to use the NPDES permitted maximum as the baseline, since that does not represent actual conditions at the site.

We recognize, as noted in your memo, that there are various court decisions regarding how baseline conditions are to be determined for analysis under an EIR, and we also recognize that countervailing decisions on this issue are based largely on how the CEQA Guidelines apply to the particular facts of a proposed project. *Fairview* is one, as is the more recent decision on *Save Our Peninsula Committee v. Monterey County Board of Supervisors*, which discusses several of the factors to consider when establishing baseline conditions, including the recency of data and the use, where available, of documents and records showing actual rates of use.

For this proposed desalination facility, it is clear that the facts support a characterization of existing site conditions based on far lower power plant operations than are described in the EIR and more recent entrainment data than are provided in the 1983 study. Without a more accurate description of the power plant's operational characteristics, and without a clear understanding of how the desalination facility operations will affect or will be affected by power plant operations, it is not possible to determine from the EIR what adverse effects may result and what mitigation measures may be needed.

cg

ch

Additionally, the EIR assumes that the desalination facility will not change power plant operations, and will therefore cause no additional entrainment beyond what would be caused by the power plant operating alone. As a result of this assumption, the EIR does not evaluate, as it should, how the high daily and seasonal variability of power plant operations will interact with the proposed "steady-state" flow of 100 million gallons per day proposed for desalination operations<sup>3</sup>. The contradictory statements in the City's record regarding this operating relationship make it impossible to tell whether this assumption is correct. For example, the EIR describes the desalination facility as using heated water from the operating power plant after it passes through the plant's condensers; the EIR's Errata section states that the facility would operate constantly and be independent of the power plant operations; and most recently, your November 17 memo states that the facility would shut down when the power plant pumps shut down. Each of these scenarios could result in a very different range of adverse entrainment effects, but the EIR does not include an adequate analysis of any of the scenarios.

ch

**3) The current version of the EIR is not adequate to determine whether the proposed project will conform to applicable provisions of the City's Local Coastal Program and the California Coastal Act.**

Finally, regardless of the City's eventual decision regarding the two points above, the EIR in its current form is inadequate for determining conformity to at least one provision of the City's Local Coastal Program (LCP) and two provisions of the Coastal Act, all of which apply to the proposed project. Policy 6.1.19 of the City's LCP states "Prior to approval of any new or expanded seawater pumping facilities, require the provision of maximum feasible mitigation measures to minimize damage to marine organisms due to entrainment in accordance with State and Federal law." The EIR clearly shows that the proposed project, a seawater desalination project, will require new seawater pumps. Additionally, Sections 30230 and 30231 of the Coastal Act, require, in part, that proposed projects restore the marine environment where feasible, and minimize the adverse effects of entrainment<sup>4</sup>.

ci

<sup>3</sup> We note, for example, that the environmental analysis of the country's only other recent large-scale desalination facility co-located with a power plant (in Tampa Bay, Florida) estimated there would be an entrainment increase of between two and seven percent. These facilities likely have a different operating relationship than the one proposed between the AES Huntington Beach plant and the desalination facility, so while the actual change in entrainment in Huntington Beach is likely to be different, the review done in Tampa shows, at the very least, that assuming no entrainment increase may not be accurate.

<sup>4</sup> Coastal Act Section 30230: "Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes."

Coastal Act Section 30231: "The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams."

As noted above, the EIR's determination that the desalination facility will cause no additional impacts to water quality or marine biology beyond those caused by the power plant is based on inadequate data and analysis. Minimizing entrainment impacts, as required in the policies cited above, first requires knowledge of what those impacts are. For the CEQA evaluation of this project proposing to use a large amount of water from the impaired ocean waters off of Huntington Beach, relying on data over twenty years old does not provide that knowledge – it is as if one were depending on a twenty-year old termite inspection report to determine if a house has termites.

As stated earlier in this letter and in previous EIR comment letters to the City from Coastal Commission staff, current entrainment data will be needed during review of the proposed project's coastal development permit applications to the City and to the Coastal Commission. We also note that the state regulatory agencies participating in the recently completed Desalination Task Force convened by the Department of Water Resources agreed that the environmental review for proposed desalination facilities needed to include up-to-date entrainment data<sup>5</sup>.

The EIR's current determination that updated entrainment data are not needed has at least two consequences – first, it does not provide adequate assurance that the project will conform to the City's LCP and to the Coastal Act; and second, it does not allow the results of the study to be used as they are intended to be used – to allow decision-makers to determine whether the project will result in adverse impacts and whether design changes or mitigation measures will be needed to address those impacts. There is no benefit, therefore, in certifying the EIR without this information, since it is part of the substantial evidence needed by decision-makers to make an adequately informed decision.

In closing, we recommend the City not certify the EIR at this time. We instead recommend that, at the very least, the City incorporate updated entrainment data into a revised EIR. This would better allow the environmental review to conform to the applicable provisions of CEQA, the Coastal Act, and the Local Coastal Program, and perhaps more importantly, ensure that impacts of the proposed project are adequately addressed.

Sincerely,

Tom Luster

Cc: City of Huntington Beach City Council members  
Poseidon Resources – Mr. Billy Owens  
California Energy Commission – Mr. Terry O'Brien  
Santa Ana Regional Water Quality Control Board – NPDES Unit

<sup>5</sup> See the Task Force's Final Report at: <http://www.owue.water.ca.gov/recycle/desal/desal.cfm>

## CALIFORNIA COASTAL COMMISSION

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June 14, 2001

Ms. Mary Beth Broeren  
City of Huntington Beach Planning Department  
2000 Main Street  
P.O. Box 190  
Huntington Beach, CA 92648

RE: Comments on "Notice of Preparation" of Draft EIR for Proposed Poseidon Seawater Desalination Plant

Dear Ms. Broeren:

Thank you for the opportunity to comment on the above-referenced Notice of Preparation (NOP) as required by the California Environmental Quality Act (CEQA). The NOP is for a proposed 50 million gallon per day reverse osmosis (RO) seawater desalination plant and associated water transmission pipelines. The facility is to be located at the AES Huntington Beach Generating Station (HBGS) in the City of Huntington Beach.

Based on the information in the NOP, it appears that the facility is proposed to be located at one of two alternative sites, both within the jurisdiction of the City's Local Coastal Plan, and will therefore require a coastal development permit from the City. However, the proposed project also involves discharge of brine into the Pacific Ocean, which is within the retained jurisdiction of the Coastal Commission. This proposed discharge constitutes development as defined in Section 30106 of the Coastal Act<sup>1</sup>, and therefore, the discharge will require a permit from the Commission.

The comments in this letter are focused on aspects of the proposed project that may affect coastal resources. Those comments having to do with the proposed discharge are meant to allow the information produced during the City's CEQA process to be used in the Commission's review of the proposed discharge and its conformity with the Coastal Act. We have also included recommendations on other parts of the proposal for the City to use in its permit review process.

In addition to our interest in this specific proposal, the Commission has an ongoing interest in desalination as a coastal-related issue. In 1993, the Commission published a report, "Seawater Desalination in California" which compiled information about desalination facilities in the state, the likely impacts of those facilities on coastal resources, and the policies of the Coastal Act that apply to these types of facilities. We have attached a copy for your review, and we recommend that applicable information in this report be used in your CEQA review.

<sup>1</sup> "Development" means, on land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste..."

ck

**General Comments:**

Development in the coastal zone must conform to the policies and standards of the California Coastal Act, and as applicable, the local jurisdiction's certified Local Coastal Plan. We concur with the need to evaluate the issues identified in the NOP, including the requirement to evaluate known or likely indirect, cumulative, or growth-inducing impacts of the proposal.

cl

The EIR should include a thorough evaluation of growth-inducing impacts. The NOP states that the proposed project "is intended to supplement existing Orange County water supplies and is not intended to foster additional growth or accelerate growth. However, depending on the ultimate destination of the project's water supply, provision of additional potable water may lead to growth-inducing impacts" (NOP, p. 9).

