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[Click here to go to  
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# W19a & 20a

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Staff: T. Luster-SF  
Staff Report: 10/25/13  
Hearing Date: 11/13/13

## STAFF REPORT: REGULAR CALENDAR

Appeal No.: **A-5-HNB-10-225**

Application No.: **E-06-007**

Applicant: **Poseidon Water**

Agent(s): See Appendix A.

Location: State waters offshore of the City of Huntington Beach and areas within the City and the Huntington Beach Generating Station, Orange County.

Project Description: Remove power plant infrastructure, remediate soil and groundwater contaminants, and construct a seawater desalination facility and water delivery pipeline(s).

Staff Recommendation: **Approval with conditions.**

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## SUMMARY OF STAFF RECOMMENDATION

Poseidon Water (Poseidon) proposes to construct and operate a seawater desalination facility within the site of the Huntington Beach Generating Station, in Huntington Beach, Orange County. The facility would use the power plant's soon-to-be retired cooling water intake to draw in about 127 million gallons per day (mgd) of seawater to produce up to 50 mgd of potable water for purchase by, and delivery to, local water districts. The proposed project involves three main

phases: a) demolishing and removing fuel oil storage tanks and other infrastructure formerly used by the power plant; b) cleanup and remediation of contaminated soil and groundwater beneath these tanks and possibly elsewhere within the project footprint; and c) constructing and operating the desalination facility and associated components. The project includes installation and operation of one or two pipelines to allow the water to be delivered to the local and regional water distribution systems in Orange County. Poseidon proposes to operate the facility for approximately 30 years.

Portions of the project are within the Commission's retained jurisdiction and portions are within the certified Local Coastal Program (LCP) jurisdiction of the City of Huntington Beach. This report provides recommended Findings for a coastal development permit (CDP) within the Commission's jurisdiction and a de novo appeal of a CDP issued by the City in 2010 for which the Commission found Substantial Issue.

This project raises significant and complex coastal protection policy issues under both the Coastal Act and the City's LCP, including conformity with policies that require protection of marine life, water quality, wetlands, environmentally sensitive habitat areas, and listed species, and policies meant to avoid or minimize hazards associated with flood, tsunamis, and geologic hazards.

A key issue here is Poseidon's proposed use of an open water intake that will result in significant adverse effects to marine life. Poseidon's use of the intake will entrain more than 80 million fish larvae, eggs, and invertebrates each year that originate in areas along about 100 miles of shoreline, including areas within Marine Life Protected Areas (MLPAs). The intake is currently used by the adjacent Huntington Beach power plant to draw in cooling water for its generating units. The power plant plans to end its use of the intake no later than 2020 in conformity with a policy adopted in 2010 by the State Water Resources Control Board to phase out use of these intakes by most of the state's coastal power plants due to their significant adverse effects on marine life. Desalination facilities using these intakes would cause the same type of adverse effects, and the State Board is preparing a follow-up policy that would limit the use of this type of intake for desalination. Poseidon proposes to continue using the intake for an additional 30 years. However, Commission staff has determined there are feasible alternative intake methods that would entirely avoid or significantly reduce the expected adverse effects of Poseidon's proposal. Staff is therefore recommending the Commission require Poseidon to use a subsurface intake to obtain the seawater needed for desalination.

The project would also discharge effluent with salinity concentrations that are harmful to marine life, and cause adverse direct and indirect effects on wetlands on and near the project site. Additionally, the facility site is subject to a number of significant coastal and geologic hazards, including floods, tsunamis, surface fault rupture, ground movement, liquefaction, lateral soil spread, and others. Accordingly, the staff is recommending a number of Special Conditions needed to avoid and minimize potential adverse effects of the project as proposed. These Special Conditions include a) use of a subsurface intake design to obtain seawater in a manner that does not harm marine life; b) modifications to the discharge to ensure salinity concentrations within 100 meters of the discharge are not harmful to marine life, as recommended by an expert panel convened by the State Board; c) a reconfiguration of the facility layout to include a 100-foot

buffer from nearby wetlands and measures to ensure noise effects on nearby endangered, threatened, and sensitive species are avoided or minimized; d) wetland mitigation for approximately 3.5 acres of direct wetland impacts; and e) design requirements to address known and anticipated coastal and geologic hazards at the site. Other recommended Special Conditions are meant to ensure that contamination on site does not affect water quality, that project construction does not affect water quality, nearby wetlands, or public access to nearby beaches, that the facility is built to withstand identified coastal and geologic hazards at the site, and that emissions resulting from the project's electricity use are reduced to a less than significant level.

With implementation of these conditions, the staff believes the project will be carried out consistent with the LCP and the Coastal Act. The staff therefore recommends that the Commission **approve**, as conditioned, Coastal Development Permits A-5-HNB-10-225 and E-06-007.

## TABLE OF CONTENTS

<b>I. MOTIONS AND RESOLUTIONS .....</b>	<b>6</b>
A. COASTAL DEVELOPMENT PERMIT NO. A-5-HNB-10-225 .....	6
B. COASTAL DEVELOPMENT PERMIT NO. E-06-007 .....	6
<b>II. STANDARD CONDITIONS .....</b>	<b>7</b>
<b>III. SPECIAL CONDITIONS .....</b>	<b>8</b>
<b>IV. FINDINGS AND DECLARATIONS.....</b>	<b>23</b>
A. PROJECT BACKGROUND.....	23
B. PROJECT DESCRIPTION .....	25
C. OTHER APPROVALS .....	26
D. COASTAL COMMISSION JURISDICTION .....	29
E. STANDARD OF REVIEW .....	30
F. MARINE LIFE AND WATER QUALITY .....	30
G. WETLANDS AND ENVIRONMENTALLY SENSITIVE HABITAT AREAS .....	59
H. FLOOD, TSUNAMI, AND SEA LEVEL RISE HAZARDS.....	75
I. GEOLOGIC HAZARDS .....	89
J. CLIMATE CHANGE .....	105
K. PUBLIC ACCESS AND RECREATION .....	113
L. LAND USE – SITE DESIGNATION AND ALLOWABLE USES .....	117
M. LIABILITY FOR COSTS AND ATTORNEYS’ FEES .....	118
<b>V. CALIFORNIA ENVIRONMENTAL QUALITY ACT.....</b>	<b>119</b>



## **EXHIBITS**

- Exhibit 1 – Area Map
- Exhibit 2 – Site Plan
- Exhibit 3 – Schematic Facility Plan
- Exhibit 4 – Possible Water Delivery Pipeline Routes
- Exhibit 5 – Nearby Marine Protected Areas
- Exhibit 6 – Poseidon’s Proposed Infiltration Gallery Design
- Exhibit 7 – Schematic Drawing of the Fukuoka Gallery
- Exhibit 8 – Schematic Drawing of SDCWA Infiltration Gallery
- Exhibit 9 – Huntington Beach Wetlands Conservancy Site Map
- Exhibit 10a – Huntington Beach Wetlands – Vegetation Communities
- Exhibit 10b – Huntington Beach Wetlands – Sensitive Species Habitat
- Exhibit 11 – NOAA Sea Level Rise and Coastal Flooding Impacts: effects of a two-foot increase at and near project site
- Exhibit 12 – City-designated Flood Zone (from 1996 LCP Environmental Hazards Chapter)
- Exhibit 13 – FEMA Floodplains
- Exhibit 14 – Prado Dam Failure Inundation Zone (from 1996 LCP Environmental Hazards Chapter)
- Exhibit 15 – Tsunami Runup Zone (from 1996 LCP Environmental Hazards Chapter)
- Exhibit 16 – 2009 California Geological Survey Tsunami Inundation Map for Huntington Beach
- Exhibit 17a – Newport-Inglewood Fault Zone (from 1996 LCP Environmental Hazards Chapter)
- Exhibit 17b – Mapped South Branch Fault Beneath Project Site (from 2012 AES Application 12-AFC-02 to Energy Commission)
- Exhibit 18 – Map of Liquefaction Potential in Huntington Beach (from 1996 LCP Environmental Hazards Chapter)

## **APPENDICES**

- Appendix A – List of Applicant’s Agents
- Appendix B – Substantive File Documents
- Appendix C – City of Huntington Beach CDP No. 10-014
- Appendix D – Commission’s Final Adopted Findings on Substantial Issue, CDP 10-014
- Appendix E – Relevant SEIR Mitigation Measures
- Appendix F – Commission’s Approved Marine Life Mitigation Plan for Poseidon’s Carlsbad Facility
- Appendix G – State Lands Lease Amendment, October 26, 2010
- Appendix H – Correspondence Received

## **I. MOTIONS AND RESOLUTIONS**

### **A. COASTAL DEVELOPMENT PERMIT NO. A-5-HNB-10-225**

#### **Motion:**

*I move that the Commission **approve** Coastal Development Permit A-5-HNB-10-225 subject to the conditions set forth in the staff recommendation.*

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in conditional approval of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

#### **Resolution:**

*The Commission hereby approves Coastal Development Permit A-5-HNB-10-225 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.*

### **B. COASTAL DEVELOPMENT PERMIT NO. E-06-007**

#### **Motion:**

*I move that the Commission **approve** Coastal Development Permit E-06-007 subject to the conditions set forth in the staff recommendation.*

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in conditional approval of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

#### **Resolution:**

*The Commission hereby approves Coastal Development Permit E-06-007 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental*

*Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.*

## II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. **Interpretation.** Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

### III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. **Liability for Costs and Attorneys Fees.** Poseidon shall reimburse the Coastal Commission in full for all Coastal Commission costs and attorneys fees – including (a) those charged by the Office of the Attorney General, and (b) any court costs and attorneys fees that the Coastal Commission may be required by a court to pay – that the Coastal Commission incurs in connection with the defense of any action brought by a party other than Poseidon against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this permit. The Coastal Commission retains complete authority to conduct and direct the defense of any such action against the Coastal Commission.
2. **Proof of Legal Interest.** PRIOR TO ISSUANCE OF THIS PERMIT, Poseidon shall submit documentation of the following:

*City of Huntington Beach*

- a. An updated and approved Conditional Use Permit (CUP) for the project as approved by the Coastal Commission, or confirmation from the City that the existing September 2010 CUP is valid for the project as configured and approved by the Coastal Commission.
- b. An updated and approved Franchise Agreement for the project's proposed water delivery pipeline, or confirmation from the City that the existing October 2010 Franchise Agreement is valid for the project as currently configured and as approved by the Coastal Commission.
- c. An updated and approved Owner Participation Agreement (OPA), or confirmation from the City that the existing September 2010 OPA is valid for the project as currently configured and as approved by the Coastal Commission.

*City of Costa Mesa*

- d. All discretionary approvals for construction and operation for those portions of the project's water delivery pipeline within the City's coastal zone, or confirmation from the City that no such development requiring discretionary approvals is proposed within the City's coastal zone boundaries.

*Private Landowners and Easement Holders*

- e. All approvals, agreements, easements or other forms of proof of legal interest demonstrating Poseidon's ability to use the relevant property(ies) within the coastal zone for construction and operations of the desalination facility, water delivery pipelines and pump stations.

If any of the above approvals result in changes to the project as approved by the Commission, Poseidon shall notify the Coastal Commission's Energy and Ocean Resources Division of the required changes. No changes to the approved project shall occur without a Commission approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

3. **State Lands Commission.** At least six months prior to cessation of the AES Power Plant's use of its seawater cooling system, Poseidon shall provide for Executive Director review and approval documentation from the California State Lands Commission of a lease or lease amendment authorizing Poseidon's sole use of state tidelands for construction and operation of an ocean outfall and a subsurface intake.
4. **California Department of Parks and Recreation (DPR).** At least six months prior to cessation of the AES Power Plant's use of its seawater cooling system, Poseidon shall provide for Executive Director review and approval documentation from the DPR of a grant of easement providing Poseidon any legal interest necessary to use those portions of the intake and outfall structures within DPR property.
5. **Revised Facility Plans.** PRIOR TO ISSUANCE OF THIS PERMIT, Poseidon shall submit two full size sets of Revised Plans to the Executive Director for review and approval. The Revised Plans shall be substantially in conformance with the plans submitted to the Coastal Commission on April 11, 2011 as part of Poseidon's amended permit application, but shall show the following required changes and clarifications to the project:

*Subsurface Intake*

- a. The open ocean intake shall be eliminated from the plans.
- b. The Revised Plans shall include a proposed subsurface intake designed to draw in up to 135 million gallons per day of seawater from beneath the seafloor. The intake may be installed within up to approximately 30 acres of seafloor and require up to approximately 540,000 cubic yards of excavation. The intake may consist of a single intake design and unit or separate intake designs and modular units. The Plans shall include sufficient site-specific geotechnical and hydrogeologic data to confirm that the intake will maintain sufficient cover of sand or other substrate to result in no more than *de minimis* levels of entrainment or impingement of marine life.

*Modified Ocean Outfall*

- c. The existing outfall shall be modified to ensure that the facility's discharge results in salinity concentrations of no greater than 5% over ambient seawater salinity within 100 yards of the point of discharge. The proposed modifications may include installation of multiport diffusers or similar devices that ensure sufficient mixing within the zone of initial dilution (i.e., within 100 yards of the point of discharge). The Revised Plans shall describe the modeling and other methods used to determine the discharge concentrations and shall include concurrence from the State or Regional Water Quality Control Board showing that the discharge will meet the above 5% salinity limit. The methods used shall not include increased dilution resulting from additional seawater intake.

*Wetland Buffer*

- d. All development, other than that associated with demolition of the storage tanks and site remediation required pursuant to the Remedial Action Plan described in [Special Condition 6](#), shall be located at least 100 feet from the ESHA/wetland areas within and adjacent to the eastern portion of the project footprint. Poseidon shall provide, for Executive Director review and approval, a delineation of all ESHA and wetland areas in within 200 feet of the project footprint conducted by a qualified biologist approved by the Executive Director. The approved delineation shall serve as the basis for the 100-foot setback.

*Hazard Mitigation Structures and ESHA/Wetland Mitigation Structures*

- e. The Revised Plans shall identify all grading and structural components proposed to avoid and reduce flooding, tsunami, and geologic hazards at the project site.
- f. The Revised Plans shall identify all temporary or permanent sound barriers to be installed as described in the Sound Mitigation Plan approved pursuant to [Special Condition 11](#).

*Height Limits*

- g. The Revised Plans shall include documentation from the City of Huntington Beach showing the project is consistent with zoning height limits established by the City.

*Lighting Minimized*

- h. The Revised Plans shall document that the facility's exterior lighting is the minimum necessary for safety purposes. All lighting (exterior and interior) shall be sited and designed so that it limits the amount of light or glares visible from offsite areas (including but not limited to views from the shoreline, public accessways, and the adjacent wetlands and environmentally sensitive habitat areas managed by the Huntington Beach Wetlands Conservancy) to the maximum extent feasible (including through uses of lowest luminosity possible, directing lighting downward, etc.).

*Windows and Other Surfaces*

- i. The Revised Plans shall document that all exterior windows will be non-glare glass, and all other structures and surfaces constructed or installed as part of the project and that are visible from public areas shall be painted or otherwise finished in neutral tones that minimize their visibility from those public areas.

*Stormwater and Drainage*

- j. The Revised Plans shall clearly identify all stormwater and drainage infrastructure and related water quality measures (e.g., pervious pavements, etc.), with preference given to natural BMPs (e.g., bioswales, vegetated filter strips, etc.). Such infrastructure and water quality measures shall provide that all project area stormwater and drainage is: filtered and treated to remove expected pollutants prior to discharge, and directed to inland stormwater and drainage facilities (and is not allowed to be directed to the beach or the Pacific Ocean). Infrastructure and water quality measures shall retain runoff from the project onsite to the maximum extent feasible, including through the use of pervious areas, percolation pits and engineered storm drain systems. Infrastructure and water quality measures shall be sized and

designed to accommodate runoff from the site produced from each and every storm event up to and including the 85th percentile 24-hour runoff event. In extreme storm situations (>85% storm) excess runoff shall be conveyed inland off-site in a non-erosive manner. Stormwater and drainage apparatus shall be coordinated in conjunction with the Huntington Beach Wetlands Conservancy to determine the best locations to avoid any adverse impacts on adjacent wetlands and environmentally sensitive habitat areas.

The submitted Revised Facility Plans shall be consistent with the requirements of [Special Condition 18](#) and include documentation from a licensed structural engineer certifying that all structural components are designed to resist expected seismic, geologic, flooding, and tsunami-related hazards. Upon the Executive Director's approval of the Revised Plans, Poseidon shall submit a complete application to amend this permit for those components of the proposed development in the Revised Plans the Executive Director determines require an amendment. Poseidon shall undertake development in accordance with the approved Revised Plans. Any proposed changes to the approved Revised Plans shall be reported to the Executive Director. No changes to the approved Revised Plans shall occur without a Commission approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

6. **Hazardous Materials at the Facility Site.** Following demolition of the project site's fuel oil storage tanks and prior to the start of construction of the desalination facility, Poseidon shall provide for Executive Director review and approval a Phase II Hazardous Materials Investigation and a final Remedial Action Plan (RAP) for the site, as approved by the City and consistent with all relevant conditions of the project SEIR. The RAP shall include, at a minimum:
  - a. A description of the sampling locations used to determine the extent of contaminated soils and groundwater within the facility site.
  - b. Results of testing done on those samples to determine the concentrations of contaminants within the site's soils and groundwater;
  - c. A description of all measures Poseidon will implement to conduct site remediation and mitigation, including measures proposed to treat contaminants that may be mobilized during remediation or construction dewatering activities.
  - d. A description of contingency measures Poseidon will implement if it finds additional contaminants or additional areas of contaminants, including unrecorded or unknown oil or gas wells.

Poseidon shall undertake development in accordance with the approved Phase II Hazardous Materials Investigation and Remedial Action Plan. If the remediation or mitigation measures required in the City-approved Remedial Action Plan exceed those described by Poseidon in its proposed May 9, 2013, "reasonable worst-case scenario" analysis, or if the required remediation or mitigation measures require Poseidon to undertake development other than that authorized in this permit, Poseidon shall submit an application to amend this coastal development permit, unless the Executive Director determines that an amendment is not legally required.

7. **Construction Plan.** PRIOR TO ISSUANCE OF THIS PERMIT, Poseidon shall submit two copies of a Construction Plan to the Executive Director for review and approval. The Construction Plan shall, at a minimum, include the following:

*Property Owner Consent*

- a. The Construction Plan shall be submitted with evidence indicating that the owners of any properties on which construction activities are to take place, including properties to be crossed in accessing the site, consent to such use of their properties.

*Sound Mitigation Plan*

- b. The Construction Plan shall incorporate provisions of the approved Sound Mitigation Plan required pursuant to [Special Condition 11](#).

*Best Management Practices (BMPs)*

- c. The Construction Plan shall clearly identify all BMPs to be implemented during construction and their location. Such plans shall contain provisions for specifically identifying and protecting all natural drainage swales (with sand bag barriers, filter fabric fences, straw bale filters, etc.) to prevent construction-related runoff and sediment from entering into these natural drainage areas which ultimately deposit runoff into the Pacific Ocean. Silt fences, straw wattles, or equivalent measures shall be installed at the perimeter of all construction areas. At a minimum, such plans shall also include provisions for stockpiling and covering graded materials, temporary stormwater detention facilities, revegetation as necessary, and restricting grading and earthmoving during rainy weather.

The Construction Plan shall indicate that:

- i. dry cleanup methods are preferred whenever possible and that if water cleanup is necessary, all runoff shall be collected to settle out sediments prior to discharge from the site;
- ii. all de-watering operations shall include filtration mechanisms;
- iii. off-site equipment wash areas are preferred whenever possible; if equipment must be washed on-site, the use of soaps, solvents, degreasers, or steam cleaning equipment shall not be allowed; in any event, such wash water shall not be allowed to enter any natural drainage;
- iv. concrete rinsates shall be collected and they shall not be allowed to enter any natural drainage areas;
- v. good construction housekeeping shall be required (e.g., clean up all leaks, drips, and other spills immediately; refuel vehicles and heavy equipment off-site and/or in one designated prepared location; keep materials covered and out of the rain (including covering exposed piles of soil and wastes);
- vi. all wastes shall be disposed of properly, trash receptacles shall be placed on site for that purpose, and open trash receptacles shall be covered during wet weather);
- vii. all erosion and sediment controls shall be in place prior to the commencement of grading and/or construction as well as at the end of each day;



- viii. particular care shall be exercised to prevent foreign materials from making their way to the beach or Pacific Ocean;
- ix. contractors shall ensure that work crews are carefully briefed on the importance of observing the appropriate precautions and reporting any accidental spills;
- x. construction contracts shall contain appropriate penalty provisions, sufficient to offset the cost of retrieving or cleaning up improperly contained foreign materials.