The proposed project would provide 50 million gallons per day of additional potable water. This is apparently in the upper size range of desalination facilities around the world. It is unclear how this water would be used and how it will supplement existing supplies without fostering additional growth. This issue should be evaluated thoroughly to determine the types and extent of potential growth-inducing impacts. The DEIR should also identify any long-term commitments made or proposed to provide water to specific entities. The assessment of growth-inducing impacts should also describe current or feasible measures that would reduce or eliminate the need for this facility. This should include mitigation measures such as conservation and reclamation, growth, planning, and zoning policies of local governments in the proposed service area, and other similar measures.

cm

The CEQA review should incorporate the findings of other studies being done at the facility site. The project site was recently part of a review by the California Energy Commission to re-tool the Huntington Beach Generating Station (HBGS). The Energy Commission expedited its review to allow the increased electrical supply to be available during the summer of 2001. As part of the expedited review, the Energy Commission allowed several studies of potential impacts to coastal resources and necessary mitigation measures to be developed after project approval and after the facility was operating. These studies will evaluate water quality and biological impacts associated with the ocean intake and discharge system proposed to be used by the desalination facility. They also include a study meant to determine whether effluent from the nearby Orange County Sanitation District outfall is being drawn into the area of the HBGS intake. The Coastal Commission will need results of these studies to determine whether the discharge from the proposed facility conforms to the policies of the Coastal Act. We recommend that the study results be incorporated into the EIR process as part of the necessary evaluation of the proposed facility's potential environmental impacts.

cn

Impacts identified at other desalination plants: the DEIR should include review discharge-related impacts identified at other desalination facilities in California. The review should determine whether monitoring requirements at those facilities are adequate to identify impacts and establish necessary mitigation measures, and whether similar or improved requirements are appropriate for the proposed facility.

co



Energy Use: the Coastal Act requires that new development in the coastal zone minimize energy consumption. Reverse osmosis desalination facilities are energy-intensive. The 1993 report cited above shows energy requirements for reverse osmosis facilities in California ranged from about 6,500 to 12,000 kilowatt-hours per acre-foot of production. A facility operating within this range of energy demand and producing 50 million gallons (153 acre-feet) per day would require between approximately 900 and 1800 megawatt-hours of electricity.

cp

The DEIR should provide an analysis of the energy use required by the proposed facility, the effects of this energy demand on local and regional energy supplies, and a discussion of feasible methods to minimize energy use at this facility. Also, given the current uncertainty of energy supplies and prices, these analyses should be done using a reasonable range of possible energy prices.

**Specific Comments on NOP:**

p. 4 Other Agencies Whose Approval is Required (and Permits Needed): please add "Coastal Commission – Coastal Development Permit"

cq

p. 13 Hydrology and Water Quality: the DEIR should include a thorough discussion of the relationship between desalination plant operations and power plant operations. This should include an evaluation of discharge water quality when both facilities are operating and when only the desalination plant is operating, along with the effects of those discharges on receiving water and biological resources.

cr

Reverse osmosis desalination also requires maintenance with various alkaline and acid cleaning agents and anti-scaling chemicals. The DEIR should include a description of the types, amounts, and toxicity of materials to be used, the frequency of their use, and their fate and transport in the discharge system.

cs

As mentioned above in the General Comments, the Commission will need results of the studies being done for the power plant discharges as part of its review for the proposed discharges from this desalination facility.

p. 16 Transportation/Traffic: the DEIR should evaluate the transportation and traffic impacts associated with any growth-inducing elements of the proposed project. For example, if the additional water supply is likely to result in increased growth rates in local cities, the DEIR should include an evaluation of the increased traffic impacts in those locales.

ct

p. 16 Biological Resources: similar to the comment in Hydrology and Water Quality above, the DEIR should evaluate the effect of the discharge water quality on marine biological resources in and near the outfall, and should also evaluate the indirect and cumulative impacts of the proposed discharge being added to the existing impaired conditions of the receiving waters. The Commission will need this information in its review of the proposed discharge.

cu

June 14, 2001

Page 4 of 4

One of the studies being done as a condition of the HBGS re-tool is to determine the effects of impingement and entrainment on marine biological resources. The DEIR should incorporate the findings of this study into its review, and should further evaluate any difference in impingement, entrainment, and mortality rates for organisms that go through the intake/discharge system during power plant operations only and during operations of both facilities simultaneously.

cu

- p. 20 Noise: the DEIR should include a thorough evaluation of expected noise levels at the facility, at nearby residences, and at public recreation areas at the adjacent beach. The evaluation should include an assessment of how anticipated noise levels will affect coastal resources, including public access and recreation.

cv

- p. 22 Utilities and Service Systems: the document states that the proposed facility will generate approximately 20 tons per day of non-hazardous dewatered solid waste. The DEIR should describe the location(s) and methods of disposal for this waste and the effects of this additional waste load on the active life of the disposal sites.

cw

Additionally, the DEIS should discuss the conceptual pipeline alignments and the purpose for selecting these particular alignments. Specifically, the discussion should include the water supply systems available along these selected pipeline routes and the cumulative and growth-inducing impacts associated with connecting the proposed pipeline with these systems.

- p. 24 Recreation: see comment in Noise section, above.

cx

Again, thank you for the opportunity to comment. Please contact me at (415) 904-6093 or [tluster@coastal.ca.gov](mailto:tluster@coastal.ca.gov) if you have questions or would like more information. We look forward to continuing our involvement with the environmental review of this proposal.

cy

Sincerely,

Tom Luster  
Environmental Specialist  
Energy Unit

## Response No. 2

California Coastal Commission  
Energy and Ocean Resources Unit  
Tom Luster

- 2a. This text provides an introduction to the comment letter, and does not require a response.
- 2b. This paragraph provides an overview of comments discussed throughout the comment letter. No response is necessary.
- 2c. The desalination facility, as proposed, cannot operate the cooling seawater intake pumps independently of the HBGS. As stated within the DREIR on page 4-7 and Appendix C, from 1980 through July 2003, HBGS pumps have been in operation 98.8 percent of the time. Like all large power generation facilities, there are scheduled outages when maintenance is performed. During times when the HBGS cooling water system is not operating, the desalination facility would not produce desalinated water. Instead, the facility would pump previously desalinated water through the distribution system from its aboveground product water storage tank, which would have a capacity of 10 million gallons. Refer to Response 1g, above.
- 2d. As indicated by the comment itself, the commentator has had no less than six separate occasions to comment on the project. The commentator states that "several significant issues" from past comment letters "have not yet been adequately addressed in the current DREIR." Because this comment does not specify any specific "significant issues", a more detailed response is not possible. Instead, the commentator incorporates five previous comment letters by reference.

In accordance with CEQA Guidelines Section 15088.5, those who desired to comment on the DREIR were directed to submit new comments. Accordingly, comments received during the earlier circulation period do not require any response. "The lead agency need only respond to those comments submitted in response to the recirculated revised EIR."

Although responses to the prior comment letters were previously made and are not required for the DREIR, each of the prior comments has again been responded to here. See Responses 2at through 2cy, below.

- 2e. Section 3.6, *AGREEMENTS, PERMITS, AND APPROVALS REQUIRED*, Section 5.1, *LAND USE AND RELEVANT PLANNING* and 5.10, *OCEAN WATER QUALITY AND MARINE BIOLOGICAL RESOURCES* includes reference to a Coastal Development Permit (CDP) from the California Coastal Commission (CCC) on pages 3.46, 5.1-9, and 5.10-17.
- 2f. As explained in footnote 2 on page 3-38, the DREIR presents information provided in both the existing 1998 California Water Plan and the draft 2004 California Water Plan. In April 2005, after the DREIR was made available to the

public for the CEQA mandated 45-day review period, the Department of Water Resources released the public review draft of the latest California Water Plan – Update 2005. This Update 2005 report will not be adopted until Fall 2005. This DREIR presents information provided in both the 1998 Plan and the public review draft of Update 2005. On page 2-10 the existing 1998 Plan is incorporated by reference. In response to this comment, the DREIR will now also incorporate by reference the public review draft of the California Water Plan - Update 2005. Refer to Section 3.0, *ERRATA*.

- 2g. The statement of objectives on page 3-45 complies with the requirements in CEQA Guidelines Section 15124(b).
- 2h. Local groundwater supplies are generally considered to be “reliable” by water industry professionals. However, as stated in the DREIR on page 3-44, the Orange County Groundwater Basin does not provide an unlimited supply of water. Over the years the Orange County Water District (OCWD) has engaged in significant and continuous artificial recharge operations in order to provide Orange County water purveyors with 200,000 to 350,000 acre-feet per year of supply while managing the accumulated overdraft so that there is no irreparable damage to the resource. One objective of the proposed project is to provide a source of water that is sustainable even during times like 2003 when OCWD took action to reduce the rate of withdrawal of local groundwater supplies.
- 2i. Refer to Response 1h, above. In addition, certain contaminants (i.e. nitrates) currently accruing in the Orange County Groundwater Basin could be reduced if Orange County water purveyors decide to use water produced by the proposed project to recharge the Basin.
- 2j. Refer to Response 2c, above.
- 2k. The assertion that the DREIR analysis of ocean impacts was based on a presumed temperature range at the intake of 12° to 19° C is incorrect. The hydrodynamic modeling of the project’s ocean impacts is contained in Appendix C of the DREIR. There the reader will find that 7,523 computer simulations of the project’s ocean impacts were developed based on ocean conditions that occurred prior to re-tooling of the HBGS (see Section 5 of Jenkins and Wasyl, 2005). During these simulations, ocean temperatures were varied in the hydrodynamic model between 9.9° C and 25.1° C, according to the historic observations found in Figure 3.23 of Jenkins and Wasyl (2005). An additional 578 computer simulations of project impacts were performed using ocean conditions occurring after re-tooling of the generating station. Ocean temperatures used during the post re-powering simulations varied between 11.9° C and 22.6° C, as reported in Figure 5.18 of Jenkins and Wasyl (2005). Therefore, the DREIR analysis was certainly not limited to a truncated range of ocean temperatures as presumed by this comment, but rather encompassed the entire range of variability contained in the full period of record.
- 2l. Refer to Response 2c, above.