*Construction Site Documents*

- d. The Construction Plan shall provide that copies of the signed coastal development permit and the approved Construction Plan be maintained in a conspicuous location at the construction job site at all times, and that such copies are available for public review on request. All persons involved with the construction shall be briefed on the content and meaning of the coastal development permit and the approved Construction Plan, and the public review requirements applicable to them, prior to commencement of construction.

*Construction Coordinator*

- e. The Construction Plan shall provide that a construction coordinator be designated to be contacted during construction should questions arise regarding the construction (in case of both regular inquiries and emergencies), and that their contact information (i.e., address, phone numbers, etc.) including, at a minimum, a telephone number that will be made available 24 hours a day for the duration of construction, is conspicuously posted at the job site where such contact information is readily visible from public viewing areas, along with indication that the construction coordinator should be contacted in the case of questions regarding the construction (in case of both regular inquiries and emergencies). The construction coordinator shall record the name, phone number, and nature of all complaints received regarding the construction, and shall investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry.

*Notification*

- f. Poseidon shall notify staff of the Coastal Commission's Energy and Ocean Resources Unit at least 3 working days in advance of commencement of construction, and immediately upon completion of construction.

Poseidon shall undertake development in accordance with the approved Construction Plan. Any proposed changes to the approved Construction Plan shall be reported to the Executive Director. No changes to the approved Construction Plan shall occur without a Commission approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

8. **Coordination with Other Concurrent Project.** PRIOR TO ISSUANCE OF THIS PERMIT, Poseidon shall provide documentation from the Department of Toxic Substances Control showing that the location and timing of Poseidon's proposed pipeline construction will not interfere with, and is consistent with, proposed cleanup and remediation activities at the Ascon Landfill site.
9. **Wetland Mitigation.** PRIOR TO ISSUANCE OF THIS PERMIT, Poseidon shall submit, for Executive Director review and approval, a Wetland Mitigation Plan that provides for creation and/or restoration of no less than fourteen acres of coastal wetland habitat similar to wetland habitat found in the vicinity of the approved development. The creation and/or restoration may take place on up to two proposed sites. The Plan shall include the following:
  - a. Identification of up to two mitigation sites located in the vicinity of (i.e., within 10 miles) of Poseidon's development site, each of which is capable of providing no less than five acres of the required 14 acres of creation and/or restoration. The proposed site(s) shall be consistent with local and/or regional wetland restoration goals.
  - b. A detailed review of existing physical, biological and hydrological conditions at the site(s), including vegetation present, hydrologic regime of the site(s), known or expected fauna at the site(s), including any known or expected listed sensitive species, known or suspected contaminants that may be present at the site(s), and an analysis of existing ecological functions and values at the site(s). The review shall also identify any known site constraints that may limit successful creation or restoration efforts.
  - c. A description of legal interests at the site(s), and any landowner approval that Poseidon may need to use the proposed site(s) for wetland creation or restoration.
  - d. Proposed goals, objectives and performance criteria for the proposed mitigation site(s) that identify specific creation or restoration measures to be implemented, including proposed habitat types to be created or restored, grading and planting plans, the timing of the mitigation measures, and monitoring that will be implemented to establish baseline conditions and to determine whether the sites are meeting performance criteria. Monitoring shall be for at least 5 years and final monitoring for success shall take place after at least 3 years with no remediation or maintenance other than weeding. The Wetland Mitigation Plan shall also identify contingency measures that will be implemented should any of the mitigation sites not meet performance criteria.

These goals, objectives, and performance criteria shall include:

- i. Creation or restoration of habitat types that will support wetland-dependent species and may support rare or endangered species.
- ii. Created or restored areas shall be provided a buffer of a size adequate to ensure protection of wetland functions and values, and at least 100 feet wide, as measured from the nearest upland edge of the transition area. The Wetland Mitigation Plan may propose a lesser buffer width if the mitigation area is sited within existing wetland areas that are protected by a buffer meeting these criteria.

- iii. The Wetland Mitigation Plan shall identify measures to be implemented if soil or groundwater contamination is found at the site(s).
  - iv. The Wetland Mitigation Plan shall include a planting program that includes initial and ongoing removal of invasive or non-native species and identifies the vegetation species to be planted, local sources of those plants or seeds, measures needed to protect any existing native wetland vegetation species, timing of planting, plans for irrigation if needed to establish plants, and locations of plants. The Wetland Mitigation Plan shall also identify soil sources and amendments to be used.
  - v. The Wetland Mitigation Plan shall include a formal sampling design to assess performance criteria and shall identify the means by which success will be assessed. Where statistical tests are utilized, the plan shall include a requirement for a statistical power analysis to demonstrate that there will be sufficient replication to enable a robust test with beta equal to alpha.
  - vi. Creation and/or restoration shall be completed concurrent with construction of Poseidon's desalination facility.
- e. Topographic drawings for the final mitigation site(s) and construction drawings, schedules, and a description of equipment to be used in the project.
  - f. The Wetland Mitigation Plan shall provide for submittal of "as-built" plans and annual monitoring reports for no less than five years or until the sites meet performance criteria.
  - g. The Wetland Mitigation Plan shall include provisions that, if after five years the restoration has not achieved the success criteria, Poseidon shall submit within 90 days a revised or supplemental plan to compensate for those portions of the original plan which did not meet the approved success criteria. The revised plan shall be processed as an amendment to the coastal development permit unless the Executive Director determines that no permit amendment is legally required.
  - h. The Wetland Mitigation Plan shall identify legal mechanism(s) proposed to ensure permanent protection of the mitigation site(s) – e.g., conservation easements, deed restriction, or other methods.

Poseidon shall comply with the approved Wetland Mitigation Plan. Prior to implementing the Wetland Mitigation Plan, Poseidon shall submit a proposed wetlands restoration project that complies with the Wetland Mitigation Plan in the form of a separate coastal development permit application for the planned wetlands restoration project.

10. **Geotechnical Investigation.** Following demolition of the project site's fuel oil storage tanks and prior to construction of the desalination facility, Poseidon shall submit, for Executive Director review and approval, a proposed Geotechnical Investigation Plan as described in SEIR Mitigation Measures GEO-1 and GEO-2. The proposed Plan shall include, at a minimum:

*Subsurface Fault Investigation*

- a. The Geotechnical Investigation Plan shall identify measures required pursuant to California Geologic Survey Note 49 for determining the potential for surface fault rupture at the project site and to identify whether project structures require a setback from potential rupture areas.

*Liquefaction and Lateral Spread*

- b. The Geotechnical Investigation Plan shall identify measures needed to determine the depth and extent of liquefiable soils within the project footprint and the extent of lateral spread expected at the site.

*Dewatering*

- c. The Geotechnical Investigation Plan shall identify measures needed to determine the expected volumes of dewatering (hourly, daily, and total) that will be needed during construction, and the spatial extent of drawdown expected from that dewatering. It shall also identify measures needed to ensure the dewatering does not affect environmentally sensitive habitat areas and wetlands adjacent to the project site.

Poseidon shall undertake development in accordance with the approved Geotechnical Investigation Plan and shall submit the results of the investigation to the Executive Director, along with a determination by a licensed structural engineer that the proposed desalination facility and its associated components at the project site are designed to resist without collapse or structural damage the forces identified through investigations conducted pursuant to the Geotechnical Investigation Plan. If the investigation finds evidence for hazards greater than those evaluated as part of these coastal development permit findings, or results in the need to undertake development other than that authorized in this permit, Poseidon shall submit an application to amend this coastal development permit, unless the Executive Director determines that an amendment is not legally required.

11. **Minimization of Noise Effects on Sensitive Species.** PRIOR TO ISSUANCE OF THIS PERMIT, Poseidon shall submit, for Executive Director review and approval, a Sound Mitigation Plan that identifies measures to be implemented that will limit project-generated noise to no higher than 60 dBA at the nearest wetland boundary as delineated pursuant to [Special Condition 5](#). The Sound Mitigation Plan shall include, at a minimum:

- a. Identification of expected sound levels to be generated during project construction and operation, including those that will be generated during site preparation activities, storage tank removal, site remediation, and facility construction and operation. The Sound Mitigation Plan shall include sound levels to be generated during construction and operation of the adjacent power plant repowering project, if that project is approved by the California Energy Commission. The Sound Mitigation Plan shall describe the basis for the sound levels provided, identify modeling methods used, and include the results of that modeling to show expected sound levels at the above-referenced wetland boundary. Pile driving is specifically prohibited at any location in the project site between January 1 and September 15 of any year.
- b. Identification of all measures to be implemented to reduce sound levels at that wetland boundary to the maximum extent feasible. These may include enclosing

- sound-generating sources within structures or temporary sound barriers, moving sound-generating sources to locations farther from that boundary, reducing the number of concurrent sound generating activities, using sound baffles to redirect sound away from the ESHA/wetland area, etc.
- c. Description of sound monitoring equipment to be installed at two locations on the nearest wetland boundary that will allow continuous monitoring of sound levels.
- d. Description of how monitoring data will be compiled and reported to allow confirmation that sound levels do not exceed 60 dBA at the wetland boundary.

Poseidon shall undertake development in accordance with the approved Sound Mitigation Plan. Any proposed changes to the approved Sound Mitigation Plan shall be reported to the Executive Director. No changes to the approved Sound Mitigation Plan shall occur without a Commission approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

12. **Protection of Sensitive Avian Species.** PRIOR TO ISSUANCE OF THIS PERMIT, Poseidon shall submit, for review and written approval of the Executive Director, at least two (2) copies of an Avian Species Protection Plan, prepared by a qualified biologist(s) approved by the Executive Director, for ensuring that the authorized demolition, remediation and construction of the desalination plant and associated facilities avoid adverse effects to sensitive avian species. The Avian Species Protection Plan shall, at a minimum, include the following:

- a. A provision for breeding behavior and nesting surveys that requires:
  - i. Prior to commencement of construction or remediation activities between January 1 and August 31 of any year, the biologist(s) shall conduct two breeding behavior and nesting surveys for birds protected by the Fish and Game Code, the Migratory Bird Treaty Act, and any birds that are included on state or federal lists of threatened or endangered species. The first survey shall take place no more than 30 days before the start of construction activity. The second survey shall take place at least 10 days after the first survey and within 14 days of the start of construction. The surveys shall encompass all environmentally sensitive habitat areas, wetlands, and other areas of potential nesting habitat within 500 feet of project development activities.
  - ii. Follow-up surveys are to be conducted by the approved biologist(s) if there is a period of construction inactivity of three weeks or more between January 1 and August 31 of any year.
  - iii. If any survey identifies any occupied nests, or if any sensitive species are discovered in the survey area, construction and remediation activities shall not occur within 300 feet of the nest, and within 500 feet for raptor and owl nests, or within any increased buffer width recommended by the approved biologist(s). All other construction and remediation activities shall be implemented to ensure that noise levels do not exceed 60 dB peak at the wetland boundary delineated pursuant to [Special Condition 5](#) until the approved biologist(s) certifies that the nest is vacated, juveniles have fledged, left the area, and are no longer being fed by the parents, and there is no longer any evidence of a second attempt at nesting.

- b. A provision for monitoring surveys that requires:
  - i. Prior to undertaking any development, including, but not limited to, construction, grading or excavation, the approved biologist(s) shall survey areas within 100 feet of the project site to determine whether sensitive bird species, including but not limited to Belding's savannah sparrow, western snowy plover, brown pelican, light-footed clapper rail, black skimmer, and/or California least tern, are present within 100 feet of the project site.
  - ii. The approved biologist(s) shall monitor the proposed development for disturbance to sensitive species or habitat area at least once a week during any week in which construction occurs and daily if development which has the potential to significantly impact biological resources is taking place.
  - iii. The biologist(s) shall advise Poseidon regarding methods to avoid significant impacts to sensitive species or habitat area.
- c. A prohibition on any development that would disturb sensitive species or habitat areas unless Poseidon obtains an amendment to this coastal development permit that would permit such disturbance.
- d. A provision that the breeding behavior and nesting surveys and the monitoring surveys shall be provided to Coastal Commission staff upon request.

Poseidon shall undertake development in accordance with the approved Avian Species Protection Plan. Any proposed changes to the approved Avian Species Protection Plan shall be reported to the Executive Director. No changes to the approved Avian Species Protection Plan shall occur without a Commission approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

- 13. **Term of Permit.** This permit authorizes the approved seawater desalination plant and associated facilities until the year 2050. If Poseidon intends to keep the approved development in place after this authorization expires, then Poseidon shall apply for a new coastal permit authorization to allow the approved development (including, as applicable, any potential modifications to it requested by Poseidon). Provided a completed application is received before the permit expiration, the expiration date shall be automatically extended until the time the Commission acts on the application.
- 14. **Coastal Hazards Response.** By acceptance of this permit, Poseidon acknowledges and agrees, on behalf of itself and all successors and assigns, that:
  - a. The intent of this permit is to allow for the approved development to be constructed and used consistent with the terms and conditions of this permit for only as long as it remains safe for use without additional substantive measures beyond ordinary repair and/or maintenance to protect it from coastal hazards; however, Poseidon may apply to relocate threatened development elsewhere on the site;
  - b. In the event that the approved development, including, but not limited to, the desalination facility and its associated structures and components, its intake and outfall structures, and the product water delivery pipeline, and any future

- improvements, is threatened with damage or destruction from coastal hazards, or is damaged or destroyed by coastal hazards, protective structures (including but not limited to seawalls, revetments, groins, deep piers/caissons, etc.) shall be prohibited;
- c. Any rights to construct such protective structures, including rights that may exist under Public Resources Code Section 30235 are waived;
  - d. If an appropriate government agency has ordered that the approved development or portions of the approved development are not to be occupied or used due to any coastal hazards, and such safety concerns cannot be abated by ordinary repair and/or maintenance, then Poseidon shall remove such development or portions of such development. Prior to removal, Poseidon shall submit two copies of a Removal Plan to the Executive Director for review and approval. If the Executive Director determines that an amendment to this permit or a separate coastal development permit is legally required, Poseidon shall immediately submit the required application. The Removal Plan shall clearly describe the manner in which such development is to be removed and the affected area restored so as to best protect coastal resources, and shall be implemented immediately upon Executive Director approval or approval of the permit or amendment application.
15. **Assumption of Risk, Waiver of Liability and Indemnity.** By acceptance of this permit, Poseidon acknowledges and agrees (1) that the site may be subject to hazards from ground motion, liquefaction, lateral spread, storm waves, storm surges, erosion, and flooding; (2) to assume the risks to Poseidon and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (3) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (4) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.
- PRIOR TO ISSUANCE OF THIS PERMIT, Poseidon shall submit a written agreement, in a form and content acceptable to the Executive Director, incorporating all of the above terms of this condition and recording them against the property on which the development is taking place.
16. **Flood Damage Prevention.** PRIOR TO ISSUANCE OF THIS PERMIT, Poseidon shall submit, for Executive Director review and approval, certification from a licensed engineer approved by the Executive Director, that the facility is elevated above, and protected from, a 500-year flood event at the project site that includes an additional 24 inches of sea level rise. The engineer's determination shall describe the methods and include the calculations used to determine the elevation of the current 500-year flood event at the site and those used to determine the elevation of a future 500-year flood event with the additional 24 inches of sea level rise expected during the facility's thirty year operating life.

17. **Flood and Tsunami Hazard Mitigation Planning.** PRIOR TO ISSUANCE OF THIS PERMIT, Poseidon shall submit, for Executive Director review and approval, a Facility Hazard Emergency Response Plan developed in coordination with the City of Huntington Beach, AES, Southern California Edison, and the Orange County Flood Control District. The Facility Hazard Emergency Response Plan shall include, at a minimum:
- a. The results of hydraulic and hydrodynamic modeling using methods approved by the Federal Emergency Management Agency (FEMA) or the National Oceanic and Atmospheric Administration (NOAA) showing the effects of Poseidon's proposed structures on other nearby structures (including, but not limited to: those structures associated with the existing adjacent power plant, including new structures that may be approved as part of the California Energy Commission's review of a new proposed power plant pursuant to 12-AFC-02; the on-site Southern California Edison substation; and the Orange County Flood Control Channel) during: (1) a tsunami runup of 11 feet above mean sea level with an additional two feet of sea level rise (for a total runup of 13 feet above mean sea level); and, (2) the 500-year flood events as determined pursuant to [Special Condition 16](#).
  - b. Concurrence from AES, Southern California Edison and the Orange County Flood Control District that the modeling efforts accurately reflect expected hazard levels at these nearby structures.
  - c. Structural and non-structural measures Poseidon will implement to avoid, or if infeasible to avoid, to reduce any identified adverse effects of tsunami and flood events of its facility's structures on the above-referenced adjacent structures and to ensure human safety. Structural measures shall include either those that allow facility personnel immediate vertical evacuation to safe areas above tsunami runup elevations or those that allow facility personnel to remain inside structures that are not subject to inundation. The structural measures identified and required by this Plan shall be determined through the structural engineer approval required by [Special Condition 18](#) to be fully tsunami-resistant.

Poseidon shall undertake development in accordance with the approved Facility Hazard Emergency Response Plan. Any proposed changes to the approved Facility Hazard Emergency Response Plan shall be reported to the Executive Director. No changes to the approved Facility Hazard Emergency Response Plan shall occur without a Commission approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

18. **Structural Stability.** PRIOR TO ISSUANCE OF THE PERMIT, Poseidon shall provide for Executive Director review and approval documentation from a qualified and licensed structural engineer approved by the Executive Director, certifying that the desalination facility and its associated components in the coastal zone (as modified by these special conditions and including its seawater intake and outfall and its product water delivery pipeline), are designed to resist without collapse or structural damage the forces resulting from any and all of the following seismic and geologic hazards:



- a. The “design-level” earthquake, which, as specified in SEIR Mitigation Measure GEO-3, is to be determined based on methods required in the 2010 California Building Code;
  - b. Ground motion based on 2010 California Building Code requirements for Site Class F, with an acceleration response spectrum corresponding to 80% of the Site Class E response spectrum;
  - c. Soil settlement or displacement due to liquefaction or lateral soil spread of at least nine inches vertically and at least thirty-eight inches horizontally;
  - d. Groundwater table elevations at the ground surface; and,
  - e. Tsunami runup at the facility site of 11 feet above mean sea level with an additional two feet of sea level rise for a total of 13 feet above mean sea level.
  - f. Flooding from the 100-year and 500-year flood events, including increased flood elevations resulting from two feet of sea level rise. Flood elevations shall be based on the requirements of [Special Condition 16](#).
19. **Geologic Stability and Project Reliability.** PRIOR TO ISSUANCE OF THIS PERMIT, Poseidon shall provide for Executive Director review and approval documentation from the City of Huntington Beach showing that the project is consistent with the City’s most recent Hazard Mitigation Plan and Multi-Hazard Mitigation Plan prepared pursuant to California Government Code Sections 8685.9 and 65302.6 and Section 44 CFR 201.6 et seq.
20. **Greenhouse Gases.** PRIOR TO ISSUANCE OF THIS PERMIT, Poseidon shall submit a Revised Greenhouse Gas Emissions Reductions Plan (GHG Plan) for Executive Director review and approval. The Revised GHG Plan shall be substantially in conformance with the April 2010 plan provided with the project SEIR, but shall be revised as follows:
- a. The Revised GHG Plan shall include only those proposed mitigation measures, offsets and credits approved by the Executive Director, including those described by Poseidon as "project-related" emission reduction measures, consistent with the requirements and protocols established pursuant to California's implementation of AB 32.
  - b. The Revised GHG Plan’s annual accounting measures shall be modified to ensure that the amount of mitigation measures, offset, and credits Poseidon implements each year are sufficient to offset the total indirect emissions from Poseidon’s electricity use, less those exempted under the CEQA threshold and those implemented by Poseidon’s electricity provider(s).

Poseidon shall undertake development in accordance with the approved Revised GHG Plan. Any proposed changes to the approved Revised GHG Plan shall be reported to the Executive Director. No changes to the approved Revised GHG Plan shall occur without a Commission approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

21. **Public Access.** PRIOR TO ISSUANCE OF THIS PERMIT, Poseidon shall submit, for Executive Director review and approval, a Traffic Management Plan approved by the City of Huntington Beach that includes all measures necessary to ensure project-related traffic does not result in a decreased Level of Service on roadways within the coastal zone that provide public access to the shoreline.

In addition, and upon approval by the City of a proposed Traffic Management Plan for activities resulting from the Department of Toxic Substances Control's Remedial Action Plan for the Ascon Landfill and/or for activities resulting from the California Energy Commission's approval of the Huntington Beach Energy Project (pursuant to 12-AFC-02), Poseidon shall submit, for Executive Director review and approval, a Revised Traffic Management Plan approved by the City of Huntington Beach documenting that Poseidon's project, in association with one or both of the above projects, does not result in a decreased Level of Service on roadways within the coastal zone that provide public access to the shoreline.

## IV. FINDINGS AND DECLARATIONS

### A. PROJECT BACKGROUND

In 1998, Poseidon first proposed building desalination facilities in Carlsbad and Huntington Beach. Both facilities were based on co-locating with existing coastal power plants that pulled in and discharged up to several hundred million gallons per day of seawater to cool their generating units. Poseidon proposed to re-use that water after it was discharged by the power plant to produce 50 million gallons per day (mgd) of potable water for distribution to the local and regional water systems.

At the time, this approach offered several benefits:

- The power plant's use of the seawater had already killed the marine life drawn into the intake.
- The higher temperature of the power plant discharge allowed the desalination facility's reverse osmosis membranes to operate at higher efficiency.
- The power plant's much larger discharge volume plant would dilute the approximately 50 mgd of brine discharged from the desalination facility, thereby reducing potential effects of increased salinity in the marine environment.
- The desalination facility would use existing intake and outfall structures instead of having to construct new structures.

Starting in 2002, the City of Huntington Beach conducted a CEQA review for the proposed facility, but in December 2003 declined to certify the project's Final Environmental Impact Report (EIR), citing the document's inadequate review of a number of issues. Poseidon then re-applied to the City with a slightly modified proposal. In September 2005, the City certified a Recirculated EIR and in February 2006 approved a CDP. That CDP was appealed to the Commission, which, in April 2006, found Substantial Issue existed with respect to LCP policies related to protection of marine life and water quality, protection of environmentally sensitive habitat areas, energy use and development, and adequate public services.<sup>1</sup>

In May 2006, Poseidon submitted a CDP application for the portion of its project within the Commission's retained jurisdiction (i.e., project components seaward of the mean high tide line). Staff deemed that application incomplete, and requested, among other items, a site-specific offshore geotechnical investigation to assess under Coastal Act policy requirements which seawater intake design would minimize entrainment impacts and be the least environmentally damaging feasible alternative.

In 2005, the State Water Resources Control Board started developing a policy to reduce the adverse effects of power plant once-through cooling systems. At their peak, the state's coastal power plants pulled in more than 16 billion gallons per day of seawater, killing billions of fish, fish eggs, and larvae each year. After convening several expert review panels and holding a

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<sup>1</sup> Appellants were Residents For Responsible Desalination, Surfrider Foundation, and Commissioners Reilly and Shallenberger.

number of public workshops and interagency reviews that included Commission staff, the Board in May 2010 adopted a policy that required the phase-out of once-through-cooling systems at most of the state's coastal power plants.

While developing its once-through cooling policy, the State Board also recognized the potential that desalination could cause the same types of adverse marine life effects as seawater cooling systems. Starting in 2007, the Board convened expert panels and held a number of public workshops to develop a policy meant to ensure desalination facilities would avoid and reduce those effects. Commission staff participated in the workshops and in an interagency workgroup convened to assist the Board's policy development. The Board expects to publish the draft policy in November 2013, with adoption anticipated in early 2014. That policy is expected to apply specific requirements to desalination intakes and outfalls for minimizing potential adverse effects on water quality and marine life.

In 2009, Poseidon submitted to the City a proposed re-configuration of its project components on the power plant site, which required the City to conduct additional CEQA review. In September 2010, the City certified a Supplemental EIR (SEIR) and issued a new CDP, which was appealed to the Commission (see **Appendix C** – City of Huntington Beach CDP #10-014).<sup>2</sup> In November 2010, the Commission found Substantial Issue existed with respect to the same LCP issue areas as in the 2006 appeal, along with additional LCP policies related to protection of marine life, water quality, and wetlands, the facility's land use designation, public recreation, protection against seismic events and liquefaction, growth-inducement, and whether the project met the LCP's requirement for mitigation to the maximum extent feasible (see **Appendix D** – Commission's Final Adopted Findings on Substantial Issue).

In April 2011, Poseidon submitted a request to amend its CDP application to the Commission to reflect the modified version of the project approved by the City. Staff again deemed Poseidon's application incomplete largely due to the same information gaps identified in staff's initial 2006 incomplete letter. Incomplete information included site-specific offshore geotechnical information needed to determine the feasibility of less environmentally damaging intake alternatives, and Poseidon's proof of legal interest in several aspects of its proposed project.

In June 2012, the Huntington Beach power plant owner, AES Corporation, in response to the State Board's policy to phase out once-through cooling systems, submitted its Application For Certification to the California Energy Commission to start the process of converting the power plant to a dry-cooling system that would not rely on ocean water for cooling. The Board's policy includes a compliance date of 2020 for the Huntington Beach power plant, and AES expects to end its use of seawater by 2018. This means that Poseidon's proposal to use the power plant's existing intake and outfall must be evaluated under the City's LCP and Coastal Act as a "stand alone" facility.

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<sup>2</sup> Appellants were Orange County Coastkeeper, Surfrider Foundation, Residents For Responsible Desalination, and Commissioners Wan and Mirkarimi.

Although Poseidon has several times submitted information to address staff's request for onsite geophysical and hydrogeologic data needed to assess the feasibility of alternatives to the use of the soon-to-be-retired power plant intake, most of the information Poseidon submitted was from other locations and not applicable to the project site. In a number of letters, starting with its first "Notice of Incomplete Application" letter in June 2006, Commission staff informed Poseidon that it needed to provide site-specific geotechnical data, including data similar to that collected from offshore investigations and studies conducted by other California desalination proponents.<sup>3</sup> Nonetheless, Poseidon stated, most recently in its May 9, 2013 letter responding to staff's information requests, that it believed it has satisfied all those requests.

In June 2013, Commission staff discussed with Poseidon two options available to address the incomplete application. Poseidon could request a "completeness" hearing pursuant to Section 13056 of the Commission's regulations, in which the Commission would determine whether the application was complete, or the Executive Director could agree to file the application as complete, notwithstanding staff's view that more information was needed, and that staff would develop a staff recommendation based on the available information and would note in its recommendation where information was missing. Poseidon chose the latter option, and in July 2013, staff filed the application and began preparing a staff recommendation.

In August 2013, Poseidon informed Commission staff that it would conduct a geophysical survey offshore of Huntington Beach, which it expected would provide part of the information staff had requested. On October 2, 2013, Poseidon submitted a partial report of the data collected. Commission staff then requested the full survey data and some additional analyses of that data. On October 18, 22, and 23, 2013, Poseidon provided the full survey data and additional information, but not the analyses Commission staff requested.

## **B. PROJECT DESCRIPTION**

Poseidon proposes to construct and operate a seawater desalination facility, water storage reservoir, and water delivery pipeline that would produce and deliver up to 50 million gallons per day (mgd) of potable water to nearby areas of Orange County (see **Exhibit 1** – Area Map). The desalination facility and water storage reservoir would be located on about 13 acres of the approximately 58-acre site of the Huntington Beach Generating Station, a power plant owned and operated by AES Corporation (see **Exhibit 2** – Site Plan). The water delivery pipeline would run from the project site to one or two possible points of connection to the regional water distribution system (see **Exhibit 3** – Possible Water Delivery Pipeline Routes).

Onshore components of the desalination facility and water storage reservoir would be located on parts of the power plant site currently occupied by three fuel oil storage tanks formerly used by the power plant. Poseidon proposes to use the power plant's existing intake and outfall pipelines to draw in and discharge seawater.

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<sup>3</sup> See, for example, staff's "Notice of Incomplete Application" letters of June 20, 2006 and March 30, 2007 for Poseidon's initial CDP application, and similar letters of May 20, 2011 and March 20, 2012 for Poseidon's amended CDP application.

The main project components include the following:

- Remove Existing Structures: Poseidon would first remove the storage tanks formerly used by the power plant and associated structures, which would allow it to conduct the sampling and testing needed to fully characterize the contaminants known and suspected to exist in the site's soil and groundwater.
- Soil Remediation: Based on limited sampling at the site, there are known and expected soil and groundwater contaminants that Poseidon will need to remediate. Although sampling has not yet been conducted beneath the storage tanks, which cover a substantial area of the project footprint, Poseidon proposes to implement a Remedial Action Plan (RAP) that includes excavation and removal of up to about 18,000 cubic yards of soil (a worst-case estimate) containing petroleum and possibly other contaminants.
- Desalination Facility: The onshore facility would include an administration building, a reverse osmosis building, a pretreatment structure, a solids handling building, various chemical storage tanks and electrical equipment, pump stations, and other infrastructure needed to support the desalination process. The facility would contain 14 separate reverse osmosis membrane units. Each modular unit would produce about 4 mgd, with one kept in standby mode. Offshore components of the proposed facility include use of the power plant's existing intake and outfall pipes that extend beneath the beach and seafloor until they emerge into the water column about 1500 feet offshore.
- City Reservoir: The project includes a large water storage tank to be constructed by Poseidon and then turned over to the City for use as a reservoir in the City's water system. The tank would be about 250 feet in diameter by about 30 feet high and would hold approximately 10 million gallons of water. It would be located on the power plant site adjacent to the desalination facility.
- Water Delivery Pipeline: The project includes construction and operation of a water delivery pipeline between the facility and the regional water distribution system. The pipeline would be up to 54 inches in diameter and would be pressurized to deliver water from the facility, which is close to sea level, to points inland and at higher elevations. Water would be delivered along just one of several alternative routes – either to the east, to a connection point with the OC-44 water pipeline in the City of Costa Mesa, or to the north, to a connection point in northern Huntington Beach.

Poseidon proposes an operating life of 30 years after the commencement of commercial operations.

## **C. OTHER APPROVALS**

### **City of Huntington Beach**

On September 20, 2010, the City, acting as lead agency under the California Environmental Quality Act (CEQA), certified a Supplemental Environmental Impact Report (SEIR) for the proposed project and issued a coastal development permit (CDP) for those portions of the proposed development within the City's coastal zone jurisdiction. Poseidon may need additional approvals from the City, including the following:

*Agreements and Easements for Water Delivery Pipeline*

The proposed project and its water delivery pipeline is subject to an October 2010 Franchise Agreement between Poseidon and the City of Huntington Beach. That Agreement allows Poseidon to construct and operate a single water delivery pipeline about four miles long along one of several primary or alternative routes within the City. Poseidon will also need several additional approvals for its pipelines. Poseidon's more recent proposal to construct two separate pipelines may require a modified Agreement with the City and a new Conditional Use Permit. The project SEIR states that, depending on the final route selected, the pipeline would be constructed within several different rights-of-way and easements, and Poseidon has not yet secured authority to develop within these areas. For example, Poseidon has not yet obtained the approval to construct or operate within a Southern California Edison easement.<sup>4</sup> In addition, and as discussed later in these Findings, pipeline construction may require additional landowner approvals if upcoming geotechnical investigations along the route identify conditions that will require more extensive construction-related measures, such as wider trenches or larger staging areas. The project may later require a CDP amendment if Poseidon is unable to obtain the necessary approvals or has to change or widen its pipeline alignment within the coastal zone.

*Owner Participation Agreement*

The City previously approved an Owner Participation Agreement (OPA) with Poseidon, but Condition #4.b.2 of the City's CDP states that the OPA will need to be amended prior to issuance of the City's building permits.

*Water Purchase Agreement*

The City has required that Poseidon enter into a water purchase agreement that provides up to about three million gallons per day (mgd) of water at a discount to the cost of water the City purchases from the Metropolitan Water District and allows the City to purchase up to an additional four mgd during declared water emergencies.

**City of Costa Mesa**

Poseidon has proposed several possible pipeline routes through the City of Costa Mesa, but has not yet selected a final route. One of those routes is partially within the coastal zone in Costa Mesa and within the Commission's retained jurisdiction (the City does not have a certified LCP). The project before the Commission in this matter does not include the rest of the pipeline through the City of Costa Mesa.

The SEIR states that Poseidon will need encroachment permits and construction approvals from the City of Costa Mesa. Costa Mesa has confirmed that Poseidon would be required to obtain City permits and that the City may direct its staff to develop a Franchise Agreement with Poseidon for its proposed use of City property.<sup>5</sup> Additionally, the part of the proposed pipeline

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<sup>4</sup> See the July 17, 2013 Orange County Water District *Water Issues Committee Meeting Packet*, which states that part of Poseidon's main proposed water delivery pipeline route is within a Southern California Edison easement for which previous pipeline-related agreements have apparently expired.

<sup>5</sup> See, for example, the City of Costa Mesa's November 1, 2005 City Council Adopted Findings regarding Poseidon's proposed pipeline route through the City, which state, in relevant part (at page 4), "[t]he City Attorney has also confirmed that the City could require a franchise agreement for the construction and maintenance of this

route within the coastal zone in the City – i.e., the Hamilton/Victoria Street bridge crossing at the Santa Ana River – is outside the Water District boundary, so Poseidon will need to obtain a City permit for projects within the District’s rights-of-way. The SEIR also states that Poseidon would need approval to use other properties along the selected pipeline route within the City, including the Orange County Fair and Exposition Center, Fairview Park, the Costa Mesa County Club, and the Fairview Developmental Center, depending on the final pipeline alignment.

### **Regional Water Quality Control Board (RWQCB)**

The project will be subject to a Waste Discharge Requirements / National Pollutant Discharge Elimination System (WDR/NPDES) permit from the RWQCB. In December 2011, the RWQCB issued a permit allowing Poseidon to operate when the power plant is using its once-through cooling system or during short-term and temporary shutdowns of that cooling system. The permit requires Poseidon to apply for a stand-alone operation when the power plant permanently shuts down its cooling system.

### **State Lands Commission**

In August 2006, AES obtained a lease from the State Lands Commission (SLC) for continued use of the power plant’s once-through cooling system on state tidelands. In October 2010, the SLC modified that lease to include Poseidon as a co-lessee and allows joint operations by Poseidon and AES. The lease requires AES to apply to the SLC with a request to assign its lease obligations to Poseidon if AES proposes to discontinue use of its cooling system, which AES now plans to do by 2020.<sup>6</sup>

### **California State Parks**

AES has a grant of easement from State Parks for those portions of the power plant intake and outfall that cross beneath Huntington State Beach. State Parks issued a waiver to Poseidon for use of those structures until AES ends its use of the cooling water system, at which time, State Parks is expected to require Poseidon to obtain its own grant of easement.

### **Department of Public Health (DPH)**

The project needs to obtain at least two permits from DPH – a Wholesale Drinking Water Permit (preliminary approval granted in August 2002), and an Administrative Change to Retail Agencies’ Drinking Water Permit, which allows the project’s water to be used by local and regional water districts.

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pipeline in the City right-of-way and on City property”, and “...the project applicant will be required to obtain permits from the City of Costa Mesa prior to proceeding with any pipeline construction within the City limits.”

<sup>6</sup> As described in the lease, “AES shall notify Lessor in writing prior to discontinuing its use of the Lease Premises in connection with the production of electricity using Once-Through-Cooling (OTC). Upon receipt of notification by Lessor, AES may apply to Lessor for approval of an assignment of its obligations under the Lease to Poseidon Resources. In considering AES application for approval of an assignment, Lessor will take into account Poseidon Resources’ past performance and the likelihood that Poseidon Resources could and would carry out all obligations under the Lease as sole lessee. In the event that Lessor finds that there is a substantial probability that Poseidon Resources would not or could not carry out all such obligations, then Lessor may disapprove the assignment, in which case, at AES’s option, the Lease would terminate or AES would remain as Co-Lessee.”



### **Water District approvals**

Several water districts have expressed interest in purchasing water from Poseidon, though none have approved Water Purchase Agreements. Most would have to change their operations or modify their infrastructure to take delivery from Poseidon. A recent evaluation notes that local water districts would likely have to “upscale” their existing connections, add booster pump stations, and conduct detailed modeling to accept water from Poseidon’s project; however, the specific types and costs of these upgrades remain unknown, as none of the water districts have completed the necessary analyses or agreed to purchase a particular amount of Poseidon’s water.<sup>7</sup>

[Special Condition 2](#) requires Poseidon, prior to permit issuance, to submit proof of legal interest for the properties on which it would construct and operate its onshore facilities, and [Special Condition 3](#) and [Special Condition 4](#) require, respectively, that Poseidon submit future approvals from the State Lands Commission and the Department of Parks and Recreation use of their managed lands for Poseidon’s stand-alone use of intake and outfall structures when the power plant ends its use of the once-through cooling system.

### **D. COASTAL COMMISSION JURISDICTION**

The proposed project is located within the jurisdiction of both the City of Huntington Beach (the City) and the Commission, and requires a coastal development permit (CDP) from each. The landward elements of the project, which include demolition of existing power plant infrastructure, remediation of the site, and construction and operation of the desalination facility and its processing equipment, storage tanks, filters, and offices, along with the first mile or so of the water delivery pipeline and a metering station, are within the City’s CDP jurisdiction but were appealed and are being considered by the Commission de novo in this action. Elements of the project subject to the Commission’s retained jurisdiction include construction and operation of the facility’s seawater intake and outfall in the Pacific Ocean, and the withdrawal of seawater and the discharge of high-salinity effluent and various chemicals into ocean waters.

In addition, a segment of one of the proposed routes for the water delivery pipeline is within the coastal zone of the City of Costa Mesa. That segment crosses the Santa Ana River, where Poseidon proposes to install the pipeline by tunneling under the river. Because the City of Costa Mesa does not have a certified LUP or LCP, that segment remains within the Commission’s retained jurisdiction.

The full project is subject to review under the Commission’s federal consistency review authority, as at least two of Poseidon’s proposed pipeline crossings – beneath the Talbert and Huntington Beach Flood Control Channels – are within the range of tidal influence and subject to Corps of Engineers Section 10 permitting. Poseidon has not yet identified its proposed crossing location of the Santa Ana River, but January 2013 correspondence from the Corps indicates that the pipeline’s river crossing may also require Corps approval. The Commission’s review of the subject coastal development permit will constitute its federal consistency review for the proposed project.

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<sup>7</sup> See Water Issues Committee of the Orange County Water District, *Considering Seawater Desalination Project Supplies*, July 17, 2013.

### **Local Government Action**

On September 20, 2010, the City approved Coastal Development Permit 10-014, Tentative Parcel Map No. 10-013, and Conditional Use Permit No. 02-04. The approval included findings that the project conformed to applicable policies of the LCP, and included a number of conditions of approval (see **Appendix C**). Previously, on September 7, 2010, the City certified the Final Supplemental Environmental Impact Report (SEIR) for the project that included a number of mitigation measures (see **Appendix E** – Relevant SEIR Mitigation Measures).

### **Filing of Appeal with the Coastal Commission**

On September 27, 2010, the Coastal Commission received the City's Notice of Final Action and associated records to start the 10 working-day appeal period, which ended October 6, 2010. Timely appeals were filed on October 4<sup>th</sup> and 5<sup>th</sup>, 2010. The appeal was assigned file number A-5-HNB-10-225. On November 5, 2010, staff published its recommended Findings of Substantial Issue, and the Commission found that the appeal raised a substantial issue of LCP conformity regarding protection of marine life, water quality, and wetlands, the facility's land use designation, public recreation, protection against seismic events and liquefaction, growth-inducement, and whether the project met the LCP's requirement for mitigation to the maximum extent feasible (see **Appendix D** – Commission's Final Adopted Findings on Substantial Issue).

## **E. STANDARD OF REVIEW**

For the *de novo* review of the appealed permit application for the portion of the project located within the City's permit jurisdiction, the standard of review consists of the policies of the City's certified LCP and the public access and public recreation policies of the Coastal Act. For the portion of the project located in the Commission's retained jurisdiction, the standard of review consists of the policies of Chapter 3 of the Coastal Act. The Commission may also refer to the provisions of the certified LCP for guidance. Although the project spans two jurisdictions and must be reviewed under two separate CDP applications, the development functions as a single, inseparable project, and staff recommends that the Commission act on both decisions at one time. There are separate motions for the portion of the project in the Commission's appeal jurisdiction and the Commission's retained permit jurisdiction. The Commission must vote separately on each item.