- 2m. Local ocean water quality concerns in the vicinity of the project site include the Orange County Sanitation District (OCSD) discharge, Santa Ana River, Talbert Marsh, and miscellaneous urban dry weather runoff and storm water discharge points (see DREIR Appendix E). The proposed project would not result in cumulative impacts in association with these various discharges, since the area of impact would be relatively localized and most of the marine organisms living near the HBGS also occur in other areas of the Southern California Bight (SCB), where naturally occurring salinities can be higher than what is anticipated at the HBGS outfall. In addition, the combined impacts of the proposed project and local discharges are not anticipated to be significant.
- 2n. The desalination facility, which includes both the water treatment process and the storage water and delivery system, will operate continuously by delivering fresh potable water to the distribution system 24 hours per day and 365 days per year.

The desalination treatment process will be shut down for a period of 6 to 8 hours once every 6 to 8 weeks when HBGS completes heat treatment. The downtime of the desalination treatment process during the hours when a heat treatment event occurs will be compensated for by operating the desalination treatment process at maximum capacity during the rest of the day (i.e. for 16 to 18 hours before or after heat treatment). A detailed description of the heat treatment process is described on page 4-7 of the DREIR. During HBGS heat treatment operations and when the desalination facility's treatment process is shut down, desalinated water will be served to the customers from the on-site product water storage tank.

To assist the power system in times of high demand, the desalination facility will conduct load management/shifting to reduce demands during high peak energy periods. The modular characteristics of the reverse osmosis system allow for cycling water production without shutting down all water production. During high peak energy periods, the treatment process may be turned down and water will be delivered to the system from the on-site storage tank. During off peak energy and higher water production periods the treatment process will produce water to deliver to the system and replenish the storage tank resulting in an average of 50 MGD. This shift of a portion of the desalination facility water treatment production from peak to off-peak period of municipal power demand will help in reducing the overall maximum load on the power grid and thereby be more energy efficient.

Variations of HBGS energy production over the course of a given day will not affect the desalination facility's operation. The specific operating conditions of the HBGS and their effect on the operation of the desalination facility are described on page 3-20 of the DREIR, "Project Site Lease" section, pages 3-20 & 3-21 "Proposed Physical Connection Between the Desalination Facility and the HBGS" and pages 4-6 and 4-7, "Alternative Modes of HBGS Operation". Even if HBGS is not producing power and is operating in standby mode (HBGS pumps a low flow rate of 127 MGD of seawater for operational readiness), the desalination facility will be able to operate and produce 50 MGD of fresh potable water. The only time when the HBGS operations will have an effect on desalination facility operations is during heat treatment events as discussed above.

- 2o. The desalination facility operations will not require additional seawater use by HBGS. After installing the desalination facility, the HBGS will continue to pump between 127 MGD and 514 MGD of source seawater for cooling as is permitted today. The HBGS permit allows the generation station to take up to 514 MGD for 24 hours per day and 365 days per year without any constraints on the time of the day, year or frequency. The minimum HBGS cooling water flow needed for the operation of the desalination facility is 127 MGD. This flow is the same as the minimum flow that HBGS takes out of the ocean under any operational mode as described on pages 4-6 and 4-7 of the DREIR.

The potential increase of the HBGS intake cooling water flow of 10 to 12 MGD, is a speculative assessment assuming that all of the energy the desalination facility uses is generated at the HBGS. As described on page 5.6-12, DREIR, "the facility's electrical power source would be controlled by a power marketing company, which, in consultation with the California Independent System Operator (Cal ISO), would obtain power from the HBGS and/or the California power market at the lowest cost possible" and "...the project's electrical demand would be met by dozens of power plants connected to a regional power supply source, with many of these plants located outside of Southern California." It should be further noted the operations of the desalination facility will not require any changes to the HBGS's State regulated operating conditions.

The stated desalination project power demand of 30 to 35 MW includes the energy needed to pump the produced water into the regional distribution system. This energy demand is already incorporated in the evaluations of the DREIR.

- 2p. The commentator makes assumptions related to the high desalination facility intake water temperature and the alleged associated need for collection of more seawater to "cool" the power plant discharge and to therefore cause additional impingement and entrainment. These assumptions are incorrect and are not based on factual information pertinent to this project. As indicated in Appendix C, page C-113 of the DREIR, the actual HBGS data show that the cooling water discharge temperature averages 82° F. This value is below the "efficiency" temperature threshold of 95° F, established by the writer.

The actual maximum threshold for feed water temperature for seawater membranes specified by the membrane manufacturers is 113° F (45° C), not 95° F as established by the author.

As indicated in Appendix C, page C-113, of the DREIR, based on a 20.5 year record (1980 to 2002) of the ambient ocean water temperature in the HBGS intake area, the maximum daily mean temperature on record was 77° F. The actual temperature increase after HBGS use was 18° F. At a temperature increment of 18° F, the highest temperature of the feed water to the RO membranes was 77° F + 18° F = 95° F, which is at the writer's temperature limit and significantly below the actual membrane temperature specification requirement of 113° F.

Even if HBGS was using up to its maximum permitted temperature increment of 30° F, defined in the plant's NPDES permit, during the warmest day of the last 20.5 years, the maximum possible temperature of HBGS discharge/desalination facility intake would have been 77° F + 30° F = 107° F, which is lower than the actual membrane manufacturer specification threshold of 113° F. Therefore, no additional seawater will need to be diverted to the desalination facility beyond approximately 100 MGD of HBGS cooling water discharge as indicated in the DREIR.

2q. Refer to Section 6.1 of the DREIR, *SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED*, which provides an analysis of the project's impacts in regards to non-renewable energy resources.

2r. "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (Public Resources Code Section 21061.1) "Cost," as referenced by the commentator, is but one of several interdisciplinary factors in determining feasibility. The analysis of cost (and other factors) within an EIR pertains to the identification of mitigation measures as opposed to the production costs and profitability expected by the project applicant. The cost of potable water is driven by market factors and is a fluctuating cost that is readily discernible by public and private water purveyors.

2s. Refer to Response 2c, above.

2t. As stated above, the proposed desalination facility would not operate independently of the HBGS, and would not result in significant marine biological impacts. Also refer to Response 2c, above.

As stated by the commentator in 2f, all of the Desalination Task Force's findings and recommendations are included in the Draft 2004 California Water Plan. The Draft 2004 Plan has been incorporated by reference into this DREIR (see Response 2f, above). In response to this comment, the DREIR will now also incorporate by reference the Coastal Commission's report, "Seawater Desalination and the California Coastal Act (March 2004)." Refer to Section 3.0 of the Responses to Comments, *ERRATA*.

2u. Comments on the DREIR that make reference to methods or findings that may or may not be included in the Huntington Beach Retool Project Entrainment and Impingement Final Analysis being prepared by the CEC ("Final Analysis") are both inappropriate and potentially misleading since the Final Analysis has not been finalized nor made available to the public. The DREIR was prepared based on the impingement and entrainment data that was publicly available as of the date of the initiation of the 45-day public review period for the DREIR (see, Appendix T for a discussion of the methodologies and data analysis employed). Moreover, because the Final Analysis pertains to the potential impacts of the operation of the HBGS, it is not likely to provide new information of substantial importance regarding the potential significant impacts of the desalination facility (see, CEQA Guidelines Sections 15088.5 and 15162). As stated on page 5.10-