## **F. MARINE LIFE AND WATER QUALITY**

LCP Policy C 6.1.1 states:

*“Require that new development include mitigation measures to enhance water quality, if feasible and at a minimum, prevent the degradation of water quality of groundwater basins, wetlands, and surface water.”*

LCP Policy C 6.1.2 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.”*

LCP Policy C 6.1.3 states:

*“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.”*

LCP Policy C 6.1.4 states:

*“The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain organisms and for the protection of human health shall be maintained and, where feasible, restored.”*

LCP Policy C 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.”*

Coastal Act Section 30230 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.*

Coastal Act Section 30231 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 waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

The above LCP and Coastal Act policies generally require that marine life be maintained, enhanced, and restored, where feasible, that entrainment be minimized to the extent feasible pursuant to LCP Policy C 6.1.19 and Coastal Act Section 30231, and that the biological productivity of coastal waters be maintained and restored. They also require that special protection be provided to areas and species of special biological significance.

The project as proposed would cause three main types of significant adverse effects to marine life and water quality: intake-related effects, discharge-related effects and construction-related effects, each of which is considered in detail below.

### **Intake Effects**

The project's largest and most significant adverse effect on marine life would result from its proposed use of an open intake. Poseidon's initial proposal, from 1998, was to use cooling water discharged from the power plant's existing open water intake. The advantages of that proposal have largely disappeared because of the SWRCB's requirement that cooling water use be phased out and because of the power plant's plan to retire the use of cooling water through that intake by 2020. Additionally, more recent studies, technology, and intake designs have resulted in feasible and less environmentally damaging alternatives to Poseidon's proposal.

### *Entrainment Effects*

Over the past several years, studies by California agencies have shown that entrainment caused by the state's coastal power plants collectively resulted in losses of about 50 billion larval fish annually and about 30 billion crabs and other invertebrates. These organisms are drawn in from coastal waters along several hundred miles of the state's shoreline, and represent a significant loss of ocean and estuarine productivity.<sup>8</sup>

In response to these effects, California has taken several actions to eliminate or reduce these adverse entrainment effects. In 2006, the Ocean Protection Council adopted a resolution calling for reduction of these effects and for research and interagency coordination regarding feasible alternative cooling methods that avoid and reduce entrainment. Concurrently, the State Water Resources Control Board started work on a policy to retire most of the once-through cooling systems in California, which it adopted in 2010. That policy requires the Huntington Beach plant to end its use of once-through cooling by 2020. The Commission has also recognized the severity of entrainment effects. In its review of both desalination facilities and coastal power plants, it has acknowledged the significant adverse effects of these open intake systems and required the use of alternative intakes or substantial compensatory mitigation.<sup>9</sup>

Determining the type and extent of a particular intake's entrainment effects requires a site-specific entrainment study. These studies involve collecting water samples from offshore areas near the intake, determining the extent of the intake's source water area, which is the area from which individuals of different species can be entrained, and determining the proportion of individuals within the source water area that are actually entrained. Each entrained species has a

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<sup>8</sup> See, for example, California Energy Commission, *Issues and Environmental Impacts Associated with Once-through Cooling at California's Coastal Power Plants*, CEC-700-2005-013, June 2005; Steinbeck, John, John Hedgepeth, Peter Raimondi, Gregor Cailliet, David Mayer, *Assessing Power Plant Cooling Water Intake System Entrainment Impacts*, CEC 700-2007-010, California Energy Commission, October 2007; State Water Resources Control Board and California Environmental Protection Agency, *Water Quality Control Policy on the Use of Coastal and Estuarine Waters For Power Plant Cooling*, March 2008.

<sup>9</sup> See, for example, the Commission's Adopted Findings regarding Energy Commission proceedings for repowering of the Morro Bay Power Plant (00-AFC-12), the El Segundo Generating Station (00-AFC-14), and Poseidon's desalination facility in Carlsbad (CDP E-06-013).

different source water area, based on the area's current speeds and the age at which individuals of each species can swim away from the pull of an intake. For some intakes and species, the source water area can include dozens of miles of nearshore waters.

Entrainment losses are commonly measured as “Area of Production Foregone” (APF), which represents the area of habitat needed to produce the individuals of each species that are lost due to entrainment. The APF is based on the extent of habitat in which entrainable larvae are subject to being pulled in to the intake (the “source water population”) multiplied by the percentage of larvae from that area actually pulled in. For example, if the source water area for a particular species covers 10,000 acres and the intake pulls in 1% of the larvae within that area, the Area of Production Foregone for that species would be 10,000 acres X 0.01 = 100 acres. For some species, the APF is sometimes further refined by identifying particular habitat types within the source water area – for example, the APF for a species that lives only on rocky reef habitat can be based on the total area of rocky reef habitat within the overall source water area.

Importantly, the losses identified in these studies represent only those species that can be identified and that are most numerous in the collected samples. They are also limited to “meroplankton”, which are organisms such as fish and shellfish that grow out of the planktonic stage to larger adult stages. Entrainment losses calculated in these studies do not include “holoplankton”, which are species that remain at the planktonic stage during their entire life cycle. Although not represented in the studies, entrained holoplankton are a significant part of the nearshore food web and a significant source of productivity in California's coastal waters.

Poseidon did not conduct its own entrainment study, but is instead relying on the entrainment study conducted by AES as part of its 2002 California Energy Commission re-licensing review of the Huntington Beach power plant.<sup>10</sup> The Commission concurs with Poseidon that this study is applicable to Poseidon's proposed use of the intake. Results of that study show Poseidon's proposed 127 mgd intake volume would result in annual entrainment of about 80 million individuals of 11 different fish and invertebrate species, including several with commercial or recreational value, such as California halibut. As noted above, these represent only the most common of the more than 50 species identified in the samples.

The source water areas of species entrained in this intake extend up to about 100 miles of the shoreline. The Areas of Production Foregone calculated for the sampled species range from about seven acres to about 350 acres, with an average of about 110 acres. For example, the APF for queenfish, with a source water extending along about 53 miles of shoreline, is about 164 acres, while the source water distance and APF for the California halibut are 19 miles and 23.7 acres, respectively. The various source water areas encompass at least nine State Marine Conservation Areas (SMCAs) or State Marine Reserves (SMRs) established pursuant to California's Marine Life Protection Act Initiative – those within 50 miles upcoast or downcoast of the intake include Bolsa Bay SMCA, Bolsa Chica Basin SMCA (“no take”), Upper Newport Bay SMCA, Crystal Cove SMCA, Laguna Beach SMR, Laguna Beach SMCA (“no take”), and Dana Point SMCA (see **Exhibit 5** – Nearby Marine Protected Areas). California established

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<sup>10</sup> MBC Applied Environmental Services, and Tenera Environmental, *AES Huntington Beach L.L.C. Generating Station Entrainment and Impingement Study – Final Report*, April 2005.

these Marine Protected Areas (MPAs) to identify specific areas within the state's coastal waters that would function as a network to support unique assemblages of diverse species and habitats. Integral to this network function is the idea that MPAs would act as a series of "stepping stones," allowing organisms originating in one MPA to drift with the currents and settle in the next protected area.

The project's currently expected level of entrainment effects are expected to increase in relative severity as global climate change intensifies and creates its own adverse effects on marine life. Warming seas are expected to change existing habitats and are likely to bring in new species that create additional population pressures on the existing species along Southern California. Ocean acidification, which is another consequence of global climate change, is creating its own adverse effects on the marine ecosystem. While the effects of acidification have been focused primarily on the threats to mollusks (i.e., decreasing pH levels in ocean water make it more difficult for clams, oysters, etc., to form shells), a recent study suggests that larval fish may be even more sensitive to acidification.<sup>11</sup> Thus, any measures that would avoid or reduce entrainment losses would provide even greater mitigation value under future expected conditions.

#### *Impingement Effects*

Poseidon's proposed use of the power plant intake would also result in continued impingement of marine life. Although the power plant's use of the intake has generally resulted in a relatively low rate of impingement compared to some other coastal power plants, Poseidon's proposed use of the intake would continue and increase that avoidable adverse effect. Poseidon's proposed intake volumes would also be inconsistent with state and federal guidance regarding the maximum allowable intake water velocities to ensure *de minimis* rates of impingement.

An intake's impingement rate is primarily a function of water velocity. The federal Clean Water Act establishes a maximum velocity of 0.5 feet per second as the required Best Available Technology for once-through cooling water intakes. This is the velocity generally considered to be a speed below which most fish can swim to avoid being impinged. Intakes that operate at or below this velocity are generally considered to cause no more than *de minimis* levels of impingement. The State Water Board has adopted the 0.5 fps maximum speed as part of its Once-Through Cooling Policy amendment to the state's Ocean Plan, and is considering adopting it as part of the proposed Desalination Policy amendment to the Plan, due out in November 2013. The Commission has independently required that intake velocities not exceed 0.5 fps, most recently in its approval of Poseidon's Carlsbad desalination facility (CDP #E-06-013).

During Commission staff's review of Poseidon's CDP application, staff asked Poseidon to identify its expected intake velocities. Poseidon responded in a February 17, 2012 letter that the 0.5 fps maximum rate applies only to once-through-cooled facilities, that it isn't required by the State Water Code, and that it is premature to determine intake velocities. Poseidon has also stated in its 2010 assessment that its expected impingement rate is less than a pound of fish per day, which it believes should be considered *de minimis*.<sup>12</sup> As noted above, however, the State

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<sup>11</sup> See Wittmann, Astrid, and Hans-O Portner, *Sensitivities of extant animal taxa to ocean acidification*, Nature Journal of Climate Change, 2013.

<sup>12</sup> See Poseidon's evaluation in SEIR, Appendix M – *Intake Effects Assessment*.

Board is considering adopting the maximum 0.5 fps rate as part of its draft Desalination Policy, which would apply to Poseidon's proposed project. And, in determining mitigation measures to ensure consistency with Coastal Act requirements to maintain and enhance coastal resources, the Commission required the 0.5 fps maximum velocity as a condition of Poseidon's Carlsbad facility.<sup>13</sup> Determining intake velocity is also a significant consideration in the overall design of a facility, as it is relevant to sizing intakes, pumps, and other equipment, and can determine what mitigation measures might be installed as part of the facility – e.g., fish screens or return systems similar to those used elsewhere at facilities with higher velocities. Additionally, as described below, Poseidon's impingement rate would likely be higher than that described in its above-referenced assessment.

To identify expected velocities, Commission staff relied on data provided by AES and determined, based on the intake dimensions, that Poseidon's proposed average 127 mgd seawater withdrawals would result in intake velocities greater than 0.5 fps. Depending on where they are measured, velocities would range from just over 0.7 fps to about 1.36 fps, or more than twice the acceptable rate.<sup>14</sup> For Poseidon's water withdrawals to be no greater than 0.5 fps, its maximum rate of withdrawal would need to be approximately 87 mgd at the intake opening and about 50 mgd within the intake pipe. In addition, and as described below, with marine biofouling expected to reduce the effective inside diameter of the intake, the velocities associated with pulling in a particular amount of water would increase, thereby further increasing the expected velocities to rates further above those considered to cause no more than *de minimis* impingement levels. The power plant's NPDES permit reports already show higher impingement rates than Poseidon described. In 2011, for example, the plant's average water use was about 98 mgd and its monthly sampling reports showed that impingement rates varied widely, with its one sampling day per month totals ranging from about two to over 900 pounds per day, for an average of about 160 pounds per day of sampling. These totals included an average of more than 11 pounds of fish per sampling day, with over 130 pounds of other marine life in the form of algae and shells as well as marine debris, which is greater than 0.5 fps and greater than a *de minimis* impingement rate.

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<sup>13</sup> The expected velocity is of particular interest, not only because of the State Board's and Commission's previous regulatory reliance on the 0.5 fps maximum velocity, but because it was the topic of a permit revocation hearing for Poseidon's Carlsbad facility (see No. R-E-06-013, December 10, 2009). In that hearing, the Commission acted on a revocation request contending that Poseidon had provided intentionally misleading information about its intake velocity that resulted in undermitigation of the facility's adverse effects. The Commission determined that there was confusion about where Poseidon had measured its expected velocity, but did not revoke the permit. Following that hearing, however, the San Diego Regional Water Quality Control Board included additional mitigation requirements on Poseidon's NPDES permit to reflect the increased impingement expected from the higher identified velocities.

<sup>14</sup> Intake dimensions as identified in the above-referenced 2005 AES entrainment study, are a 21-foot by 16-foot oval intake opening, with an average diameter of 18.5 feet, and a 14-foot diameter intake pipe. The facility's proposed average flow rate of 126.7 mgd would result in a 0.73 foot-per-second (fps) velocity at the opening, which is about 40% higher than the 0.5 fps maximum allowable velocity for *de minimis* impingement impacts. Within the intake, velocities would be about 1.28 fps. At the facility's 135 mgd maximum flow rate, those velocities would be about 0.78 and 1.36 fps, respectively.

Poseidon's proposed stand-alone use of the existing intake involves two additional concerns that it has not yet addressed – treating marine biofouling and assessing structural stability – that could result in additional adverse effects, as described below:

#### *Marine “Biofouling”*

A number of studies identify the type of cooling water intake structures used in Huntington Beach as providing ideal conditions for many forms of marine life – the structures provide large amounts of substrate on which organisms can attach and grow, the continuous flow of water through the intake provides a constant stream of food and dissolved oxygen and also removes the organisms' waste products, and the reduced light inside the structure precludes or limits the growth of algae on the attached organisms – with the result being a much higher growth rate for marine life within the structure than on the outside and higher growth rates inside open intakes compared with subsurface intakes.<sup>15</sup>

To address this issue currently, every six to eight weeks the power plant re-directs its heated discharge water for several hours through the intake instead of the outfall, creating temperatures inside that are high enough to kill the organisms attached to the intake's interior. Without these treatments, which will end by 2020 with the power plant's retirement of its once-through cooling system, the rate of marine life growth would soon either severely reduce or completely block the intake and its water flow. The increased number of organisms in the pipe would also result in higher concentrations of ammonia and other waste products that would have to be removed as part of the desalination facility's treatment processes. This problem has already been reported at coastal power plant intakes where flows continue but heat treatments are no longer available.

With the loss of heat treatments, Poseidon would need to develop an alternative method to keep the intake clear. Methods used elsewhere to clear intake structures include mechanical – i.e., scouring the inside of the structure using balls made of different materials, or using “pigs”, which are lozenge-shaped cylinders that are sized just slightly smaller than the intake and run through it to remove marine growth; chemical – which involves using high doses of chlorine, copper, bromine, ozone, or other compounds to kill marine life; or painting the interior of the structure with antifouling paint containing biocides, which is an alternative form of chemical treatment. Facilities that construct new intakes generally include one or more of these methods in their design or in their operations. Depending on the method selected, this could result in additional adverse effects on marine life.

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<sup>15</sup> See, for example, Rajagopal and Jenner, *Biofouling in Cooling Water Intake Systems: Ecological Aspects*, in *Operational and Environmental Consequences of Large Industrial Cooling Water Systems*, Springer, 2012; Kasama, Hiroko, *Tackling the Biofouling Challenge*, from *Global Water Intelligence*, Volume 12, Issue 4, April 2011; and Saeed, Mohamed, G.F. Al-Otaibi, G. Ozair, and A.T. Jamaluddin, *Biofouling Potential in Open Sea and Adjacent Beach Well Systems*, from *Desalination & Water Reuse*, Volume 15/1, 2005; Satpathy, K.K., A.K. Mohanty, Gouri Sahu, S. Biswas, M.V.R. Prasad, and M. Sivanayagam, *Biofouling and its control in seawater cooled power plant cooling water system – a review*, in *Nuclear Power*, Pavel Tsvetkov (ed.), Intech Open Publishing, August 2010; and Knox-Holmes, B., A. Hassan, E. Williams, and I. Al-Tisan, *Fouling Prevention in Desalination Plants*, presentation at Second Gulf Water Conference, Bahrain, 1994.



Given the size of the Huntington Beach intake structure – about 14 feet in diameter and 1,500 feet long – these alternatives either do not appear feasible or would cause additional adverse effects that have not been addressed. For example, the mechanical cleaning balls noted above are used to clear only small diameter structures, such as the condenser tubes within a power plant that are no more than a few inches in diameter. “Pigs” are used for larger diameter pipes, though generally for those no more than two or three feet in diameter. Using chemical methods at Huntington Beach would require substantial “dosing” to be effective in an intake of this size – the intake holds about 1.8 million gallons of seawater, which would require a substantial amount of chemicals to treat. In addition, the intake would likely require a significant retrofit of the structure – for example, to install chemical feedlines, to add structures at the opening to contain the water volume being dosed, etc. These methods may also result in water quality discharges that exceed the state’s water quality standards and the facility’s NPDES permit requirements and could reduce the efficiency of the facility’s pre-treatment system. The antifouling paint approach is used on new structures, and would be difficult, if not entirely infeasible, on an existing structure of this size.

### *Structural Stability*

As noted above in *Section IV.I – Geologic Hazards*, the project area is subject to relatively severe seismic hazards from onshore and offshore fault structures. The area’s seismic characteristics raises concerns about the overall stability and reliability of the existing intake structure, which was built about fifty years ago and not necessarily designed or constructed with techniques now used to resist the currently expected levels of seismic forces in the area.

If the proposed intake were otherwise consistent with Coastal Act and LCP policies, the Commission could address this issue by ensuring that [Special Condition 18](#) applied to the existing structure – that is, having a structural engineer certify that the existing structure will be stable in the face of the area’s identified geologic hazards – and that any needed modifications to the intake structure were also consistent with that requirement.

### *Conclusion*

Coastal Act Sections 30230 and 30231 require that the productivity of coastal waters be maintained and enhanced, and that adverse entrainment effects be minimized to the extent feasible. LCP Policies C 6.1.2, 6.1.3, and 6.1.4 similarly require that productivity be maintained and LCP Policy C6.1.19 requires the City to include maximum feasible mitigation measures to minimize entrainment from seawater pumping. These are similar to requirements of the state’s water code, at Section 13142.5(b) of the Porter-Cologne Act, which requires a project proponent to “use the best available site, design, technology, and mitigation measures feasible ... to minimize the intake and mortality of all forms of marine life.”

As currently proposed, Poseidon’s design and proposed use of the intake would maximize entrainment – that is, it would use, without modification, an unscreened open intake located in shallow nearshore waters that would pull in more than 80 million organisms each year. That intake was sited several decades ago before the severity of its adverse entrainment effects was understood. Poseidon also proposes to draw in more seawater than needed for water production in order to partially dilute its brine discharge, which increases its adverse entrainment effects. Poseidon’s use of the intake would also increase the impingement rate to greater than *de minimis*

levels. Absent Poseidon's project, these adverse effects would end by 2020 with the power plant's planned cooling water system shutdown. With Poseidon's proposed continued use of the intake only for desalination (rather than using the by-product of the power plant cooling water), these significant adverse marine life entrainment and impingement effects would continue for an additional 30 years, and would potentially be increased by the use of as-of-yet unknown alternative methods of treating biofouling. However, these adverse effects can be avoided and minimized by selecting a feasible and less damaging alternative intake design, as described below.<sup>16</sup>

### **Intake Alternatives Analysis**

In implementing the Coastal Act and LCP and selecting feasible and less environmentally damaging alternatives, the Commission is guided by the mitigation sequencing identified in CEQA, which requires feasible mitigation measures be considered in the following order:<sup>17</sup>

- Those that would entirely avoid the impact;
- Those that would minimize impacts by limiting the proposed action;
- Those that would rectify the impact by repairing or restoring the affected environment;
- Those that would reduce or eliminate the impact over time through preservation and maintenance; and,
- Those that compensate for the impact by replacing or providing substitute resources or environments.

For seawater intakes, meeting the first step of the mitigation sequence – avoiding the impact – is most often done by using any of several subsurface intake designs and selecting a site where subsurface intakes can feasibly be built and operated to provide the amount of seawater or brackish water needed, as is being done at several locations along the California coast (see examples below). Where these designs are infeasible, meeting the second step – limiting the impacts – can be accomplished in a number of ways, including siting the intake at a location with lower concentrations of entrainable organisms, drawing less water into the intake, and/or placing any of several types of screens over the intake to reduce entrainment. When these methods are infeasible or do not fully mitigate for entrainment, compensatory mitigation is required to make up for the loss of marine life and productivity resulting from entrainment and impingement. All seawater desalination facilities being proposed along the California coast, except Poseidon's, are proposing to use either subsurface intakes or screened intakes or proposing to site their intakes at locations that would reduce the number of entrained organisms.

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<sup>16</sup> For purposes of identifying feasible mitigation measures for minimizing entrainment, the Commission has previously defined "minimize" as "to reduce to the smallest possible amount, extent, size, or degree." See, for example, the Commission's Final Adopted Findings for Poseidon's Carlsbad desalination facility, CDP E-06-013).

<sup>17</sup> See Section 15370 of the CEQA Guidelines. CEQA and the Coastal Act have similar definitions of "feasible" Section 30108 of the Coastal Act defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." The CEQA definition, at Section 15364 adds "legal" as a factor.

*Subsurface Intakes Generally*

Subsurface intakes include any of several designs that draw seawater through an overlying layer of sand, sediment, or other permeable material. These intake designs require either natural or artificial substrates that exhibit sufficient permeability to allow a given amount of seawater to be drawn into an intake system located beneath the seafloor. Where site conditions are appropriate, a properly-designed subsurface intake will not cause any adverse effects to marine life during operations, and cause relatively few, if any, adverse effects during construction.

The Commission has approved CDP applications for a number of site-specific geotechnical and hydrogeologic investigations meant to determine the feasibility (or infeasibility) of different intake methods, and has relied on the results of those investigations in its eventual review and approval of desalination facilities. In some cases, study results have shown that one or more subsurface methods are feasible; in others, results show that site conditions do not allow for a subsurface intake.

The above-referenced Missimer study described how subsurface intakes are used internationally for desalination facilities. It emphasized the importance of identifying hydrogeological conditions at and near a site before starting to design a facility. It recommended conducting an initial investigation that includes reviewing information about areas available for subsurface intakes, such as detailed site descriptions, geologic maps, bathymetric maps, historical and current aerial photographs, and results of available oceanographic investigations. Depending on the site, follow-up investigations can include:

- Determining site bathymetry and oceanographic conditions – e.g., determine current speeds, seasonal sediment movement, benthic substrate and habitat, conduct offshore alluvial basin survey, etc.
- Conducting test borings to construct detailed geologic logs and to collect sediment samples to determine sediment grain size distribution;
- Constructing one or more monitoring wells to collect samples for water quality chemical analysis and to conduct pump tests or other methods to determine hydraulic conductivity.<sup>18</sup>

The study further identified several general characteristics that favor the feasibility or indicate the infeasibility of subsurface intakes. Coastal areas underlain with deposits of sand or gravel or with relatively stable sandy beaches are good candidates for subsurface intakes, while areas with high percentages of muds or silt or with rocky shorelines or outcrops are not. Sites where offshore currents act to maintain subsurface permeability are generally better than sites with little or no current movement. In many ways, the beach and offshore areas of Huntington Beach exhibit what appear to be ideal characteristics for subsurface feasibility, as the area consists of broad, relatively uninterrupted sandy bottom with currents that help maintain seafloor conditions that are useful for subsurface intakes.

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<sup>18</sup> See, for example, the investigations identified in Missimer, *ibid.*, and the geotechnical/hydrogeologic investigations conducted pursuant to CDPs Nos. E-11-013-W (San Diego County Water Authority), E-09-004 (Municipal Water District of Orange County), E-08-020 (West Basin Water District), and E-09-002-W (City of Santa Cruz).

Over the past decade, most of the Commission's approvals for desalination-related projects have been either to allow these types of geotechnical investigations or to approve facilities that relied on these site-specific data to select the appropriate intake design. Examples include:

Metropolitan Water District of Orange County (MWDOC): MWDOC conducted a number of onshore and offshore investigations at Doheny State Beach in Dana Point. Results of those investigations led to construction of a pilot desalination facility and installation of a slant well that MWDOC has operated for the past several years. Although early water quality issues reduced the facility's operational efficiency, additional geotechnical studies and ongoing improvements in the facility's operation have led to a recent determination by the District that it could construct additional slant wells at the site to pull in up to 30 mgd for a full-scale desalination facility that would produce water at an estimated \$1200 to \$1360 per acre-foot.<sup>19</sup>

San Diego County Water Authority: The Water Authority conducted investigations along the shoreline and offshore of the City of Oceanside and the south end of Camp Pendleton. The investigations included test borings, installation of monitoring wells, pump tests and other similar efforts to determine the area's geotechnical and hydrogeologic characteristics. In 2011, the Water Authority published its preliminary feasibility findings showing that a proposed reverse osmosis facility similar to Poseidon's but producing up to 150 mgd could use any of several feasible subsurface intake designs, including an infiltration gallery or a deep infiltration gallery, or could use a screened intake design that reduces, but does not eliminate entrainment. These findings also concluded that a subsurface intake would result in energy savings of about 10% and overall facility cost savings of 13% as compared to a screened open water intake.<sup>20</sup>

West Basin Water District: the Commission approved a pilot study for the West Basin Water District (CDP E-08-020) to compare the entrainment rates of open, screened and sand filter intakes at the same location, with the small sand filter serving as a proxy for a subsurface intake. Preliminary results show that the sand filter had almost no entrainment – its rate was less than 0.25% of that caused by the open intake.<sup>21</sup>

City of Santa Cruz: the City conducted several investigations to identify potential subsurface intake sites along about several miles of shoreline near Santa Cruz (see CDP E-09-002-W). The investigations included conducting seismic reflection surveys, characterizing the thickness and type of alluvial sediments, taking core samples to evaluate geotechnical properties of those sediments, and conducting laboratory analyses to determine grain size, hydraulic conductivities, and other characteristics of the sediments. Those studies concluded that subsurface intake

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<sup>19</sup> See Municipal Water District of Orange County, *Final Summary Report – Doheny Ocean Desalination Project, Phase 3 Investigation: Extended Pumping and Pilot Plant Test, Regional Watershed and Groundwater Modeling, Full Scale Project Conceptual Assessment*, September 2013.

<sup>20</sup> See San Diego County Water Authority, *Camp Pendleton Seawater Desalination Project Feasibility Study*, December 2009.

<sup>21</sup> Based on twelve sampling events for each intake, the sand filter entrained a total of 24 larvae and fish eggs, while the open intake entrained 9,694 larvae and fish eggs.

options were infeasible.<sup>22</sup> The City then proposed using a screened intake system, based on concurrent marine life and entrainment studies it had conducted. The City also operated a pilot facility for several years that tested various intake and desalination methods (see CDP 3-06-034).

City of San Diego: based on geotechnical investigations conducted at a site along the Monterey Bay shoreline, the City built a full-scale desalination facility that produces up to about 300 acre-feet per year for municipal use (see CDP A-3-SNC-05-010). The facility uses wells for both its intake and discharge.

Starting in 2006, Commission staff identified information needed to complete Poseidon's CDP application and requested Poseidon provide data from geotechnical investigations conducted at and near its proposed project site that were similar to the investigations conducted for the above-referenced projects, so that the Commission could adequately analyze the feasibility of a subsurface intake alternative. The data and studies Poseidon provided were not relevant to the area offshore of Huntington Beach. These included data and information from the power plant site, infiltration wells located from one to three miles inland, areas offshore of Dana Point (about 25 miles downcoast), and from sites in other countries. Poseidon contended that these data showed subsurface intakes were either infeasible offshore of Huntington Beach or that constructing a subsurface intake offshore would result in even greater marine life impacts than its proposed use of the existing open water intake.

On October 2, 2013, Poseidon supplemented its submittal by providing partial data and a report from a geophysical survey it had conducted in August 2013 offshore of its project site. Those partial survey results did not include all the information staff had identified as needed to fully evaluate a subsurface intake alternative; nonetheless, the data and information provided suggest at least one type of subsurface intake design – an infiltration gallery – is feasible and would result in far fewer marine life effects than Poseidon's currently proposed intake. The report identified an approximately 100-foot thick low-permeability layer between the seafloor and the underlying Talbert Aquifer, which extends under the seafloor from several miles inland and is subject to seawater intrusion. This relatively impermeable layer would prevent an infiltration gallery from tapping into the Talbert Aquifer, which would allow the gallery to operate without exacerbating seawater intrusion into that aquifer and adversely affecting water production from that aquifer relied on by local water districts.

Staff requested Poseidon provide the full data from its August 2013 survey, the basis for some of the assumptions used in the October 2013 report, and recommended Poseidon conduct a sensitivity analysis using the model referenced in that report. That sensitivity analysis would allow a better determination of potential drawdown effects in the aquifer. On October 18, Poseidon provided additional data and the basis of some of those assumptions, but declined to provide the sensitivity analysis.

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<sup>22</sup> See Santa Cruz Water Department and Soquel Creek Water Department (SCWD<sup>2</sup>), *Proposed SCWD<sup>2</sup> Regional Seawater Desalination Project Draft Environmental Impact Report (SCH# 2010112038)*, May 2013.

*Issues with Infiltration Gallery Analysis*

Infiltration galleries consist of perforated pipes placed a few feet beneath the seafloor under a layer of permeable sand or other suitable material. They are sized and designed to imperceptibly pull seawater through the sand into the pipes to be transported to the desalination facility. In inland areas, these systems are placed along and beneath riverbanks, with the largest galleries bringing in about 40 mgd. The largest seawater infiltration gallery, used for a desalination facility in Fukuoka, Japan, is sized to bring in about 27 mgd.<sup>23</sup> This gallery has operated successfully for about ten years. Similar to a desalination facility's reverse osmosis units, these galleries can be built in modules and scaled up to provide additional water.

The project SEIR included Poseidon's evaluation of several subsurface intake designs, including an infiltration gallery, and found that they were infeasible.<sup>24</sup> However, the evaluation did not incorporate relevant site-specific information, used several unsupported assumptions, and did not assess the full suite of issues needed to be considered in determining intake feasibility. For example, although the evaluation did not have available relevant site-specific information, it nonetheless concluded that an 152 mgd infiltration gallery offshore of Huntington Beach would cover about 75 acres along about 1.5 miles of seafloor, would require 39 separate pipelines to connect the gallery to the shoreline, would require another 2.5 acres of beachfront for water collection wells and collector pipelines along the shoreline, and would involve excavating about 363,000 cubic yards of ocean bottom sediments. **Exhibit 6** – Poseidon's Proposed Infiltration Gallery Design provides a schematic drawing of the gallery Poseidon described in this evaluation.

Staff cannot determine what data served as the basis for these relatively precise calculations, as Poseidon has conducted only limited geotechnical investigations. Much more specific studies would be needed to determine those presumed infiltration gallery dimensions. The suggested design also includes several components that could be modified to substantially reduce adverse effects – for example, other infiltration gallery designs use a single pipeline to shore instead of the 39 separate pipelines Poseidon included in its design. Additionally, Poseidon's proposed average intake volume is now less than that it identified in its evaluation – about 127 mgd (with a maximum of 135 mgd on a short-term basis, pursuant to Poseidon's NPDES permit requirements) instead of 152 mgd. As noted elsewhere in these Findings, Poseidon may need to further reduce its expected maximum intake volume, depending on results of geotechnical investigations that could reduce the facility footprint (see *Section IV.I – Geologic Hazards*), the required wetland setback that will slightly reduce the facility footprint (see *Section IV.G – Wetlands and ESHA*), or provisions of the upcoming State Board desalination policy that could prohibit pumping in additional seawater for dilution (approximately 20 mgd of Poseidon's proposed seawater use would fall within this category).

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<sup>23</sup> See, for example, Bartak, Rico, Thomas Grischek, Kamal Ghodeif, and Chittaranjan Ray, *Beach Sand Filtration as Pre-Treatment for RO Desalination*, International Journal of Water Sciences, 2012; and Shimokawa, Akira, *Desalination Plant with Unique Methods in Fukuoka*, presentation at International Desalination Intakes and Outfalls Workshop, National Centre of Excellence in Desalination, Australia, May 2012.

<sup>24</sup> See SEIR, Appendices AA and AB, 2010.

Commission staff, using the data Poseidon used in its evaluation, determined that Poseidon's infiltration gallery would be significantly smaller than the one described in that evaluation. The gallery would also cover much less area of the nearshore coastal environment than that represented by the approximately 110-acre average annual Area of Production Foregone resulting from Poseidon's proposed use of the open intake. Although Poseidon's evaluation referred to the design used in the above-referenced Fukuoka gallery, its conclusions were not consistent with the design of that gallery (see **Exhibit 7** – Schematic Drawing of the Fukuoka Gallery). Poseidon stated that infiltration galleries require a surface loading rate – i.e., the rate that water is drawn through the gallery surface – of between 0.05 and 0.10 gallons per minute per square foot (gpm/sq. ft.) of surface area. Applying that range to Poseidon's 127 mgd intake volume results in a gallery of between 20 and 41 acres. This is consistent with the Fukuoka gallery, which draws in 27 mgd from a five-acre gallery. Scaling up the Fukuoka gallery to Poseidon's intake volumes of 127 mgd would result in a 23.5-acre gallery, with a surface loading rate of 0.086 gpm/sq. ft., which is within Poseidon's identified design range. These results are also consistent with those for the infiltration gallery described in the above-referenced SDCWA feasibility study. Using site-specific conditions at that location, the study showed that a 150 mgd facility (which would have an intake volume of 300 mgd) could be served by a 55-acre infiltration gallery (see **Exhibit 8** – Schematic Drawing of SDCWA Infiltration Gallery). A gallery that size would essentially have the same surface loading rate as above, 0.086 gpm/sq. ft., which is approximately one cup of water per minute.

Commission staff also used another method to calculate a preliminary size estimate for Poseidon's 127 mgd intake by comparing the intake volume to the expected hydraulic conductivity of the backfill above the intakes – that is, the rate at which water flows through the gallery to the perforated collector pipes. Using the standard value for clean sand, which has hydraulic conductivity on the order of  $1 \times 10^{-2}$  cm/s, Poseidon's 127 mgd volume could be served by a gallery of only 14 acres. Staff believe, however, that the facility should be conservatively assumed to be closer to the 25-acre size, as that size is more consistent with the above-referenced Fukuoka and SDCWA designs. With the potential for intake volumes of up to 135 mgd and with additional geotechnical investigations that may show the need for a slightly larger gallery, a 30-acre gallery is likely the maximum size needed.

A gallery of this size could be built as a single unit – such as the one proposed by SDCWA – or in modules – for instance, four to five galleries of about five acres each (i.e., the same size as the Fukuoka gallery) – located about 1500 to 2000 feet offshore. They could be connected to the desalination facility through a single pipeline constructed alongside the power plant intake or even within that intake. Commission staff notes that, unlike the gallery design Poseidon presented as the basis for its evaluation, which included 33 separate pipelines to the shoreline, both the Fukuoka gallery and the 300 mgd SDCWA infiltration gallery design use a single pipeline between the gallery and the shoreline and have smaller footprints and areas of potential impact than the one Poseidon described in its evaluation for a 152 mgd facility. These galleries and intakes could also be built to withstand the area's seismic forces – for example, the Fukuoka infiltration gallery withstood a 2005 magnitude 6.6 earthquake in Japan with ground acceleration of greater than 0.4g, which is similar to seismic forces expected offshore of Huntington Beach.

Gallery construction would also require excavation, which would result in temporary adverse effects, including turbidity and seafloor disturbance. Poseidon's evaluation assumed excavating to a depth of six feet below the seafloor to construct the gallery; however, the Fukuoka gallery is constructed to a depth of about 11 feet. Using Poseidon's estimated six-foot depth, the total volume of excavation for a 23.5 acre gallery would be about 228,000 cubic yards. Using the Fukuoka design's 11-foot depth would result in about 417,000 cubic yards of excavation. With a gallery of up to 30 acres, excavation would total up to 290,000 and 530,000 cubic yards, respectively. These volumes would represent the maximum expected excavation, as they assume that none of the *in situ* material could be re-used within the gallery footprint. The actual volume to be excavated or removed and replaced could be substantially smaller if site-specific samples show that the substrate includes materials with the appropriate range of permeability – e.g., sand instead of silt – however, Poseidon has not yet conducted the necessary sampling to determine sediment composition and grain size at the site. Nonetheless, these excavation volumes are within the range of a number of dredging, beach nourishment, and dredge disposal projects the Commission has approved over the past several years, and the effects of gallery construction would be similar – i.e., temporary turbidity, temporary disturbance of sandy bottom habitat, etc.<sup>25</sup> The Commission's approvals for these projects include the conditions needed to ensure Coastal Act conformity and to ensure adverse effects are minimized – e.g., reducing turbidity through use of silt curtains and timing restrictions, requiring monitoring to ensure the extent of effects are minimized, requiring spill prevention plans, etc.

Poseidon also assumed in its evaluation that all the material excavated would need to be dewatered and disposed of at an upland landfill or delivered to an ocean disposal site. It noted that the first option would be impractical because there are no landfills that could accept that volume of materials and the truck trips needed would result in significant traffic issues and GHG emissions. The Commission believes this first option, with its accompanying adverse effects, is entirely unnecessary and unlikely to occur. Regarding the second option, Poseidon noted that ocean disposal would be impractical only because ocean disposal sites may have regulatory restrictions. For several reasons, the Commission does not see this as an impractical option – first, there are no data to suggest that the sand and sediment at the location of the proposed gallery Poseidon used in its evaluation would not meet applicable restrictions for ocean disposal; second, there may be other available options for all or part of the sediment, including beach nourishment; and third, much of the *in situ* sediment, as noted above, may be acceptable for re-use within the infiltration gallery – however, Poseidon has not yet adequately characterized the sediment in this area to determine whether use *in situ* is possible.

Poseidon's assessment also suggested that infiltration galleries require re-dredging every one to three years. However, it based this on the experience of a pilot-scale facility built by the Long Beach Water Department within Long Beach Harbor. That facility experienced reduced infiltration rates over a fairly short period (about six months) in large part due to its location within an embayment where low water movement and lack of sweeping currents allowed finer sediments to build up near the surface of the gallery. The Fukuoka gallery provides a better example, as it is located in a more dynamic open ocean environment similar to that offshore of

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<sup>25</sup> See for example, CDP 4-11-069 in Santa Barbara County, CDP 4-02-074 in Santa Barbara and Ventura Counties, and CD 046-48 in Long Beach Harbor.



Huntington Beach. After about ten years of operation, the Fukuoka installation has reported negligible changes to its infiltration capacity without any need for dredging or similar maintenance. It also continues to provide very high quality source water to its desalination facility, which results in the need for less pretreatment, and a resulting decrease in chemical use, pretreatment maintenance, and electricity demand.

#### *Issues with Feasibility Analysis*

Poseidon has long contended for a number of reasons that subsurface intakes, in general, are infeasible for its proposed project.<sup>26</sup> Specifically, it claims that infiltration galleries are technologically infeasible at this location, that they would not reduce impingement or entrainment, that gallery construction would cause significantly more adverse coastal resource impacts than its proposed intake and that it is economically infeasible. As described above, an infiltration gallery eliminates or greatly reduces impingement and entrainment and that construction of even an approximately 30-acre infiltration gallery will not cause significant adverse effects to marine resources. The record before the commission also currently shows that it appears to be technologically feasible to construct an infiltration gallery, and Poseidon has not provided the analysis necessary to demonstrate financial infeasibility of this alternative intake design.

Technological Feasibility: Subsurface intakes are modified versions of vertical water wells that humans have used for millennia. There are hundreds, if not thousands, of desalination facilities at inland locations that draw brackish groundwater from subsurface intakes. The nearby Orange County Water District Advanced Water Purification Plant pulls in more than 70 mgd from vertical wells for reverse osmosis treatment.

There are also a number of seawater desalination facilities that use subsurface intakes. Poseidon has defined large facilities as those that produce more than 20 mgd. The above-referenced 2013 Missimer study identifies at least seven seawater desalination facilities worldwide that produce more than 20 mgd using subsurface intakes and states that the potential yield from some types of subsurface intakes is essentially “unlimited” if geotechnical conditions are suitable.

Here in California, the above-referenced SDCWA feasibility analysis found that it would be feasible to construct any of several subsurface intake designs to provide feedwater for a desalination facility producing up to 150 mgd, which would be three times the size of Poseidon’s proposed facility. While offshore Huntington Beach likely has different conditions than those offshore of Camp Pendleton, the 2009 SDCWA evaluation shows that geotechnical investigations can identify site-specific conditions needed for large-scale facilities. More recently, MWDOC identified a 30 mgd slant well as a feasible component of a desalination facility being considered at Dana Point. Subsurface intakes can consist of modular designs, similar to the modular reverse osmosis membrane units Poseidon proposes to use in its desalination facility, and therefore can be scaled up to meet demands, as site conditions allow.

Importantly, an infiltration gallery is essentially the same type of filtering system that desalination facilities using an open intake construct as part of their pretreatment systems to

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<sup>26</sup> See Poseidon’s response letters to Commission staff’s notices of incomplete CDP application from 2006 to 2013, as well as Poseidon’s public comments at the Commission’s August 2013 meeting.

remove marine life and solids in the seawater before it reaches their reverse osmosis membranes. Poseidon's Carlsbad facility, for example, will use a sand bed system that filters seawater through sand and other substrate materials. It is essentially an infiltration gallery built on land at the end of the intake instead of at the front of the intake pipe.