- 41 of the DREIR (and explained in detail in Appendix T), "Impacts due to operation of the proposed desalination facility in regards to impingement and entrainment are not anticipated to be significant. Also refer to Response 1j, above.
- 2v. Refer to Response 2u, above. In addition, the volume of the entire Southern California Bight was not the source volume used in the report. The source water volume was estimated over the larval duration period as the product of the alongshore current movement and a cross section area determined by the cross shelf current. The alongshore current excursion was calculated by the sum of the maximum and minimum alongshore excursion. The cross shelf excursion was estimated by the maximum of the onshore or offshore movement. If the cross shelf excursion exceeded 7 km then the cross sectional area to 40 m depth was used.
- 2w. The EPA, in the Phase II 316(b) rule, specifically requires that 100 percent mortality be assumed to provide the most conservative assumption. Appendix T of the DREIR (*INTAKE EFFECTS ASSESSMENT*) did not assume 100 percent mortality in order to address a specific request by the City of Huntington Beach City Council to analyze the desalination facility's entrainment impacts. Entrainment by the desalination facility would result in 100 percent mortality and this value was used in assessing the effects of the proposed desalination facility. Refer to Response 1j, above.
- 2x. The proposed desalination facility would be subject to all regulatory requirements, including National Pollutant Discharge Elimination System (NPDES) regulations. The project does not assume that any of HBGS' existing permits would eliminate the need for the desalination facility to comply with applicable Federal, State, and local standards.
- 2y. Regardless of whether an alternative intake system is considered the "Best Technology Available" (BTA), implementation of such a method was determined to be infeasible within the DREIR (refer to Response 1f, above). Alternative cooling scenarios at HBGS are speculative at this point, and may require continued seawater intake. Refer to Response 1g, above.
- 2z. The proposed desalination facility would not increase flows at HBGS, and thus would not result in impingement impacts. The impingement effects resulting from a potential reduction in HBGS flows in compliance with Clean Water Act (CWA) requirements (which would presumably reduce impingement effects) would be unrelated to the proposed project.
- 2aa. During the low flow scenario (127 MGD), a maximum of 15.6 acres of ocean floor (benthic area) and 18.3 acres of the water (pelagic area) around the discharge are expected to be exposed to water with a salinity 10 percent higher than the ambient seawater<sup>1</sup>. A variation of 10 percent higher salinity is within the normal variability of seawater and would be tolerated by most fish species. Moreover, the benthic area exposed to a 10 percent increase in salinity is relatively small and localized in relation to the amount of similar soft-bottom habitat offshore of

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<sup>1</sup> DREIR p. 5.10-29.



Huntington Beach. Also refer to Responses 2c and 2w, above, for a discussion of entrainment and variation in HBGS flows.

- 2ab. This paragraph has been separated into segments to more clearly respond. Bold text denotes quotes from this paragraph.

**“The DREIR also concludes that the species within these areas would be exposed to these higher salinity levels are either tolerant of the higher levels or would be able to move out of the affected areas.”**

The DREIR states that the increased salinity “footprint” resulting in the discharge plume would have the greatest effect on the benthic organisms living in close proximity to the discharge tower where salinities would be the largest.

As detailed in Appendix C (*HYDRODYNAMIC MODELING REPORT*) this zone may extend 150 meters beyond the discharge tower depending upon the HBGS flow. The salinity level, particularly over the sea floor, will be sufficiently high to affect the benthic community living there. As discussed in Appendix S (*MARINE BIOLOGICAL CONSIDERATIONS*), this effect may result in changes in the benthic faunal composition, either abundances or total species number. It could potentially reduce the numbers of some species but increase the numbers of others presently living there. Another result could be the addition to this zone of species that can be ecologically successful (i.e., feed, grow, and reproduce) there because they are adapted to habitats having higher salinities (e.g., estuaries).

However, away from this zone, at distances within 50 to 100 meters of the discharge, dilution of the plume of salinity by the receiving water will be sufficient to quickly lower salinities, both in the benthic and pelagic habitats, to less than 10% above ambient salinity (33.5 ppt). Benthic organisms presently living in areas that will experience this slight salinity increase could be reasonably expected to tolerate (i.e., adapt to) this slight salinity elevation. Fishes and other pelagic organisms that contact the elevated salinity plume would either swim or “drift” through it in a short enough period of time that they would not be affected.

**“Its primary basis for this conclusion is that these species are exposed to these expected higher salinity concentrations elsewhere in their range. This does not appear to be a valid comparison for at least two reasons. First, the analyses do not differentiate between the range of tolerances for a species and the tolerance of particular individuals of that species.”**

Geographic salinity range of a species is a useful index of its salinity adaptation capacity that, in the absence of exhaustive laboratory testing of the salinity tolerances of each and every species occurring in the habitat near the HBGS discharge pipe, provides a valid first approximation of what the discharge salinities are needed to be to prevent adverse effects on the marine community. As detailed in Appendix S this general information was coupled with a literature review of salinity tolerances and with detailed salinity tolerance tests done on selected benthic species representative of the Southern California Bight. Benthic organisms are important because they have limited potential for moving out of

the permanent elevated salinity area. Mr. Steven Le Page, working at the Desalination Test Facility located in Carlsbad, CA conducted these tests. The results showed: 1) no effect of exposure to salinities higher than have been modeled for the discharge plume and 2) that salinity tolerances of species tested far exceed the tolerances predicted by geographic range (e.g., sand dollars, sea urchins, and abalone live in 40 ppt). Tolerance tests involving gradual step increases in salinity (as might happen if plant flow rate changes) have been done and show no effect of incremental salinity increases on animal survival. These are entirely applicable to the question of benthic animal tolerances to changing conditions. Also, benthic species from the Southern California Bight have been maintained in aquaria at 36 ppt for extensive periods at the Carlsbad test facility (Appendix S).

**“For example, while individuals of a particular species may do well in higher salinity waters in other parts of the species’ range, it does not mean that individuals living in the range of salinity offshore of Huntington Beach would do well if those waters were to change to having salinity concentrations at 110% to 164% of those existing ambient conditions.”**

The broad geographic dispersal mechanism of most benthic marine invertebrates is by means of pelagic larvae. As these larvae have the potential to settle out in habitats having different physical characteristics, flexibility and the capacity to tolerate a range of conditions are intrinsic features of the genetic capacity of a species.

Appendix S provides information about salinity tolerance tests done with a few benthic species common in coastal waters of the Southern California Bight. These show no effect of exposure to salinities higher than those predicted by the combined HBGS and desalination facility discharge plume. Also, whether or not there are population-level differences in salinity tolerance or adaptation capacity is answered by tests, conducted at the desalination plant test facility in Carlsbad, CA, showing that locally occurring species (i.e., living in 33.5 ppt) can live, feed, grow, and have normal seasonal reproductive development in 36 ppt and tolerate higher salinities (tests done in 40 ppt) for long periods (Appendix S).

With respect to the 164% salinity increase, Appendix C shows that low HBGS flow rates will result in higher midwater and bottom salinities at the discharge tower than will the higher flow rates. As reported in Appendix S and in the DREIR, salinity levels of 38 - 40 ppt approach the upper tolerance point of many marine organisms. Under the low flow (127 MGD) scenario, salinities this high or higher occur around the discharge pipe out to nearly 150 m (an area of about 15 acres). Apart from the flow field in the immediate vicinity of the discharge tower, the area over which such an increase would occur is small and would not extend into the major flow field of the desalination plume. Salinities this high will not occur under average flow conditions. Low flow conditions will occur 42-48% of the time based on the 20 year historic data on HBGS flow rate. However, since the recent overhaul of some of the power plant's generators, the percentage time of low flow is less than 10%. If this trend is sustained, the occurrence rate of salinities as high as 55 ppt will be less.

**“Secondly, the analyses does not describe how quickly these organisms are able to adapt to these types of salinity differences. While the organisms may be able to adapt to the naturally occurring 10% change in salinity over the course of a year, they may not be able to respond to an immediate change of that range or greater. Additionally, some areas within the discharge plume will cycle back and forth through these salinity ranges relatively quickly based on the number of pumps that happen to be operating at the power plant at any given time, thus requiring exposed organisms to quickly adjust to salinity extremes far higher than normal conditions.”**

The 10% annual range of ocean salinity reported in the DREIR and in Appendix C is not seasonal. Rather, it reflects short-term spikes in salinity change caused by excessive rain or periods of low vertical mixing in association with evaporation from the ocean surface. Organisms are thus tolerant of short-term and abrupt changes. The kinds of tolerance data that are routinely collected by the EPA and by experimenters involve testing abrupt (short-term) changes in salinity. That is, placing a test group or organisms into a container of water having salinity other than that to which they are adapted, and testing survival, often for 48 hours or longer (Appendix S). Such tests, by showing no mortality in groups experiencing only slight salinity changes, do in fact test the rapidity of the salinity adaptation response and provide statistically robust data for the threshold lethal effect (i.e., the concentration that is lethal for 50% of the test group, LC50).

The modeling of the physical oceanography (Appendix C) reported in the DREIR indicates that changes in the ratio of HBGS cooling water to desalination byproduct volume, or other variations in flow rate will take many hours to be evident in the discharge field and because of dilution by the receiving water, they would not result in very different plume characteristics.

**“It is likely that many organisms adapted to local conditions would actively avoid the higher salinity areas, thus creating a zone with lower biomass, less biodiversity, or with other substantial ecological changes.”**

The DREIR states that the permanent higher salinity “area” resulting in the discharge plume would have the greatest effect on the benthic organisms living in close proximity to the discharge tower where salinities would be the highest. It also states that the zone of salinity elevation immediately around the discharge tower can be expected to undergo changes in the benthic faunal diversity, as some species living there now are adversely affected by the permanent higher salinity. As detailed in Appendix S, likely scenarios associated with this effect on the benthic fauna include changes in the numbers and relative abundances of the organisms living in this area, including the possible addition of species adapted to living in more saline habitats such as estuaries. Fishes and other pelagic organisms can be expected to move into and out of the higher salinity area over sufficiently short periods of time to not be affected.