Thus, Poseidon has failed to demonstrate that an infiltration gallery is technologically infeasible offshore of Huntington Beach.

Economic Feasibility: Poseidon has contended that the costs of constructing a subsurface intake would make its project economically infeasible. The SEIR identified expected construction costs of its described 79-acre infiltration gallery, including purchasing several acres of beachfront land for pipelines, to be about \$200 million, which includes \$40 million for land acquisition. If the size of the gallery were reduced to 30 offshore acres with a single pipeline within the existing power plant intake lease, as determined by Commission staff using site-specific information provided by Poseidon, those costs would be substantially reduced, although it is unclear by exactly how much, as Poseidon has not agreed to analyze the alternative of a 30-acre infiltration gallery.

If Poseidon were to use the existing intake, it would still need to modify that intake to address biofouling, as discussed above, and may need to modify the intake to ensure structural stability. Poseidon has not determined what method of biofouling reduction it would use or what additional structural changes may be needed, so the Commission is unable to assess this cost of using the existing intake.

In addition, given the significant adverse impacts of continuing to use the existing intake, Poseidon would be required to provide mitigation for these impacts. Poseidon's proposed mitigation and potential alternatives are described below, but because Poseidon has not yet proposed mitigation sites or details about methods needed to create the proposed mitigation, it has not provided Commission staff with an estimate of the cost of the required mitigation for the marine resource impacts of its proposed project. It has estimated, however, that the mitigation required for its Carlsbad project will total approximately \$30 million. Poseidon's proposed Huntington Beach project would pull in less water than the Carlsbad facility (about 127 mgd as compared to 304 mgd at Carlsbad), but would cause adverse effects to a different mix of species than will the Carlsbad facility, which does not provide a suitable comparison for the costs of compensatory mitigation at Huntington Beach. As described below in an analysis of Poseidon's proposed compensatory mitigation, Poseidon's use of an open intake would likely require creation or restoration of from 33 to 66 acres of coastal wetlands. At costs of up to about \$500,000 per acre for Southern California mitigation projects, this mitigation would represent an additional cost of about \$16 to \$33 million for using the existing intake.<sup>27</sup> Poseidon has not provided sufficient information for the Commission to assess the full cost of its use of the existing intake or to be able to compare those costs to those of a subsurface intake.

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<sup>27</sup> For example, Poseidon has reported the marine life mitigation for its Carlsbad facility would cost from \$25 to \$30 million for about 66 acres of wetland restoration, which is between \$375,000 and \$450,000 per acre.

More importantly, while the construction costs of an infiltration gallery are expected to be higher than the costs of using or modifying the existing intake, a number of studies show that the life-cycle costs of facilities using a subsurface intake are lower than those using open intakes.<sup>28</sup> This is due primarily to properly designed and sited subsurface intakes delivering much higher quality source water that needs less pretreatment and requires less electricity to process. Subsurface designs can remove nearly all the algae, most bacteria, much of the organic carbon, and most of the turbidity that would otherwise need to be removed by complex pretreatment systems involving chemical dosing, flocculation, and filtering, and some designs may be eligible for treatment credits for removing contaminants of human health concern.<sup>29</sup> In some cases, source water from a subsurface intake is clear enough to be delivered directly to a reverse osmosis system, though most facilities include some type of pretreatment as a precaution. In some cases, source water may contain high levels of iron or manganese, which would require pretreatment to remove; however, this would not be expected from a shallow infiltration gallery such as the one proposed for this project.

An independent evaluation of a facility's life-cycle costs may show that the savings associated with a subsurface intake's lower electricity demands, use of fewer pretreatment chemicals, less equipment replacement, longer membrane operating life, and other similar benefits, can result in a cost per unit of water produced at or below that of the same facility using an open water intake. Several facilities under consideration in California have conducted these types of evaluations and found this to be the case. For example, MWDOC's 2013 figures for its proposed 15 mgd Dana Point facility using slant wells show it would produce water costing as little as about \$1450 per acre-foot, as compared with Poseidon's estimated cost at Huntington Beach of about \$1700 per acre-foot. In addition, a smaller proportion of the MWDOC costs are for electricity. The SDCWA Feasibility Study shows expected water costs for its facility using any of several subsurface intake systems as being in the same range as Poseidon's, about \$1700-1900 (in 2009 dollars). Again, the costs of any facility will vary based on site-specific conditions, but as shown above, several facilities that have conducted the more thorough site investigations and life-cycle cost analyses show subsurface intakes to be both economically feasible and preferable.

On October 23, 2013, Poseidon provided its critique of the above-referenced Missimer paper, stating that it does not provide information germane to Poseidon's proposed project.<sup>30</sup> The critique provided examples of several subsurface intakes that did not function as designed and concluded that those examples illustrate the infeasibility of a subsurface intake for Poseidon's project. It also challenged several descriptions in the Missimer paper of subsurface intake performance, but provided incomplete or no data to support its contentions. The critique

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<sup>28</sup> See, for example, 2009 San Diego County Water Authority *Camp Pendleton Desalination Feasibility Study*, Municipal Water District of Orange County's technical documentation of its Doheny Desalination Project, available at <http://www.mwdoc.com/services/dohenydesal>, and project examples elsewhere in the world cited by Missimer, *ibid*.

<sup>29</sup> See, for example, Bartak, Rico, et. al, *ibid.*, and Sterchi, Sean, *Seawater RO Desalination California Department of Public Health Regulatory Considerations*, presentation at CalDesal conference, October 2013.

<sup>30</sup> Voutchkov, Nikolay, *Critical Review of 2013 Desalination Journal Publication on Subsurface Intakes*, prepared for Poseidon Water, LLC, October 21, 2013.

did, however, concur with the Missimer paper's key point that the selection, feasibility, and success of a subsurface intake relies heavily on site-specific information. As noted above, Poseidon has not yet provided the full suite of site-specific information Commission staff requested for its review, but the information Poseidon has thus far provided shows that at least one subsurface intake design is feasible offshore of Huntington Beach.

In sum, Poseidon has not adequately assessed the full costs of using the existing intake, nor has it provided an independent or full analysis of the life-cycle costs of using an infiltration gallery rather than an open ocean intake. The Commission is therefore unable to compare the costs of the subsurface intake to the open ocean intake. As a result, there is insufficient evidence for the Commission to find that this alternative is infeasible.

#### *Proposed Project Alternative*

As described above, the project as proposed is inconsistent with Coastal Act and LCP marine resource protection policies due to the significant adverse impacts it would cause to marine resources through entrainment. Poseidon nevertheless claims that it need not provide mitigation for its stand-alone entrainment effects because the power plant has already provided mitigation for its entrainment effects. This is based on the California Energy Commission requiring, as part of its approval of the 2002 AES repowering project (00-AFC-13), that AES provide approximately \$5.5 million to the Huntington Beach Wetland Conservancy where it would be combined with other funds to purchase and restore about 66 acres of wetlands. AES was also required to provide an additional \$500,000 for ten years of maintenance of those wetlands. The Conservancy, using funds from AES and others, initiated wetland restoration in 2009. In 2010, the Energy Commission extended the AES operating license until 2020 and determined that no additional mitigation was needed for that extension as long as AES provided the maintenance funding. Given that AES is expected to terminate its use of its intake by 2020, however, within a year or two of Poseidon starting operations, all of the marine resource impacts associated with use of the intake will be caused by the Poseidon project, not AES, and the impacts would be continuing beyond 2020. As described below, the benefits of AES's mitigation are uncertain and do not conform to the Coastal Commission's mitigation approach, and Poseidon must provide mitigation for its impacts.

In anticipation of the Commission determining that it must provide mitigation for its intake, Poseidon has proposed two mitigation options. It has offered to continue to fund the maintenance costs paid by AES once AES stops its cooling water use. Poseidon would also provide 11.8 acres of wetland restoration at a location or locations to be determined later, using an approach similar to that the Commission approved for Poseidon's Carlsbad project. This would involve Poseidon conducting a search and analysis for a suitable restoration site or sites in Southern California, obtaining separate Commission approval for a site and restoration plan, and implementing the approved restoration subject to performance standards, monitoring requirements, contingency measures, and other aspects of restoration similar to those the Commission required previously (see **Appendix F** – Commission's Approved Marine Life Mitigation Plan for Poseidon's Carlsbad Facility).

Poseidon's proposed options do not represent adequate mitigation for the identified entrainment impacts. Regarding the first option – continuing to pay maintenance costs for restored wetlands – it is unclear what specific amount or type of restoration occurred due to the AES funding, as those funds were intermingled with others to provide for the Huntington Beach Wetland Conservancy's restoration efforts. Additionally, the Energy Commission required only that AES fund restoration and did not require specified performance standards, monitoring measures, contingency plans, and other components of restoration projects the Coastal Commission generally requires of permits (see, for example, the Commission's requirements for mitigating the entrainment impacts of Poseidon's Carlsbad facility in **Appendix F**). As a result, there is no certainty as to what the ongoing funding would be used for and what standards the restoration would meet. Much of the wetland complex managed by the Conservancy includes abandoned oil structures, areas of contaminated soil, and other remnants from use of the wetland areas for oil production, so it is likely that at least some of the restored areas would not provide the full intended functions and values the Commission generally requires to ensure that a project meets Coastal Act requirements (these issues are discussed further in *Section IV.G – Wetlands and ESHA*). While the funding from AES clearly resulted in beneficial wetland restoration, it is not clear how much, where, or to what standards that restoration has provided or is meant to provide in the future, so the Commission is unable to find that continuation of this restoration would comply with the Coastal Act.

Poseidon's second mitigation proposal – to provide 11.8 acres of wetland restoration in Southern California – would be subject to the same performance standard, monitoring measures, and contingency components as the plan the Commission approved for the Carlsbad facility, but is much smaller than needed to mitigate for the expected entrainment effects. As noted previously, entrainment at the Huntington Beach facility would result in an annual Area of Production Foregone (APF) of about 110 acres of nearshore coastal waters. Poseidon partially based its proposed smaller mitigation acreage on the approach the Commission used at Poseidon's Carlsbad facility; however, that approach is not applicable at the Huntington Beach location. At Carlsbad, most of the species entrained – about 90% – were estuarine species, and the Commission required wetland mitigation at a 1:1 ratio for those species. The remaining species were from nearshore waters outside of the estuary. For those species, the Commission acknowledged that the wetland mitigation required for the estuarine offshore would be more productive than the nearby open ocean waters and required mitigation for the loss of nearshore species at a 1:10 ratio – that is, for every 10 acres of offshore APF, Poseidon was to create or restore 1 acre of coastal wetlands. This was based primarily on the recommendation of Dr. Peter Raimondi, the Commission's independent science advisor. Dr. Raimondi's recommendation recognized that an acre of successfully restored wetland habitat provides more, albeit mostly different, habitat functions and values than provided by an equal area of nearshore ocean waters, and the Commission agreed to assign a 1:10 ratio in recognition of the greater expected functions and values.

Poseidon has proposed using some of the same approach here – that is, providing 1:10 mitigation for most of its entrainment effects on nearshore species. This would result in less than adequate mitigation due to differences between the Carlsbad and Huntington Beach facilities and differences between the nearshore waters in which entrainment effects occur. At Carlsbad, the facility intake is on the shoreline of an enclosed estuary, with the majority of mitigation provided

at a 1:1 ratio to reflect the loss of estuarine species. The 1:10 ratio for the loss of nearshore species, which is the first use of this approach by the Commission, represents a relatively small amount of the overall mitigation, and any uncertainties or assumptions that might have resulted in less than full mitigation for this impact are expected to be accounted for through the other approximately 90% of the required mitigation. Additionally, the source water area for the nearshore species near Carlsbad covered a more limited area than that identified at Huntington Beach. As noted above, the Huntington Beach open intake would entrain organisms from up to about 100 miles of shoreline, which includes areas of higher value habitat, such as rocky reefs, kelp beds, and others, which suggest the need for a higher mitigation ration. The prior approval by the Energy Commission, while not including all the mitigation measures the Coastal Commission generally requires, required a full 1:1 mitigation ratio, as recommended by Dr. Raimondi and Energy Commission staff, based on power plant intake flow rates. Further, the facility will also entrain organisms that are from, or moving to, areas more recently established by the state that require a higher level of protection. As noted above, the MPA network is meant to provide “stepping stones” along the coast, and Poseidon’s intake disrupts that process to some degree.<sup>31</sup>

According to staff’s analysis, the adverse entrainment effects resulting from Poseidon’s use of the existing open water intake would be more akin to those caused by the San Onofre Nuclear Generating Station (SONGS). The intakes for both facilities are situated offshore in open ocean waters, and although SONGS pulled in much more water than would Poseidon, the type and extent of adverse effects are similar, as both intakes pull in water from some distance offshore and the source water area for both are more extensive and cover more of the coastline than the source water area of Poseidon’s Carlsbad facility.

The SONGS facility caused a broader set of adverse marine life effects than would Poseidon’s use of an open intake – it resulted in thermal and turbidity effects, as well as the entrainment and impingement effects that Poseidon’s facility would cause. However, the Commission distinguished between the different adverse effects at SONGS and established particular mitigation ratios to specifically address that facility’s entrainment effects. The Commission-approved mitigation for SONGS included two main components to address its adverse effects – wetland restoration and creation of offshore artificial reefs. To mitigate for the facility’s entrainment impacts, the Commission applied a different mitigation ratio to each mitigation component. For reef creation, the Commission determined that each hectare (approximately 2.47 acres) of successfully created reef would count as an entrainment reduction of 1.67%, or a ratio of 1:1.67. That is, if SONGS chose to mitigate for 100% of its entrainment losses by creating artificial reefs, it would have had to create about 150 acres of successful reef habitat ( $100/1.67 * 2.47 \text{ acres} = 147.9 \text{ acres}$ ). For wetland restoration, the Commission determined that each hectare of successfully restored wetland would count as an entrainment reduction of between 1.67% and 3.33%, depending on the type of habitat restored. Therefore, with ratios of 1:1.67 to 1:3.33,

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<sup>31</sup> Although Poseidon proposed this mitigation using some of Dr. Ramondi’s recommendations for Carlsbad, it did not confer with Dr. Raimondi beforehand. Through personal communication on September 23, 2013 and October 29, 2013, Commission staff learned from Dr. Raimondi that the ratio used for the Carlsbad facility is not necessarily appropriate to use at the Huntington Beach facility.

SONGS could mitigate for 100% of its entrainment losses by creating or restoring between 75 and 150 acres of wetland habitat.

The SONGS mitigation approach did not include ratios for impingement effects, as this was largely addressed by including adult fish losses in calculations for other types of adverse effects and by building a fish return system at the facility. Using the SONGS ratios as the basis for Poseidon's proposed entrainment mitigation instead of Poseidon's proposed 1:10 ratio would result in the need for 33 to 66 acres of wetland creation or restoration, depending on the habitat type. This would not include mitigation needed for Poseidon's impingement effects.

The subsurface intake alternative substantially avoids entrainment impacts and is therefore the environmentally preferable alternative to the proposed project. In addition, the mitigation suggested by Poseidon as part of the proposed project is inadequate to meet Coastal Act standards and does not mitigate the adverse impacts of the project to the maximum extent feasible.

#### *Smaller Subsurface Intake Alternative*

Another alternative to the proposed project is the use of a subsurface intake to provide at least some of the water Poseidon is proposing to use as part of its desalination facility. One of Poseidon's primary arguments, although not supported by data, as discussed above, is that it is impossible to construct a subsurface intake for the volume of water that it needs for its project. The adverse entrainment effects caused by the proposed open ocean intake decrease proportionally to the decrease in water volumes drawn into the intake. Thus, even if Poseidon presents evidence demonstrating that it is technologically or economically infeasible to source all of its water from a subsurface intake, a smaller subsurface intake, providing at least a portion of the water needed for the project, could be feasible and environmentally preferable to the proposed project.

#### *Screened Intake Alternative*

Screening the existing intake using wedgewire screens or other screening devices would reduce both entrainment and impingement. These screening systems are not as effective as subsurface intakes, though the area required for these types of screens would be smaller. Commission staff estimates that Poseidon's proposed intake flows could be provided by intake screens within no more than two to three acres of offshore area near the existing intake.<sup>32</sup> Poseidon contends that screens are infeasible; however, recent studies by the State Water Board and several California water districts show that these screens reduce entrainment and impingement, and are capable of

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<sup>32</sup> Based on dimensions provided for a similar system at Diablo Canyon Nuclear Power Plant, as described in Bechtel Power Corporation, *Draft Alternative Cooling Technologies or Modifications to the Existing Once-Through Cooling System for the Diablo Canyon Power Plant*, prepared for the State Water Resources Control Board Nuclear Review Committee, October 2013. This report describes a 2 mm wedgewire screen system for Diablo Canyon's nearly 2 billion gallon per day intake flow that would cover less than 3 acres. Poseidon's screens would be sized to take in less than 10% of Diablo Canyon's flow, and would therefore require less area, but would likely have a smaller mesh size – 0.5 to 1 mm – which would require a proportionally larger area, but likely no more than that identified in this report. Additionally, the report, along with review by Diablo Canyon's Independent Safety Committee, noted that the proposed screening devices did not raise feasibility or safety concerns regarding ongoing operations of the nuclear facility.

operating without excessive biofouling that would reduce their effectiveness, with CalDesal, a state desalination advocacy group, recommending they be considered in the upcoming State Board desalination policy.<sup>33</sup> Commission staff did not fully evaluate this potential reduction measure, based on the above conclusion that a subsurface intake would be feasible and result in substantially greater impact reductions.

### *Conclusion*

Available information shows that at least one subsurface intake design is suitable for Poseidon's proposed project at this location. The known offshore characteristics – a large expanse of sandy bottom with adequate currents – are ideal for certain types of subsurface intake designs and would allow construction and operation of an infiltration gallery with relatively minor construction-related effects and little to no adverse effects during operation. This is in contrast to the effects that would result from Poseidon's proposed use of the existing intake, with a predicted annual loss of about 80 million fish larvae representing about 110 acres of ocean productivity.

The use of an infiltration gallery for Poseidon's water intake is therefore the environmentally preferred feasible alternative in this case. [Special Condition 5](#) therefore requires Poseidon to submit a Revised Facility Plan that omits its proposed open intake and includes a proposed subsurface intake design that may cover up to approximately 30 acres of seafloor and involve up to approximately 540,000 cubic yards of excavation. Upon Executive Director approval of the Plan, Poseidon is to submit an application to amend this CDP, as necessary, to conduct geotechnical and hydrogeologic investigations needed to produce a final design and construct the approved intake. Should as-of-yet unknown site-specific conditions result in the need for a larger gallery, Poseidon may request an additional amendment to this CDP.

### **Discharge Effects**

Similar to the intake-related issues described above, Poseidon's proposed discharge would cause significant adverse effects that are feasible to avoid. The facility's discharge would have salinity concentrations of up to about 47 parts per thousand (ppt), which recent State Water Board studies have determined to be harmful to marine life. The proposed discharge would also contain various concentrations of other treatment chemicals, such as chlorine, antiscalants, coagulants, metals, cleaning chemicals, and others.

Salinity: Poseidon's proposed project requires about 100 to 105 mgd of seawater to produce about 50 mgd of potable water, leaving the remaining 50-55 mgd to be discharged through the existing power plant outfall. Undiluted, this discharge would have salinity concentrations of about 68 parts per thousand (ppt), or about twice the ambient concentration of seawater, which ranges from about 32 to 34 ppt. To partially reduce the salinity concentration of its discharge to

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<sup>33</sup> See, for example, Foster, M., et. al, *Mitigation and Fees for the Intake of Seawater by Desalination and Power Plants*, submitted to State Water Resources Control Board, March 2012; Nagel, Rich, *Ocean Water Desalination* presentation at CalDesal 2012 conference; studies conducted by the West Basin Water District, available at: <http://www.westbasin.org/water-reliability-2020/ocean-water-desalination/current-activities>; and studies conducted by the Santa Cruz Water Department/Soquel Creek Water Department, available at: [http://www.scwd2desal.org/Page-EIR\\_Docs.php#Appendices](http://www.scwd2desal.org/Page-EIR_Docs.php#Appendices).



about 47 ppt, Poseidon proposes to draw in an additional 20-25 mgd solely for dilution. As noted above, this additional water intake increases the facility's adverse entrainment effects.

The State Lands Commission determined in its 2010 lease amendment to Poseidon that the elevated salinity from the facility's discharge would adversely affect from seven to 20 acres of benthic habitat and stated that marine life is likely to avoid the area surrounding the discharge. The State Lands Commission determined that this would be a use of public trust resources and required Poseidon to pay an annual fee of \$115,000 for use of these affected areas and to conduct monitoring to identify adverse effects on marine life and benthic habitat. The lease requires Poseidon to monitor its discharge, identify its salinity plume under different ocean conditions, and sample and monitor for benthic conditions (see **Appendix G** – State Lands Lease).

More recently, the State Board conducted a number of tests to determine the effects of various salinity concentrations on different life stages of species found in California's offshore waters. Results published in 2012 show adverse effects from salinity concentrations as low as 36 ppt.<sup>34</sup> Other studies provide similar results for increased salinity effects on other species, including finding lower grunion hatch rates at relatively low salinity increases.<sup>35</sup>

Other constituents: The waste stream from a desalination facility also contains various concentrations of chemicals used to clean equipment, prevent biofouling on facility surfaces, neutralizing agents used to adjust water chemistry, heavy metals corroded from equipment surfaces, and others. Poseidon has included in its proposed project several measures to remove the highest concentrations of these contaminants from its ocean discharge, though some will remain and be subject to effluent limitations of the facility's NPDES permit. Poseidon will send "first rinse" cleaning discharges containing the highest concentrations of these constituents to the City's sewer system and will remove about 6.5 tons per day of sludge from the waste stream for shipment to a nearby landfill. This sludge consists of the entrained marine life and suspended solids from the intake water, solids generated during the pre-treatment coagulation process, and a low volume of treatment polymers.

pH: Another discharge-related effect results from a desalination discharge having higher acidity (i.e., lower pH) than ambient ocean water. Desalination facilities must treat and "buffer" their source water by raising and lowering its pH at different steps in the pretreatment and treatment processes to protect the reverse osmosis membranes and other facility components from damage. The end result is a waste stream that is more acidic than ocean water. Numerous studies are showing that acidification (i.e., lower pH) of ocean water caused by global climate change is already causing significant adverse effects to populations of shellfish and other organisms.<sup>36</sup> The

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<sup>34</sup> See description and test results in Voorhees et. al, *Hypersalinity Toxicity Thresholds for Nine California Ocean Plan Toxicity Test Protocols*, Archives of Environmental Contamination and Toxicology, Springer Publishing, June 2013.

<sup>35</sup> Matsumoto, J., and K. Martin, *Effects of Altered Salinity During Incubation on California Grunion, Leuresthes tenuis*, Bulletin of the Southern California Academy of Sciences, 2006.

<sup>36</sup> See, for example, Kelly, Ryan, and Meg Caldwell, *Why Ocean Acidification Matters to California, and What California Can Do About It: A Report on the Power of California's State Government to Address Ocean Acidification in State Waters*, Center for Ocean Solutions, March 2012.

state's Ocean Plan requires that discharges from industrial facilities be between 6.0 and 9.0 pH units and not differ from the receiving ocean water by more than 0.2 pH units. The ambient pH levels in Southern California's coastal waters vary seasonally or due to various ocean conditions, but are generally in the range of 7.8 pH units.

Poseidon stated that it expects the source water pH to range from about 7.7 to 8.0 and that it anticipates the pH of its discharge to range from 7.5 to 7.8, a somewhat more acidic range than the source water. It also acknowledges that its discharge would be subject to the above-referenced Ocean Plan limits. It is not clear, however, whether this expected range applies to Poseidon's combined discharge with the power plant or to its stand-alone discharge. The EIR for Poseidon's Carlsbad project, which is a similar design to its Huntington Beach facility, stated that the facility discharge was expected to be approximately 7.0 pH units, but that mixing with the power plant discharge would increase the pH of the combined discharges to about pH 7.8. With the expected loss of the discharge from the Huntington Beach power plant, it is unclear what the pH of Poseidon's expected discharge would be and whether it would be consistent with Ocean Plan requirements and minimize adverse effects to marine life, as required by both the LCP and Coastal Act.

In addition to the individual adverse effects resulting from different components of the discharge, there are likely to be cumulative effects. Recent studies have shown that when marine life is exposed to multiple stressors, the combined adverse effects are often more severe than the sum of the individual adverse effects.<sup>37</sup> This would apply not only to the different constituents in Poseidon's discharge that together cause both individual and cumulative effects, but would also apply to the adverse effects resulting from global climate change, ocean acidification, and other ongoing and increasing stressors.

### *Mitigation*

The two main mitigation measures available to avoid or reduce the adverse effects of Poseidon's proposed discharge are dilution and diffusion. Poseidon's original proposed project would have diluted the desalination discharge by combining it with that of the power plant, resulting in a combined flow with significantly reduced salinity concentrations compared to Poseidon's stand-alone discharge. With its current stand-alone project, Poseidon proposes to pull in an additional 20 mgd of seawater to provide some level of dilution. While Poseidon could pull in even more water for dilution, that approach would result in even greater adverse entrainment and impingement effects than the proposed project.

The other mitigation option is diffusion, in which the discharge is directed through any of several types of diffusers placed on the facility's outfall structure. These diffusion systems act to separate a waste stream into smaller volumes and discharge it at more than one location, either at high pressure or in areas where the smaller volumes can more quickly diffuse into the surrounding ocean water. These systems are used in California and worldwide by various municipal and industrial dischargers, including desalination facilities. Here in California, most

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<sup>37</sup> See, for example, Crain, C., K. Kroeker, and B. Halpern, *Interactive and Cumulative Effects of Multiple Human Stressors in Marine Systems*, 11 Ecology Letters 1304 (2008).

wastewater treatment outfalls incorporate diffusers in their discharge designs to ensure better mixing in the water column. In Australia, several large-scale desalination facilities similar in size to Poseidon's proposed project use diffusers to minimize the effects of their discharges on nearby benthic habitat. Studies of those facilities show that salinity concentrations are close to background salinity levels within a few meters of the discharge point and show little effect on nearby habitat or species. One example is Adelaide Desalination Plant in South Australia, which produces up to about 80 mgd per day and uses diffusers that cause sufficient mixing to allow its salinity concentrations to be within 0.5 ppt of background salinity within 100 meters of the discharge.<sup>38</sup>

Here in California, the expert panel advising the State Water Quality Control Board during development of its proposed desalination policy has concluded that a salinity increase of no more than 2-3 ppt appears to be protective of marine biota, and recommends that the Board require discharges to be no more than 5% greater than ambient salinity at the edge of a mixing zone that extends no further than 100 meters from the discharge point.<sup>39</sup> The expert panel also found that while there is no single discharge strategy that is optimum for all scenarios, multiport diffusers provide the highest dilution of dense discharges and is the preferred technology for stand-alone desalination discharges.

Poseidon's proposed discharge exceeds these levels in both salinity concentration and distance from the discharge point, and is therefore expected to result in adverse impacts to local biota and benthos, inconsistent with Coastal Act and LCP policies. Installing multiport diffusers would allow Poseidon to maintain its current salinity concentrations at the point of discharge, but would ensure that its discharge plumes are sufficiently diffused in the receiving water column to meet the above limits of no more than 5% salinity increase within 100 meters of discharge. [Special Condition 5](#) therefore requires Poseidon to submit, as part of its Revised Facility Plan, a proposed method to meet these limits without increasing its intake of seawater.

### **Water Quality Effects**

The project could cause adverse water quality effects due to disturbance and release of known and currently unknown hazardous and toxic materials at the project site and along parts of its pipeline route. The project site and portions of some proposed pipeline routes are known to be contaminated and require remediation. With relatively high groundwater tables at the site and along much of the pipeline routes, and the potential that water released during construction may be contaminated, several mitigation measures are needed to ensure consistency with LCP Policy C 6.1.1. The Findings below address the project site and pipeline route separately.

Facility Site: Poseidon's proposed project footprint is in an area that for the past several decades has been used to store fuel oil and other similar substances needed for power plant operations. The SEIR described much of the proposed project site as having areas with known or expected

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<sup>38</sup> See Kildea, Tim, Vanesa Ayala, Milind Kumar, Guillermo Hijos, and Javier Artal, *Environmental Performance of the Adelaide Desalination Plant*, Australian National Center of Excellence in Desalination [n.d.].

<sup>39</sup> See Jenkins, S., J. Paduan, P. Roberts, D. Schlenk, and J. Weis, *Management of Brine Discharges to Coastal Waters: Recommendations of a Science Advisory Panel*, Technical Report 694, submitted to State Water Resources Control Board, March 2012.

soil and groundwater contamination that will require remediation. The SEIR identified soil and groundwater samples at and near the site that exceeded several state and federal standards for total petroleum hydrocarbons-diesel (TPH-D), metals, Volatile Organic Compounds (VOCs), and other contaminants. For example, although the SEIR had only limited sampling results available within the proposed project footprint, it identified soils with TPH-D concentrations of 5200 and 6500 parts per million (ppm), which are more than five times the City's cleanup standard for industrial sites. More recently, documents provided as part of the California Energy Commission's Application for Certification (AFC) review for the adjacent power plant provide additional evidence of soil and groundwater concentrations of those contaminants near Poseidon's proposed project footprint.<sup>40</sup>

As noted previously, this proposed project is actually three separate projects combined – removal, remediation, and redevelopment. Normally, project sites such as this go through separate review and permitting processes for these three phases to ensure the sites are fully characterized and remediated before being the subject of a development proposal. This allows project proponents, involved agencies, and the public to have a full understanding of the hazardous materials on site and to ensure they are removed or treated to a safe level before the site is proposed for a subsequent use. In this case, however, the SEIR notes that one of the project objectives is to “remediate the subject site of on-site contaminants resulting from approximately 35 years of use as a fuel oil storage facility in order to protect the health and safety of those in the surrounding community.” Because the contaminants at the site have not yet been fully characterized, several site aspects normally studied, measured, identified, and implemented prior to redevelopment will need to be addressed through special conditions, as described below.

Although the documents described above provide some idea of the type and extent of contamination on site, none of them fully characterize the site or identify the full extent of contamination, since much of the expected contamination remains under the aforementioned storage tanks or other structures on the site, where sampling has not yet been conducted. Within Poseidon's project footprint, the three largest storage tanks once held several hundred thousand gallons of fuel oil and cover a total of about 2.4 acres. The SEIR notes that the tanks, although being out of service since the mid-1990s, continue to hold about 93,000 gallons of fuel oil. Without sampling data from beneath these tanks, the SEIR provided an estimate of the amount of contaminated soil that may need to be removed. It stated that remediation would result in removal of about 3,000 cubic yards of soil, involving about 215 truck trips; however, this appears to be an underestimate. Excavating 3,000 cubic yards from the 2.4 acres (about 105,000 square feet) beneath the tanks would result in an average excavation depth of only about nine inches, which does not appear to be a reasonable estimate given the age and condition of the tanks. Other similar tank removal projects have shown contaminants that extend much deeper than nine inches below the ground surface.<sup>41</sup>

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<sup>40</sup> See Energy Commission, *Preliminary Staff Assessment for 12-AFC-02 – Huntington Beach Energy Project*, October 2013.

<sup>41</sup> See, for example, Environmental Management Strategies, *Phase I Environmental Site Assessment – Huntington Beach Electrical Power Plant*, 21730 Newland Street, Huntington Beach, CA, February 2012, which identifies contaminants beneath the tanks at from 2 to 10 feet below the ground surface.

One of the SEIR mitigation measures required Poseidon to prepare a Remedial Action Plan (RAP) for City approval that describes the type and extent of contamination on site and the measures Poseidon would implement to treat or remove contaminants. Commission staff asked Poseidon to provide a copy of the approved RAP; however, Poseidon stated that until it removed the tanks and other structures to allow the necessary sampling, it was unable to provide the required RAP. Staff then requested Poseidon conduct a more detailed analysis than provided in the SEIR of known and expected contaminants in the site's soil and groundwater, and to describe what specific measures Poseidon would implement to ensure these contaminants would not be mobilized into the environment and would meet human and environmental health standards.<sup>42</sup> This requested analysis became even more critical with Poseidon's recently proposed change in its project design to grade parts of the site with onsite soils to protect against tsunami inundation, since this proposed change may result in release of contaminants on site from as-of-yet unsampled and untested soils.

Poseidon then provided a preliminary RAP using a "reasonable worst-case" approach to more fully anticipate the type and extent of contaminants expected to require remediation. That preliminary RAP assumed that up to about 18,000 cubic yards of material would need to be excavated and removed from the site. If taken from beneath the tanks, that would equal a more reasonably expected 4.5 feet of excavation, as compared to the nine inch depth described above.

To ensure consistency with C 6.1.1, and to ensure Poseidon's partial site characterization accurately reflects actual site conditions, [Special Condition 6](#) requires Poseidon to submit the Remedial Action Plan required by, and approved by, the City to the Executive Director for review and approval. If the type or extent of contamination exceeds that described in Poseidon's preliminary evaluation, or if remediation or mitigation measures required by the City could result in additional adverse coastal resource effects beyond those currently evaluated, the Executive Director may determine that Poseidon will need to submit an application to amend this CDP. In addition, [Special Condition 6](#) requires Poseidon to submit, for Executive Director review and approval, a Construction Plan that specifies Best Management Practices to be implemented during facility construction that are meant to avoid or limit turbid or contaminated runoff from the site, requires control of trash, machine washing, concrete rinsates, and other potential coastal water contaminants, and similar measures to prevent water quality degradation.

Pipeline: A portion of the proposed water delivery pipeline would be routed adjacent to the Ascon Landfill in Huntington Beach (see **Exhibit 3** – Possible Water Delivery Pipeline Routes). From about 1938 to 1984, the landfill was used for disposal of numerous hazardous materials. It is now subject to remediation and cleanup, pursuant to a Remedial Action Plan (RAP) being prepared by the California Department of Toxic Substances Control. That RAP, which DTSC issued in draft form in September 2013, anticipates that site cleanup activities will occur starting in 2015, which would be concurrent with Poseidon's proposed pipeline construction.

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<sup>42</sup> See Commission staff's *Notice of Incomplete Application* letters to Poseidon of June 20, 2006 and January 21, 2009.

Poseidon is proposing to install its pipeline in a trench constructed adjacent to the Landfill alongside Hamilton Avenue. Both Poseidon and the project SEIR asserted that project construction would not intercept groundwater adjacent to the Landfill and that the project would therefore not affect Landfill-related cleanup activities. However, as shown in several landfill cleanup documents (available here: [http://www.ascon-hb.com/site\\_documents01.htm](http://www.ascon-hb.com/site_documents01.htm) and here: <http://www.dtsc.ca.gov/SiteCleanup/Projects/Ascon.cfm> ), the proposed trench is within the range of groundwater depths along that route and within the range of elevated contaminants associated with the landfill. DTSC has identified contaminants requiring remediation along much of the north side of the Landfill, including a 30-foot wide strip along Hamilton Avenue for which cleanup and remediation measures have not yet been identified.

The proposed pipeline construction is therefore likely to affect cleanup efforts, and, conversely, landfill cleanup efforts could also affect Poseidon's proposed pipeline construction and operation. For example, Poseidon's trenching or dewatering during pipeline installation could mobilize contaminants for which DTSC has not yet identified required remediation measures. Additionally, Poseidon's dewatering could result in movement, settlement, or instability of nearby areas or structures, which could result in additional contaminant release as well as damage to nearby properties.

The SEIR included mitigation measures to address potential contamination along the pipeline route (see full list of applicable SEIR mitigation measures in **Appendix E**). Mitigation Measure CON-30 requires Poseidon, prior to excavating along the pipeline route, to coordinate with the Orange County Integrated Waste Management Department to ensure pipeline construction does not affect drainage from the Ascon Landfill. Mitigation Measure CON-32 requires Poseidon to address potential release of landfill gases during pipeline construction. The SEIR also included a number of mitigation measures that, although potentially applicable to pipeline construction and its associated potential for adverse water quality effects, either specify just the project site or do not specify where the measures are to apply. For example, Mitigation Measure CON-8 requires that Poseidon conduct surveys on surrounding properties and structures to ensure dewatering activities do not cause movement or settlement; however, it does not state whether it applies to dewatering for the full project or just dewatering to be done at the facility site. To ensure water quality protection during pipeline construction, **Special Condition 7** requires a number of Best Management Practices describe above to prevent pipeline construction activities within the coastal zone from adversely affecting coastal waters. Additionally, **Special Condition 8** requires that Poseidon provide documentation from DTSC that the timing, location, and construction methods used during its pipeline construction will not interfere with, and is consistent with, the proposed cleanup and remediation measures at the Ascon Landfill site.

## **Conclusion**

The development, as proposed, would result in significant adverse marine life and water quality effects. However, as conditioned, the Commission finds the project is in conformity with relevant policies of the LCP and the Coastal Act.

## **G. WETLANDS AND ENVIRONMENTALLY SENSITIVE HABITAT AREAS**

LCP Policy C 6.1.4 states:

*The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain organisms and for the protection of human health shall be maintained and, where feasible, restored.*

LCP Policy C 6.1.20 states:

*Limit diking dredging, and filling of coastal waters, wetlands, and estuaries to the specific activities outlined in Policy 30233 and 30607.1 of the Coastal Act and to those activities required for the restoration, maintenance, and/or repair of the Municipal Pier and marina docks. Conduct any diking dredging and filling activities in a manner consistent with Section 30233 and 30607.1 of the Coastal Act.*

LCP Policy C 7.1.2 states, in relevant part:

*Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values...*

LCP Policy C 7.1.3 states:

*Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

LCP Policy C 7.1.4 states:

*Require that new development contiguous to wetlands or environmentally sensitive habitat areas include buffer zones. Buffer zones shall be a minimum of one hundred feet setback from the landward edge of the wetland, with the exception of the following:*

*A lesser buffer may be permitted if existing development or site configuration precludes a 100 feet buffer, or conversely, a greater buffer zone may be required if substantial development or significantly increased human impacts are anticipated. In either case, the following factors shall be considered when determining whether a lesser or wider buffer zone is warranted. Reduced buffer zone areas shall be reviewed by the Department of Fish and Game prior to implementation.*

- a) Biological significance of adjacent lands: The buffer should be sufficiently wide to protect the functional relationship between the wetland and adjacent upland.*
- b) Sensitivity of species to disturbance: The buffer should be sufficiently wide to ensure that the most sensitive species will not be disturbed significantly by permitted development, based on habitat requirements of both resident and migratory species and the short and long term adaptability of various species to human disturbance.*

- c) *Susceptibility of parcel to erosion: The buffer should be sufficiently wide to allow for interception of any additional material eroded as a result of the proposed development based on soil and vegetative characteristics, slope and runoff characteristics, and impervious surface coverage.*
- d) *Use existing cultural features to locate buffer zones: The buffer zones should be contiguous with the environmentally sensitive habitat areas and make use of existing features such as roads, dikes, irrigation canals, and flood control channels where feasible.*

LCP Policy C 7.1.5 states, in relevant part:

*Notify County, State and Federal agencies having regulatory authority in wetlands and other environmentally sensitive habitats when development projects in and adjacent to such areas are submitted to the City.*

LCP Policy C 7.2.7 states:

*Any areas that constituted wetlands or ESHA that have been removed, altered, filled or degraded as the result of activities carried out without compliance with Coastal Act requirements shall be protected as required by the policies in this Land Use Plan.*

LCP Policy I-C 8(c) states, in relevant part:

*For proposed projects within the Coastal Zone, utilize the development review/environmental review process to accomplish the following:*

1. *Examine each development's potential to affect habitat. To the maximum extent feasible project impacts on habitat shall be minimized through avoidance. In the event mitigation is necessary, mitigation shall be provided on-site if feasible or within the general vicinity if on-site mitigation is not feasible. Determine the necessity for Mitigation Agreements or other coordination with the California Department of Fish and Game, California Coastal Commission and/or federal agencies to obtain necessary permits for developments that appear to affect habitat.*
2. *Permit resource dependent and incidental public service related land uses within wetlands and environmentally sensitive habitat areas only if consistent with the following Coastal Act policies: Section 30233 and Section 30240.*
3. *Require improving the natural biological value, integrity and function of coastal wetlands and dunes through native vegetation restoration, control of alien plants and animal, [sic] landscape buffering and development setbacks.*
4. *...*
5. *Review any development proposed for non-wetland areas to ensure that appropriate setbacks and buffers are maintained between development and environmentally sensitive areas to protect habitat quality...*

The findings below separately assess two types of project-related impacts – first, direct wetland impacts within the project footprint, then the potential indirect impacts to adjacent wetlands and ESHA likely to occur during facility construction and operations.