- 2ac. This paragraph has been separated into segments to more clearly respond. Bold text denotes quotes from this paragraph.

**“The DREIR also includes a report (Marine Biological Considerations Related to the Reverse Osmosis Desalination Project at the Applied Energy Sources Huntington Beach Generating Station.- August 2004) which provides for several species lethal salinity concentrations (LC50, which estimates the lethal concentration for 50% of the tested individual organisms). While a 48 hour LC50 is a useful measure for some purposes, it does not adequately characterize an organism’s response in the natural environment and does not detect behavior or reproductive changes, chronic effects, or other sublethal or long-term stresses.”**

The kinds of tolerance data that are routinely collected by the EPA and by experimenters involve testing abrupt (short-term) changes in salinity. That is, placing a test group or organisms into a container of water having salinity other than that to which they are adapted, and testing survival, often for 48 hours or longer (Appendix S). Such tests, by showing no mortality in groups experiencing only slight salinity changes, do in fact test the rapidity of the salinity adaptation response and provide statistically robust data for the threshold lethal effect (i.e., the concentration that is lethal for 50% of the test group, LC50).

Long-term assessments of elevated salinity effects were done at the Desalination Test Facility in Carlsbad, California by Mr. S. Le Page. A tank set up to operate at 36 ppt salinity has been maintained for well over 18 months. It contains fishes and benthic invertebrates (about 17 species are in the tank). There has been no mortality and organisms such as urchins feed, grow, and produce gonads (seasonally). The general health of these organisms and the stability of the tank indicate there are no chronic, sub lethal effects or long-term stresses associated with local species living in 36 ppt water.

**“The report also cites a study done in Antigua of the effects of a much smaller desalination discharge in a different marine ecosystem than is found off of Huntington Beach. The DREIR should also provide monitoring and study results that apply more directly to the conditions and organisms of Huntington Beach and Southern California.”**

The commentator requested environmental analysis from other existing desalination facilities (refer to comment 2ba). Now the commentator finds fault with the study because it does not have the same marine organisms as Southern California. The success of the 36 ppt demonstration tank in Carlsbad (operated for over 18 months) is providing the direct data this comment requests. The results show that continuous exposure to 36 ppt is not harmful to 17 species living in the tank (Appendix S).

Regarding the Antigua study, Appendix S analyzes its applicability to environmental questions at Huntington Beach. The most useful feature of the Antigua study is that it is a designed experiment done by manipulation of the discharge to direct it into the central area of a coral reef lagoon. Before and after data were compiled showing no effect of adding 2x seawater concentrate to the lagoon. Because coral reefs are complex habitats with high species diversity and are generally regarded as fragile environments, the finding of no effect of the release of a reverse osmosis concentrate (i.e., 2x salinity water) into the lagoon

is noteworthy. While the Antigua desalination plant has a small capacity relative to that proposed for Huntington Beach, its 2x salinity discharge is far more concentrated.

- 2ad. A description of adjacent sensitive habitat and potential project-related impacts is provided in Section 5.9 of the DREIR, *CONSTRUCTION RELATED IMPACTS*. In addition, operational impacts of the project on surrounding sensitive uses are provided in Sections 5.5, 5.7, and 5.8 of the DREIR.
- 2ae. Refer to Response 15ai, below.
- 2af. 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. Refer to Responses 2h and 2ag through 2aq.
- 2ag. It is correct for the DREIR to state that adoption of the “No Project” Alternative would not meet the project’s objective of remediating the project site. Pursuant to CEQA Guidelines Section 15126.6(e)(3)(B) the discussion of the “No Project” Alternative should “compare the environmental effects of the property remaining in its existing state against the environmental effects which would occur if the project is approved.” The commentator’s opinion that the DREIR characterizes increased conservation efforts as “a negative” is not supported by the discussion in Section 7.1 (1) “Increased Conservation Efforts.” That section does not judge existing or future conservation efforts. Rather it reviews existing conservation planning in the County and concludes, based on the projections in the existing plans, that a doubling of the County’s future conservation savings would be required each year to equal the 56,000 acre-feet of new water supply to be provided by the project. Finally, because the project description includes a construction schedule that would last approximately 24 months, it is reasonably foreseeable that the project could be in full production “commencing as early as 2008” as stated on page 7-3 of the DREIR.
- 2ah. The “Reduced Facility Size” Alternative in Section 7.5 of the DREIR discusses a facility that would produce approximately 25 MGD of drinking water. The commentator also suggests that the DREIR must “establish the need for the proposed project to produce 50 million gallons per day of drinking water.” 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]). No further response is necessary.
- 2ai. The use of smaller beach wells has been discussed in Section 7.4 of the DREIR as part of the “Alternative Project Design” Alternative (see pages 7-11 through 7-16 and 7-19 through 7-20). As stated in the DREIR, a study prepared for a 25 MGD seawater desalination facility in Corpus Christi, Texas, concluded that vertical intake wells were not a feasible intake alternative because the “significant cost and land requirements make them impractical and economically infeasible.” Also refer to Response 2ah, above.

- 2aj. Combining the discharge from a desalination facility which takes its water from beach wells and the power plant discharge will not mitigate the dissolved oxygen (DO) problem as suggested by the commentator because of the significant difference between the DO levels of the two streams. Please note that Section II, Water Quality Objectives, Subsection D, Chemical Characteristics, page 5 of the 2001 California Ocean Plan has a requirement that "The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge."

As indicated on page 7-19 of the DREIR, the DO concentration of the beach well water is projected to be between 0.2 and 1.5 mg/L and to have a volume of approximately 50 MGD. According to HBGS' NPDES permit, the generation station is allowed to discharge between 127 MGD and 514 MGD of cooling water (see page 4-6 of the DREIR). At an average discharge temperature of 82° F (28° C) and ocean water salinity of 33,500 mg/l, the concentration of DO in the HBGS discharge (under the best case scenario when the ocean water is fully saturated with oxygen) would be 6.5 mg/L. Since the requirement of DO depression applies at any time, under the worst case scenario, when 127 MGD of HBGS discharge at 6.5 mg/L of DO concentration is blended with 50 MGD of intake well desalination facility discharge with DO concentration of 1.5 mg/L, the DO concentration of the blended HBGS/desalination facility discharge would be:  $5.1 \text{ mg/L} = (127 \text{ MGD} \times 6.5 \text{ mg/L} + 50 \text{ MGD} \times 1.5 \text{ mg/L}) / (127 \text{ MGD} + 50 \text{ MGD})$ . As a result of this combined discharge, the oxygen level at the point of discharge will be depressed by 21%  $((6.5 \text{ mg/L} - 5.1 \text{ mg/L}) / 6.5 \text{ mg/L})$ . This depression of the DO concentration is almost two times higher than the acceptable level of depression of 10% allowed by the California Ocean Plan. In the case when the DO in the intake well desalination facility discharge is 0.2 mg/L, the DO level of the blended discharge would be depressed from 6.5 mg/L down to  $4.7 \text{ mg/L} = (127 \text{ MGD} \times 6.5 \text{ mg/L} + 50 \text{ MGD} \times 0.2 \text{ mg/L}) / (127 \text{ MGD} + 50 \text{ MGD})$ , and the DO concentration depression would be 28%. The DO level in the discharge will be out of compliance with the California Ocean Plan requirements.

In order to comply with the discharge requirements of the California Ocean Plan, the low DO level discharge from a seawater desalination facility using beach wells has to be aerated to a level within 10% of the ambient ocean water DO level. Increasing the DO concentration of 50 MGD of desalination facility discharge from 0.2 mg/L to 6.5 mg/L will require additional power use of approximately 0.1 MW for aeration. Capital expenditures for aeration equipment and facilities will be needed as well. As indicated in the DREIR (page 7-20), these additional expenditures will result in a measurable impact on potable water production costs and diminish the viability of this type of intake. As indicated on page 5.10-35 of the DREIR, "the RO operation will not significantly affect water turbidity, suspended solids, pH, and oxygen levels." Since the dissolved oxygen in the ocean water collected by HBGS is not affected by HBGS operations, the dissolved oxygen concentration of the desalination facility discharge will be approximately the same as that of the ocean water.

- 2ak. The referenced seawater desalination plant in Marina produces approximately 300,000 gallons per day, while the proposed Sand City desalination facility is proposed to produce approximately 270,000 gallons per day. In comparison to

the proposed project, these production rates account for approximately 0.6 percent and 0.54 percent of the output of the proposed project. Although it may be feasible to reduce the aesthetic impact of each proposed beach well, other factors (land use, aesthetics, noise, air quality, etc.) make this alternative infeasible due to the number of wells that would be required. In addition, photographs from the Marina Coast Water District website clearly show a facility that does not match the commentator's description.

- 2al. As explained on page 7-21 of the DREIR, use of the OCSD outfall for concentrated seawater discharge is not feasible because capacity within the OCSD outfall is not available. Likewise, use of water from the OCSD treatment plant as feedwater for the proposed project is not feasible because that water is already committed to the Ground Water Replenishment System (GWRS) project.

In addition, the scope of the proposed project is to desalinate seawater and produce potable water for direct human consumption, which is in compliance with the Safe Drinking Water Act and State regulations governing potable water production. The suggested scenario – i.e. taking 100 MGD of treated wastewater from the OCSD wastewater treatment plant discharge and producing potable water is not a feasible alternative to the proposed project because the purpose of the project is to produce drinking water for direct human consumption, not reclaimed water for reuse.

The suggested alternative will not produce potable water suitable for direct human consumption nor would it provide an access to a new water source. This alternative will produce highly treated wastewater (reclaimed water). The direct reuse of reclaimed water for human consumption is prohibited by the Safe Drinking Water Act and the California Department of Health Services.

As stated in the DREIR, water agencies recognize the need for diversification of water supplies including conservation, recycling and desalination to meet future water needs.

- 2am. Refer to Response 2al, above.

- 2an. The proposed project would not affect the HBGS' ability to convert to an alternative cooling system and would not effect operation of the generating station. In the event that the HBGS once-through cooling water system is decommissioned, the project applicant may need to assume ownership of the intake and outfall. Refer to Response 1g, above.

- 2ao. It is noted that the range of alternatives required in an EIR is governed by a "rule of reason" and that an EIR need not consider every alternative to a project. In this comment, the commentator specifically questions the criterion used for the discussion of "Alternative Locations Within a Two-Mile Radius of the HBGS" and suggests that it is inappropriate. The commentator questions the limitation of a "two-mile" radius (which was the stated focus of this alternative discussion) while at the same time recognizing that an additional discussion of sites outside of the two-mile radius was also performed in the DREIR. The commentator then incorrectly suggests that the "two-mile" radius discussion was limited to "open

areas.” As explained on page 7-6 this discussion included an “investigation of available land (five acres or larger) within a two-mile radius of the HBGS.” In addition to nearby “open areas” (i.e. parks and schools), the investigation identified OCSD property, the Ascon/Nesi site, the former CENCO tank farm, the Pacific City development and the new Hyatt Regency property. The commentator does not identify any particular site within the two-mile radius, or outside of it, which should have been discussed.

In addition, the commentator specifically questions the discussion of “Alternative Locations Outside of the City of Huntington Beach,” suggesting that it is perfunctory and should have discussed other sites. The commentator does not identify any particular site which should have been discussed. The range of alternatives required in an EIR is governed by a “rule of reason.” An EIR need not consider every alternative to a project.

2ap. It would be speculative to predict what types of changes may occur to the HBGS’ existing permit requirements, approvals, and contracts. However, any such changes affecting the operation of the proposed desalination facility would also require a regulatory review of the project’s existing permits and approvals. Avoidance, minimization, and mitigation measures for such changes would occur at that time.

2aq. The commentator disagrees with the project applicant’s confirmation that they are a domestic corporation and not a multinational corporation. The commentator also disagrees with the 2004 California Water Plan provision that states: “So long as government regulations are applied in the same manner to water projects involving multinational corporations as they are to water projects owned or operated by domestic companies or public utilities, there would be no conflict with international trade treaties.” The commentator’s disagreement is noted.

The commentator argues that the “issue of concern” is private ownership rather than operation and that other sources of information should be considered (e.g. concerns of the Attorney General and legislative committees). As noted, the 2004 California Water Plan provision referenced applies equally to ownership and operation of the project. Moreover, the practice of integrating undisclosed executive and legislative policy materials would result in voluminous materials unrelated to the analysis of potential environmental impacts. An EIR is intended to be a concise informational document and therefore cannot include analysis of every hypothetical argument speculating about the possibility of a multinational corporation avoiding environmental law through the application of international treaty. “Argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly erroneous or inaccurate, or evidence of social or economic impacts which do not contribute to or are not caused by physical impacts on the environment does not constitute substantial evidence.” (CEQA Guidelines Section 15384(a).)

2ar. In this comment, the commentator specifically questions the discussion of “Growth-Inducing Impacts” in DREIR Section 6.2 suggesting that it is “based on some questionable analyses.” The commentator does not specifically identify the



portion of the analyses that is considered “questionable,” but comments on the mixing of growth projections and the inclusion of water conservation information. The analysis in Section 6.2 does include growth projections from the following two sources: growth projections based on adopted general plans as well as growth projections based on information provided by the Center for Demographic Research. These projections are not “mixed.” Rather they are separately set forth in Tables 6-1 and 6-2 of the DREIR. Descriptions of the water conservation measures “in place” in Orange County are provided by reference to the existing water plans of the Metropolitan Water District of Southern California and the Municipal Water District of Orange County (DREIR pages 6-10 through 6-12).

- 2as. The commentator is “troubled” by the statement in the DREIR that “the growth-inducing impact of the project would depend entirely upon how regional or local water purveyors will allocate the desalinated seawater produced by the project.” (DREIR, page 6-13.) The commentator criticizes the DREIR for “lack of certainty” about where the water produced by the project will be used. CEQA Guidelines Section 15144 recognizes that “foreseeing the unforeseeable is not possible” and directs that “an agency use its best efforts to find out and disclose all that it reasonably can.” At page 6-13 of the DREIR, it is clearly stated that the water produced by the project will be “delivered only to existing regional or local water purveyors in Orange County” and that because “no water supply agreements have been executed with water agencies in Orange County, the precise locations/uses where desalinated water would be allocated are not known.” Accordingly, the DREIR concludes that “there is a potential for the project to induce growth in unidentified areas. All proposed projects and water sources would be subject to environmental analysis prior to approval.” (page 6-13) The commentator also suggests that the DREIR must “establish the need for the proposed project to produce 50 million gallons per day of drinking water.” 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]). No further response is necessary.
- 2at. This text provides a conclusion to the comment letter and does not require a response.
- 2au. These paragraphs provide an introduction to the agency’s comments and summarize the project description. No response is necessary.
- 2av. In response to this comment on the originally circulated DEIR, the potential impingement and entrainment impacts of the project were addressed in the DREIR in Section 5.10 and Appendix T and found to be less than significant. In addition, refer to Responses 1d, 1j, 2p, 2u, and 2z, above.
- 2aw. The DREIR addresses this comment in Section 5.10, *OCEAN WATER QUALITY AND MARINE BIOLOGICAL RESOURCES*.
- 2ax. The relationship between the HBGS facility and the desalination facility is described in the DREIR at pages 3-20 and 3-21, and a detailed description of the

HBGS operations is provided in Section 4.1. In addition, refer to Responses 2c and 2u, above.

- 2ay. Operation of the desalination facility without power production from the HBGS is referred to as the "Standby Mode of HBGS Operations" (see, page 4-7 of the DREIR) and has occurred less than one percent of the time. As explained on page 5.10-28 of the DREIR, the standby mode was included in the modeling of the worst-case, "low flow scenario." The DREIR concluded that the potential impacts to ocean water quality and marine biological resources are less than significant.
- 2az. Refer to Responses 1d, 1j, 2p, 2u, 2z, and 2av, above.
- 2ba. The requested information and evaluation is included in the DREIR at pages 6-18 through 6-24, and in Appendix X.
- 2bb. Refer to Responses 2o, above, and 10h, below.
- 2bc. Site-specific preliminary seismic assessments were prepared for the proposed desalination facility site (Appendix H) and for the aboveground storage tank site (Appendix I). These assessments concluded that the risk for surface faulting at the site is a "relative minimum", while seismic activity from numerous faults within the vicinity, including the Newport Inglewood Fault Zone (the closest active fault), may result in liquefaction in soils at depths of seven to 16 feet below ground surface (bgs). Soils below that depth were not found to be susceptible to liquefaction. Soil layers susceptible to liquefaction were not determined to be continuous throughout the proposed desalination facility site and the tank site. Liquefied soils may experience post-liquefaction settlements of four to five inches. As detailed design features of the project have not yet been determined, measures to mitigate potential geologic hazards as recommended within the preliminary seismic assessments will be developed as part of final design. A construction-level geotechnical report will be prepared as grading and design plans are developed. This report will include mitigation measures regarding grading, foundations, retaining walls, streets, utilities, remedial work, overexcavation/recompaction, dewatering, water quality, and chemical/fill properties of underground items including buried pipe and concrete and protection thereof. The report shall also specifically address lateral spreading, flood control channel bank stability, liquefaction potential and groundwater constraints.
- 2bd. As a result of improvements to the Huntington Beach Channel performed by the Orange County Flood Control District (located adjacent to the subject site), the site is no longer located within the 100-year floodplain as designated by the latest Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM). Flooding is not expected to be a hazard to the proposed project site.
- 2be. Refer to Response 2bd, above.
- 2bf. Refer to Section 7.0, *ALTERNATIVES*, of the DREIR, and Response 2af, above.

- 2bg. Refer to Section 6.0, *LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT*, and Responses 2ar and 2as, above.
- 2bh. Refer to Section 6.0, *LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT*, and Responses 2ar and 2as, above.
- 2bi. Refer to Responses 2bf and 2bh, above.
- 2bj. The table referenced in this comment is not in the DREIR. No response is necessary.
- 2bk. During dry weather conditions the ocean salinity will vary less than one percent. During wet conditions, salinity is depressed from increased river flow due to rainfall which was evaluated in Section 5.10, *OCEAN WATER QUALITY AND MARINE BIOLOGICAL RESOURCES* and Appendix C of the DREIR. Also refer to Section 5.10, *OCEAN WATER QUALITY AND MARINE BIOLOGICAL RESOURCES*, of the DREIR.
- 2bl. The total volume of waste cleaning solution generated from the cleaning of one reverse osmosis (RO) membrane train is 91,000 gallons (cleaning solution plus first rinse). The desalination facility will have a total of 13 RO membrane trains. Each train must be cleaned twice during the year. On a typical cleaning day, two to three membrane trains could be cleaned at the same time resulting in a generation of up to 182,000 to 273,000 gallons of waste cleaning solution. This number was rounded to a range of 200,000 to 300,000 gallons.
- 2bm. This paragraph provides contact information for the Coastal Commission's representative, and does not require a response.
- 2bn. This text provides an introduction to the comment letter and does not require a response.
- 2bo. This paragraph summarizes immediately-following comments and is responded to below.
- 2bp. Refer to Response 2aq, above, and Response 33f, below.
- 2bq. Comment noted. No response is necessary.
- 2br. This paragraph clarifies earlier comments that referred to "subsequent environmental documents", and no response is necessary.
- 2bs. This text provides a summary of immediately-following comments and is responded to below.

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<sup>2</sup> "O.C. Sees Cheap Water Era Ending", Orange County Register, September 29, 2002.

<sup>3</sup> CEQA Guidelines Section 15124[b].

- 2bt. Refer to Appendix T of the DREIR, *INTAKE EFFECTS ASSESSMENT*, which was prepared in response to concerns regarding the entrainment impacts of the proposed project. Also refer to Responses 1b, 1d, 1j, 2p, 2u, and 15q.
- 2bu. Section 5.10, *OCEAN WATER QUALITY AND MARINE BIOLOGICAL RESOURCES* provides a description of potential salinity impacts under two scenarios ("low flow" and "average flow" scenarios). These scenarios take into account seasonal conditions and compare potential impacts to natural ambient seawater salinity. Additionally, Appendix C of the DREIR provides details regarding the assumptions utilized in the modeling.
- 2bv. It is not feasible (nor required by CEQA) to analyze project-specific impacts of other desalination projects. However, the cumulative impacts of the proposed project and other desalination proposals within the Southern California Bight were provided within Section 7.0 of the DREIR. Moreover, a project-specific entrainment impact analysis (Appendix T, *INTAKE EFFECTS ASSESSMENT*) was prepared for the DREIR.
- 2bw. The requested additional alternatives have been incorporated into Section 7 of the DREIR.
- 2bx. Refer to Responses 2ar and 2as, above.
- 2by. This text provides a conclusion to the comment letter and does not require a response.
- 2bz. This text provides an introduction to the comment letter and does not require a response.
- 2ca. Note that no purchase agreements with local water purveyors currently exist for the proposed project. The growth inducing impacts discussion has been substantially revised since preparation of the originally circulated EIR – refer to Section 6.0 of the DREIR, *LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT*. Also refer to Responses 2ar and 2as, above.
- 2cb. Refer to Response 2bt, above.
- 2cc. Refer to Responses 2bt, above.
- 2cd. Refer to Response 2aq, above, and Response 33f, below.
- 2ce. This text provides a summary to the comment letter and does not require a response.
- 2cf. This comment provides a summary of comments immediately following and has been responded to below.
- 2cg. Refer to Responses 2bt and 2bu, above.

- 2ch. The DREIR evaluates both a "low flow" (127 mgd flow, with two circulating pumps operating and no heating of discharge water) and "average flow" scenario (253 mgd flow, with four circulating pumps running and two generating units operating). Also refer to Response 2c and 2bt, above.

In addition, footnote 3 of the letter is factually incorrect. The reference to "an entrainment increase of between two and seven percent" is not for the Tampa Bay Desalination plant that was constructed at the Big Bend power station. The commentator's reference is from the environmental analysis of an alternative site in the Tampa Bay area - the Anclote River Power Plant site. As stated in the Fact Sheet for the NPDES permit issued for the Tampa Bay (Big Bend) Desalination Plant (NPDES permit number FL0186813), "the source water for the RO desalination facility will be taken from the discharge of the power plant's cooling water and as a result the intake flow to the power plant will not increase...This limitation insures the entrainment does not exceed the levels previously permitted for this site" (page 2, paragraph F). This change has been incorporated into Section 3.0 of the Responses to Comments, *ERRATA*

- 2ci. The proposed project's consistency with the City's Local Coastal Program has been analyzed in Section 5.1, *LAND USE AND RELEVANT PLANNING*. Note that pumps to draw seawater from the ocean are not included in the project; rather, pumps to divert seawater from the HBGS cooling water system are proposed. Also refer to Response 2bt and 2bu, above and 17d below.
- 2cj. This text provides a conclusion to the comment letter and does not require a response.
- 2ck. This text provides an introduction to the comment letter and does not require a response.
- 2cl. Refer to Section 5.1, *LAND USE AND RELEVANT PLANNING*, of the DREIR.
- 2cm. Refer to Response 2as above.
- 2cn. As the proposed project would not alter the operations of the HBGS, previous studies/mitigation relevant to the HBGS have not been incorporated into the DREIR.
- 2co. Refer to Response 2bv, above.
- 2cp. Energy consumption impacts are analyzed within Sections 5.6 and 7.0 of the DREIR.
- 2cq. This suggested change was included within the DREIR within Section 3.0, *PROJECT DESCRIPTION*.
- 2cr. Refer to Section 5.10, *OCEAN WATER QUALITY AND MARINE BIOLOGICAL RESOURCES*. Note that the desalination facility would not produce water while the HBGS is not running its circulating pumps.

- 2cs. Refer to Section 5.10, *OCEAN WATER QUALITY AND MARINE BIOLOGICAL RESOURCES*. Also refer to Response 2cn, above.
- 2ct. Cumulative impacts of the proposed project are analyzed within Section 6.0 of the DREIR. The potential traffic impacts due to growth within Orange County would be analyzed within the site-specific EIR prepared for each relevant project.
- 2cu. Refer to DREIR Sections 5.10, *OCEAN WATER QUALITY AND MARINE BIOLOGICAL RESOURCES* and 6.0, *LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT*. Also refer to Response 2bt, above.
- 2cv. Refer to DREIR Sections 5.5, *NOISE*, and 5.9, *CONSTRUCTION RELATED IMPACTS*.
- 2cw. Refer to Section 5.6, *PUBLIC SERVICES AND UTILITIES* of the DREIR.
- 2cx. Refer to Response 2cv, above.
- 2cy. This text provides a conclusion to the comment letter and does not require a response.

**DEPARTMENT OF FISH AND GAME**

<http://www.dfg.ca.gov>  
4949 Viewridge Avenue  
San Diego, CA 92123  
(858) 467-4201

City of Huntington Beach

MAY 31 2005



May 27, 2005

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

**Comments on the Draft Recirculated Environmental Impact Report No. 00-02 for the  
Seawater Desalination Project at Huntington Beach, Orange County (SCH# 2001051092)**

Dear Mr. Ramos:

The Department of Fish and Game (Department) has reviewed the above-referenced recirculated Draft Environmental Impact Report (DEIR).

The project, proposed by Poseidon Resource Corporation, consists of the construction and operation of a 50 million gallon per day seawater desalination facility within the City of Huntington Beach. The facility would consist of seawater intake pretreatment facilities, a seawater desalination plant utilizing reverse osmosis technology, product water storage, two pump stations, materials storage tanks, and 42 to 48-inch diameter product water transmission pipeline possibly up to 10 miles in length in Huntington Beach and Costa Mesa. The facility would utilize existing AES Huntington Beach Generating Station (HBGS) seawater intake and outfall pipelines for its operations. The proposed desalination facility is located on an 11-acre portion of the 22-acre HBGS facility located at 21730 Newland Street, off Pacific Coast Highway.

The Department provided comments to you previously on an earlier version of the DEIR in a letter dated November 4, 2002. We offer the following additional comments and recommendations to assist the City in avoiding or minimizing potential project impacts on biological resources.

1. There seems to be some confusion regarding the location of the OC-44 underground booster pump station in relation to the boundary of the Natural Community Conservation Plan (NCCP) area. The location of the proposed pump station was altered from the description in the DEIR of September 19, 2002 (approximately 0.25 mile north of the San Joaquin Reservoir) to the description in the DEIR of April 5, 2005 (approximately 0.5 mile north of the San Joaquin Reservoir) so that its proposed position is outside the NCCP, but within the County-designated Resource Preservation Easement. We believe that a biological constraints report for the OC-44 pump station is appropriate with this change in location. The final EIR should include a map showing the location of the station in relation to the bounds of the

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NCCP, and a vegetative map delineating the vegetation communities contained on the project site and the surrounding area.

2. Pre-construction surveys were included in the mitigation measures for the underground booster pump station; however, biological surveys for sensitive species should be conducted prior to the release of the DEIR. The results of the surveys should have been included in the DEIR along with a comprehensive analysis based on the survey data so that the reviewing agencies, the public and decision makers accurately gage the project's potential effect on sensitive biological resources, and to determine that any associated mitigation measures reduces the project's effects on biological resources to a level of less than significant.
3. Least Bell's vireo is a State-listed endangered species; therefore, a California Endangered Species Act (CESA) Permit (2081 or 2080.1) may be required for impacts to this species.
4. In regards to Mitigation Measure CON-39, we recommend that the Department be consulted regarding the preparation and implementation of a relocation plan for southwestern pond turtles.

Thank you for the opportunity to comment on the recirculated DEIR. The Department finds that the project would not be de minimis in its effects on fish and wildlife per section 711.4 of the California Fish and Game Code. Questions regarding this letter and further coordination on these issues should be directed to Leslee Newton-Reed at (858) 467-4281.

Sincerely,

*for* *Donal A. Mayr*  
Donald R. Chadwick  
Habitat Conservation Supervisor

cc: State Clearinghouse  
Bill Paznokas, Marine Division, Department of Fish and Game  
Jonathon Snyder, U.S. Fish and Wildlife Service

LNR:lmr  
Seawater Desalination Project at Huntington Beach recirculated DEIR



**Response No. 3**

State of California Department of Fish and Game  
Donald R. Chadwick, Habitat Conservation Supervisor

- 3a. These introductory paragraphs provide a summary of the project description, and do not require a response.
- 3b. A map denoting the proposed OC-44 booster pump station location in relation to the NCCP boundary was provided in the Responses to Comments document (dated March 21, 2003) for the previously circulated EIR. A biological constraints survey for the OC-44 site was included as Appendix L to the DREIR, which describes biological characteristics for the site.
- 3c. A biological constraints survey was conducted as part of the preparation of the DREIR, the results of which included analysis of sensitive species existing at the subject site. Any potential impacts on sensitive species at the OC-44 booster pump station would be reduced to less than significant levels as part of the regulatory permit acquisition process.
- 3d. As stated within the DREIR, the Applicant would be required to consult with the California Department of Fish and Game regarding the appropriate permits necessary for the project prior to any construction activities.
- 3e. Refer to Response 3d, above.
- 3f. Comment noted. No response is necessary.



DEPARTMENT OF PARKS AND RECREATION  
Orange Coast District  
3030 Avenida Del Presidente  
San Clemente CA 92672  
(949) 492-0802

Ruth G. Coleman, Director

**COMMENT 4**

City of Huntington Beach

MAY 31 2005

May 26, 2005

Ricky Ramos  
City of Huntington Beach  
2000 Main Street  
Huntington Beach CA 92648

Subject: Seawater Desalination Project at Huntington Beach  
Recirculated Draft Environmental Impact Report, SCH #2001051092

Dear Mr. Ramos:

Thank you for the opportunity to comment on the recirculated Draft Environmental Impact Report for the Huntington Beach seawater desalination project. California State Parks owns and manages Huntington State Beach so that its exceptional natural and recreational resources are protected and available for the citizens of California. Huntington State Beach serves more than three million visitors annually. A large percentage of these visitors use the Pacific Ocean for recreation.

AES power plant and the proposed seawater desalination plant is adjacent to Huntington State Beach. Ocean water intake and outlet pipelines for the AES power plant travel through Huntington State Beach near Newland Avenue. The ocean water intake and outlet structures are located approximately 1200 feet offshore. As presented, the proposed project will utilize these facilities for obtaining seawater and discharging. We are concerned the this project may impact the natural and recreational resources the public enjoys within Huntington State Beach.

Poor ocean water quality remains a significant issue along the Huntington Beach coastline. State Parks recognizes the considerable scientific data which has been compiled to analyze this project and its impacts on ocean water quality. However, the ocean is extremely dynamic and unpredictable, and for many years scientists have failed to predict ocean conditions. State Parks is most sensitive to any change in water quality from a project that could affect postings on the beach. We feel that continuing questions about changes in water quality from bacterial entrainment of intake cooling waters or from changes in a body of hypersaline effluent water need to be more clearly evaluated.

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Mr. Ramos  
May 26, 2005  
Page 2

The AES pipeline easement through Huntington State Beach is for power plant cooling purposes only. Should this desalinization project move forward, the project proponent will be required to acquire easement rights from CA State Parks.

c

Thank you for inviting us to comment on this project. If you have a need to clarify any of our concerns, please call me at (949) 492-0802.

d

Sincerely,

  
for

Michael M. Tope  
District Superintendent

**Response No. 4**

State of California Department of Parks and Recreation  
Orange Coast District  
Michael M. Tope, Superintendent

- 4a. These introductory paragraphs provide a summary of the project description, and do not require a response.
- 4b. The proposed project's analysis of impacts to ocean water quality and marine biological resources employed a computer model that analyzed potential impacts to the marine environment. The model and subsequent environmental analysis concluded that the proposed project's impacts would be less than significant. In regards to the proposed project's discharge and intake interacting with the OCSD outfall discharge, the modeling found that under worst-case conditions, effluent from the OCSD outfall would be diluted 30 million to one at the HBGS intake. Accordingly, the OCSD outfall is not considered to be a potentially significant source of contamination for the proposed project. Refer to Section 5.10 (*OCEAN WATER QUALITY AND MARINE BIOLOGICAL RESOURCES*) for further discussion. In conclusion, the proposed project's marine environment impacts have been analyzed with the best available information and, in accordance with the statutory requirements of the CEQA, the findings have been disclosed to the decision makers and the general public. In addition, refer to Response 21f, below.
- 4c. If the project is approved, the Applicant will consult the Department of Parks and Recreation about acquiring easement rights.
- 4d. This concluding paragraph provides contact information and does not require a response.

## DEPARTMENT OF TRANSPORTATION

District 12  
3337 Michelson Drive, Suite 380  
Irvine, CA 92612-8894  
Tel: (949) 2724-2267  
Fax: (949) 724-2592

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APR 19 2005

City of Huntington Beach



*Flex your power!  
Be energy efficient!*

April 13, 2005

Mr. Ricky Ramos  
City of Huntington Beach  
200 Main Street  
Huntington Beach, California 92673

File: IGR/CEQA  
SCH#: 2001051092  
Log #: 906C  
SR #: SR-1, SR-39

**Subject: Seawater Poseidon Desalination Project at Huntington Beach**

Dear Mr. Ramos,

Thank you for the opportunity to review and comment on the Draft Re-circulated Environmental Impact Report for the **Seawater Poseidon Desalination Project at Huntington Beach**. The project consists of the construction and operation of a 50 million gallon per day seawater desalination facility within the City of Huntington Beach. The project site is located on Pacific Coast Highway and Newland Street in the City of Huntington Beach. The nearest state facilities to the project site are SR-1 and SR- 39.

Caltrans District 12 status is a responsible agency on this project and our comments have been addressed in the above report.

Please continue to keep us informed of this project and any future developments, which could potentially impact the transportation facilities. If you have any questions or need to contact us, please do not hesitate to call Maryam Molavi at (949) 724-2267.

Sincerely,

ROBERT F. JOSEPH, Chief  
IGR/Community Planning Branch

C: Terry Roberts, Office of Planning and Research  
Terri Pencovic, Caltrans HQ IGR/Community Planning  
Gale McIntyre, Deputy District Director

**Response No. 5**

State of California Department of Transportation  
District 12  
Robert F. Joseph, Chief  
IGR/Community Planning Branch

- 5a. Caltrans District 12 will continue to be notified about future developments concerning the project. No further response is necessary.