### **Direct Wetland Impacts**

The City's LCP policies on wetland protection require protection of biological productivity and other wetland functions and values. They also require that development adjacent to environmentally sensitive areas be sited and designed to prevent impacts which would significantly degrade those areas. The LCP also requires buffer zones be established around wetlands to protect them from proposed development. The City determined in its SEIR that there were no wetlands within the project footprint. However, from the information provided by the City and Poseidon, Commission staff has determined that there were approximately 3.5 acres of wetlands within the project site and there are an additional approximately 0.5 acres on the east side of the project site, as defined in the Coastal Act and the Commission's regulations.

The project site consisted largely of tidally-influenced wetlands before the power plant was constructed in 1958. It is within an area of former tidal marsh, dune habitat, and floodplain of the Santa Ana River that extended for several miles along this part of the Huntington Beach shoreline. Although most of this area has been developed or disturbed, wetlands have re-emerged and wetland characteristics have reappeared in many locations, due in part to the area's relatively high groundwater table, the continued presence of hydric soils beneath much of the area, anthropogenically influenced topography and hydrology in some areas, and the presence of nearby wetland vegetation that provides an ongoing seed source.

This re-emergence is apparently what happened at the proposed project site. Although the site had been filled several decades ago as part of power plant development, the existing oil storage tanks at the site have been out of service since the mid-1990s and their containment areas had not been maintained for several years. As has happened at many locations along the coast, the site again supported wetlands that met the Commission's jurisdictional parameters and were subject to applicable LCP and Coastal Act provisions, including avoidance or mitigation. As shown in the initial Commission staff photos of the site from 2009, the site included some areas of mature vegetation, indicating it had been present at the site for several years. There is also an area of wetlands on the eastern part of the site adjacent to the flood control channel and connected to the Magnolia Marsh, which is described in the Findings below regarding the project's indirect wetland and ESHA impacts.

Neither of the proposed project's first two CEQA reviews – in 2003 and 2005 – identified wetlands within the project site. Later, however, during a January 26, 2009 site visit, the Commission's geologist, Dr. Mark Johnsson, took a number of photographs of areas within the proposed project footprint. Several of those photographs showed areas of what appeared to include wetland vegetation as well as ponded or standing water. Weather records showed only minimal rainfall in Huntington Beach during that month (less than 0.20"), suggesting that the photographed areas were likely wetlands, not just water ponding from a recent rainstorm.

Then, in June 2009, Dr. Jonna Engel, a Commission staff biologist, visited the site along with representatives from Poseidon and AES. The visit focused on areas within the proposed project footprint that were occupied in part by the three large tanks formerly used to store fuel oil and within partially bermed areas around those tanks. The tanks had been retired and the surrounding areas only partially maintained since the mid-1990s. Dr. Engel identified several

wetland indicators in the vicinity of each of the tank areas, including obligate plant species<sup>43</sup> and secondary indicators of wetland hydrology, including soil cracks, salt crust, and water marks. Dr. Engel then requested that Poseidon conduct a wetland delineation to identify the type and extent of any wetland areas at the site.

In May 2010, the City issued its Draft SEIR for the proposed project, which did not identify wetlands at the proposed project site. The draft document included a December 2009 technical memorandum from Poseidon's consultant that concluded there were no jurisdictional wetlands on site. In a June 2010 comment letter on that draft document, Commission staff stated that the document's description of site conditions was not consistent with conditions identified during the previous year's site visit, that the document's conclusions regarding the non-presence of wetlands were based on a delineation approach the Commission had specifically rejected the previous year for a nearby proposed project, and that the document therefore likely did not adequately or accurately portray the status of wetlands at the site. Staff recommended the City address these shortcomings in the Final SEIR.

In the Final SEIR, however, the City again stated that the site did not include wetlands, as the site did not provide wetland hydrology and the species of vegetation recognized as indicators of wetlands under the Coastal Act were not growing as hydrophytes. The City included in that Final SEIR a Jurisdictional Determination memo from Poseidon and the Wetland Data Sheets Poseidon had provided that described conditions at 18 locations within the three tank areas in the project footprint.<sup>44</sup> Those Data Sheets showed that all 18 sampled sites met the primary indicator the Commission uses to determine the presence of hydrophytic vegetation, while 14 of the 18 sites additionally met a secondary indicator for hydrophytic vegetation (see additional details below in the Analysis section). For all the sites, however, Poseidon stated that the vegetation was not growing as hydrophytes due to the lack of hydrology. For some sampling locations, Poseidon stated that a site met the wetland vegetation criterion due solely to the presence of facultative species, which are equally likely to be in wetland or non-wetland areas. It also noted that wetland hydrology may be supported within one tank area because AES had occasionally pumped stormwater into that area, though it was no longer conducting that practice. The SEIR also stated that its conclusions regarding the lack of wetlands on site were based on applying the Commission's jurisdictional determination methods. The City's CDP, issued shortly after it certified the Final SEIR, did not evaluate the project's potential direct wetland impacts.

Shortly after the City's September 2010 certification of the SEIR and issuance of its CDP, the Commission determined at its November 2010 Substantial Issue hearing that additional on-site evaluation was needed to make a conclusive wetland determination. Commission staff requested another site visit to evaluate site conditions and the potential presence of wetlands; however Poseidon did not grant permission until July 2012, when Dr. Engel again visited the site and found that the areas she had previously identified as exhibiting wetland indicators had recently been disked and all vegetation removed. The grading and vegetation removal was apparently

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<sup>43</sup> Obligate plant species are those which are found almost always (i.e., 99% of the time) within wetlands.

<sup>44</sup> Although the EIR stated that the "Jurisdictional Determination" memo was based on data collected during six site visits, the Wetland Data Sheets provided were for just three dates – May 13, September 10, and October 19, 2009.

conducted by the power plant owner and is the subject of a separate enforcement action by Commission staff.<sup>45</sup>

### *Wetland Delineation*

To determine the presence of hydrophytic vegetation, the Commission uses procedures and methods provided in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*.<sup>46</sup> This document describes several hydrophytic vegetation indicators, with the primary indicator being based on dominance of vegetation types and the secondary indicator being based on a “prevalence index” of vegetation types.<sup>47</sup>

Regarding the test for dominance, Poseidon’s Wetland Data Sheets showed that vegetation at each of the sampled sites met the test, as each consisted of at least 50% obligate (OBL), facultative-wet (FACW), and facultative (FAC) species. As stated in the Arid West Supplement, “[i]f the plant community passes the dominance test, the vegetation is hydrophytic and no further vegetation analysis is required.” In this instance, vegetation at each sampled location met this test.<sup>48</sup>

In addition, although the dominance test was met and no further analysis is necessary, Poseidon’s Wetland Data Sheets also show that 14 of the 18 sampled sites met the prevalence test, in that they showed a prevalence index of 3.0 or less, which is the threshold used to determine whether the vegetation is hydrophytic. For that situation, the Arid West Supplement states “if the plant community satisfies the prevalence index, the vegetation is hydrophytic. No further vegetation analysis is required.” In the absence of a positive dominance test (which is not the case here), reliance on the prevalence test also requires the presence of at least one indicator for hydric soil and of wetland hydrology. As noted above, Dr. Engel identified secondary indicators for hydrology at the sites on her first site visit, which bolsters the evidence of the presence of

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<sup>45</sup> Development including, but not limited to, removal of wetland vegetation and grading, has taken place without benefit of a coastal development permit. Although development has taken place prior to submission of a permit application, consideration of the application by the Commission has been based solely upon the policies of the City of Huntington Beach’s LCP and Chapter 3 of the Coastal Act. Commission review and action on this permit does not constitute a waiver of any legal action with regard to the alleged violation(s), nor does it constitute an implied statement of the Commission’s position regarding the legality of any development undertaken on the subject site without a coastal permit, or that all aspects of the violation(s) have been fully resolved.

<sup>46</sup> U.S. Army Corps of Engineers, *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*, ERDC/EL TR-O8-28, ACOE Wetlands Regulatory Assistance Program, Washington D.C., September 2008.

<sup>47</sup> As stated in the Federal Manual, “[a]n area has hydrophytic vegetation when, under normal circumstances: (1) more than 50 percent of the composition of the dominant species from all strata are obligate wetland (OBL), facultative wetland (FACW), and/or facultative (FAC) species, or (2) a frequency analysis of all species within the community yields a prevalence index value of less than 3.0 (where OBL = 1.0, FACW = 2.0, FAC = 3.0, FACU = 4.0, and UPL = 5.0).”

<sup>48</sup> The Corps of Engineers recently updated the plant list that assigns vegetation species into different categories of wetland or upland plants. Commission staff reviewed the updated list and found that the results of the dominance and prevalence tests shown on the 2009 Wetland Data Sheets were the same with the new plant categories. See Wetland Plant List for the Arid West at: [http://www.spk.usace.army.mil/Portals/12/documents/regulatory/pdf/AW\\_Region\\_Draft\\_Final.pdf](http://www.spk.usace.army.mil/Portals/12/documents/regulatory/pdf/AW_Region_Draft_Final.pdf)

wetlands. In addition, photographs from the initial January 2009 site visit show extensive areas of vegetation, including some species identifiable as hydrophytes, and ponding within the areas sampled by Poseidon's wetland consultant. Poseidon's Wetland Data Sheets also provided some soil test data and stated that the soils did not meet the Commission's hydric soils parameter.<sup>49</sup> However, the positive results of the vegetation test described above are sufficient to categorize the sampled areas as wetlands.

Based on the information provided in Poseidon's Wetland Data Sheets and technical memorandum, Dr. Engel's observations during her initial site visit, site photographs taken during Dr. Engel's and Dr. Johnsson's site visits, the sampled areas within the project footprint exhibited at least one, and in some cases, two, of the parameters that indicate the presence of wetlands. The project is therefore subject to LCP policies related to wetland protection and restoration.

Although the property owner in 2012 removed the site's wetland characteristics, the LCP still requires mitigation for the wetlands that were removed without a permit. As stated in LCP Policy C 7.2.7, "[a]ny areas that constituted wetlands or ESHA that have been removed, altered, filled or degraded as the result of activities carried out without compliance with Coastal Act requirements shall be protected as required by the policies in this Land Use Plan." In this case, Commission staff identified wetland characteristics on the site, requested that AES and Poseidon conduct a wetland delineation, and alerted the City to the likely presence of wetlands; yet the site was graded and vegetation removed without AES or Poseidon seeking or obtaining necessary approvals.

Although neither Poseidon nor AES completed the requested wetland delineation, staff is able to use several documents to reconstruct key site conditions as they existed before the grading and vegetation removal occurred and has calculated a reasonable estimate of the extent and type of wetlands that had been present. First, the Jurisdictional Delineation memo identifies the extent of each containment area in which wetland characteristics could occur – i.e., those relatively level areas within the berms and not covered by the storage tanks – as 2.52 acres in Tank 1, 3.04 acres in Tank 2, and 2.21 acres in Tank 3 (NE) for a maximum possible wetland area of 7.77 acres. All three areas were partially covered by pipes, foundations, internal berms, or other small structures totaling less than an acre, which reduced the potential area that could be considered wetlands. The Wetland Data Sheets identify conditions at 18 locations distributed within those areas in the proposed project footprint – eight sampling locations near Tank 1, four near Tank 2, and six near Tank 3. Poseidon made observations on May 19, 2009 at the eight Tank 1 locations and the six Tank 3 locations, on September 10, 2009 at one of the Tank 1 (NW) locations, and on October 19, 2009 at the six Tank 3 locations. The January 2009 photographs of the site provide visual support of the presence of vegetation and ponding, which is further supported by Dr. Engel's June 2009 field notes from the site.

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<sup>49</sup> Poseidon's technical memorandum noted the presence of native soils a few inches beneath the fill, some of which met they matrix color characteristics indicating hydric soils, though they did not have sufficient redoximorphic features (which indicate cyclic wetting and drying of the soil) to meet they hydric soils parameter.

Regarding the Tank 1 area, both the jurisdictional memo and the Wetland Data Sheets state that AES had pumped stormwater into the area, suggesting that at least some of the hydrology supporting wetland vegetation at that site may have been artificial, though the memo noted this practice had not occurred for some time. The Wetland Data Sheets also show that area as having the most upland (UPL) status plant species overall – that is, six of the 27 species (22%) identified in that area were UPL, whereas the other two areas included just one UPL species. Two of the eight sampling points within this area had UPL cover of 30% and 40%. Additionally, all the sampling stations within the Tank 1 area also had Prevalence Index figures of 3.0 or greater, which would represent either the upper bounds of wetland vegetation or indicate upland vegetation areas. This suggests that although this area met the vegetation parameter, at least some of the area exhibited upland characteristics and some of the wetland species may have been supported by artificial hydrology, so would not be considered wetlands under the Coastal Act. Even so, a small part of that area, as characterized by Sampling Points NW6 and NW7, were covered primarily by FACW species – 35% and 92%, respectively, suggesting the existence of wetland conditions at that location, so these locations are included in the total wetland acreage described below.

For the other areas around Tanks 2 and 3, all the species and all the vegetation coverage consisted of OBL, FACW, or FAC, and AES and Poseidon did not identify those areas as being supported by artificial hydrology. The Wetland Data Sheets also show that all the sampling points in these areas met the additional vegetation parameter of having a Prevalence Index of 3.0 or less. Because those areas meet the vegetation parameter and are not supported by artificial hydrology, they are considered wetlands under the Coastal Act.

Based on the above-described evidence, as well as review of aerial photographs of the site taken during different years and seasons, staff estimates that about 50% of the area near Tanks 1, 2 and 3 met the wetland vegetation parameter before it was graded and the vegetation removed. Therefore, direct wetland impacts of the proposed project total approximately 3.5 acres.

### *Mitigation*

Notwithstanding the unpermitted removal of wetland characteristics, LCP Policy C 7.2.7 requires adequate mitigation for the lost productivity caused by removal of wetlands. The LCP also provides guidance for determining the type of mitigation needed. LCP Policy I-C 8(c) establishes that where avoidance is not possible, mitigation is to be on site, if feasible, or within the general vicinity. It also requires mitigation elements such as restoration of native vegetation, control of invasive plants, buffering, and development setbacks to improve the natural biological value, integrity, and function of coastal wetlands. These are to be implemented in association with LCP Policy C 1.1, which requires that adverse impacts associated with development in the coastal zone be mitigated to the greatest extent feasible. Although separated from the larger wetland complex by constructed berms, walls, and a layer of fill, the wetlands within the project footprint continued to provide several wetland functions, as evidenced by the hydrophytic vegetation on site used by sensitive species and by the ponding and waterfowl use observed during at least one site visit.

To mitigate the loss of wetland functions due to removal of on-site wetlands, as required by the LCP, the Commission's biologist recommends Poseidon create or restore wetlands at a 4:1 ratio. [Special Condition 9](#) therefore requires Poseidon, prior to permit issuance, to develop and implement a wetland mitigation plan that provides no less than 14 acres of coastal wetland habitat at up to two nearby locations suitable for wetland creation and/or restoration. The Plan is subject to a number of goals, objectives and performance standards meant to ensure that mitigation conducted pursuant to the approved Plan provides ongoing wetland functions and values in the area of Poseidon's project.

### Indirect Wetland and ESHA Impacts

As noted previously, the project site was formerly part of an extensive area of coastal wetlands and dunes that extended for several miles along this area of the coast. The project site is adjacent to the Magnolia Marsh, which is being partially restored by the Huntington Beach Wetlands Conservancy (see **Exhibit 9** – Huntington Beach Wetlands Conservancy Site Plan). A portion of Poseidon's site adjacent to the flood channel includes approximately 0.5 acres of wetlands that are outside the Conservancy's management area but contain similar habitat. Parts of the proposed development would occur within 100 feet of these wetlands and those of the Magnolia Marsh, resulting in two main types of indirect impacts – possible dewatering of wetland habitat during project construction, and effects of noise and vibration on listed sensitive species known or potentially occurring in those wetland areas. The project is additionally subject to LCP Policy C 7.1.4, which requires a minimum 100-foot buffer between new development and wetlands, which the current project does not provide.

In evaluating the project's potential indirect wetland impacts, the SEIR noted the proximity of the adjacent ESHA/wetlands and stated that the project would not redirect stormwater or cause spills into that area. However, the SEIR did not fully describe the important habitat values of the adjacent ESHA/wetland areas to the approximately two dozen sensitive species known or presumed to use that habitat, and did not adequately evaluate the three issues noted above – dewatering, noise, and the required buffer – as detailed below.

Much of the complex is being restored and protected by the Huntington Beach Wetlands Conservancy, including restoration of the adjacent Magnolia Marsh starting in 2009. One of the main goals of the Conservancy's restoration plan is to "maximize salt marsh/tidal habitats with no net harm to threatened and endangered (T&E) species existing on site such as the Belding's Savannah Sparrow." The Magnolia Marsh and other nearby wetland areas provide habitat for at least 23 listed sensitive species, including the following:<sup>50</sup>

<b>Species</b>	<b>Common Name</b>	<b>Status</b>
<b>Plants:</b>		
<i>Aphanisma biltoides</i>	Aphanisma	SSC
<i>Atriplex coulteri</i>	Coulter's Saltbush	SSC
<i>Atriplex pacifica</i>	South Coast Saltscale	SSC
<i>Atriplex serenana</i> var. <i>davidsonii</i>	Davidson's Saltscale	SSC

<sup>50</sup> From Moffatt & Nichol, *Huntington Beach Wetlands: Habitats and Sensitive Species*, August, 2004. See also California Energy Commission, *Preliminary Staff Assessment for 12-AFC-02 – Biological Resources*, October 2013.

<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Ventura Marsh Milk-vetch	<b>FE/SE</b>
<i>Centromadia parryi</i> ssp. <i>australis</i>	Southern Tarplant	<b>SSC</b>
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	Salt Marsh Bird's-beak	<b>FE/SE</b>
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	Southwestern Spiny Rush	<b>SSC</b>
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's Goldfields	<b>SSC</b>
<i>Nemacaulis denudata</i> var. <i>denudata</i>	Coast Woolly-Heads	<b>SSC</b>
<i>Nama stenocarpum</i>	Mud Nama	<b>SSC</b>
<i>Navarretia prostrata</i>	Prostrate Navarretia	<b>SSC</b>
<i>Suaeda esteroa</i>	Estuary Seablite	<b>SSC</b>

**Animals:**

<i>Athene cunicularia</i>	Burrowing Owl	<b>SSC</b>
<i>Charadrius alexandrinus nivosus</i>	Western Snowy Plover	<b>FT</b>
<i>Cicindela gabbi</i>	Gabb's Tiger Beetle	<b>SSC</b>
<i>Panoquina errans</i>	Salt Marsh Skipper	<b>SSC</b>
<i>Passerculus sandwichensis beldingi</i>	Belding's Savannah Sparrow	<b>SE</b>
<i>Pelecanus occidentalis</i>	California Brown Pelican	<b>SSC</b>
<i>Rallus longirostris levipes</i>	Light-footed Clapper Rail	<b>FE</b>
<i>Sterna antillarum browni</i>	California Least Tern	<b>FE</b>
<i>Trigonoscuta dorothea dorothea</i>	Dorothy's El Segundo Dune Weevil	<b>SSC</b>
<i>Tryonia imitator</i>	Mimic Tryonia (California Brackish Water Snail)	<b>SSC</b>

**Note:** Status indicators include species listed as: **FE** – federally endangered; **FT** – federally threatened; **SE** – state endangered; **ST** – state threatened; **SSC** – species of special concern.

The habitat types within and immediately adjacent to Poseidon's project site include coastal scrub and salt panne, which is noted as particularly important to the endangered Belding's Savannah Sparrow (see **Exhibit 10a** – Huntington Beach Wetlands: Vegetation Communities and **Exhibit 10b** – Sensitive Species Habitats). The Magnolia Marsh restoration project is expected to provide suitable breeding habitat for the endangered Light-footed Clapper Rail, which also breed nearby.<sup>51</sup> Although the Magnolia Marsh area has been identified as being subject to significant negative stressors due to nearby industrial uses,<sup>52</sup> a 2010 survey identified 26 separate sparrow territories in the Magnolia Marsh, which represents about 25% of the territories in the full Huntington Beach wetland complex.<sup>53</sup>

<sup>51</sup> See September 12, 2012 USFWS comment letter regarding potential adverse effects of proposed adjacent AES power plant replacement, California Energy Commission Application For Certification No. 12-AFC-02.

<sup>52</sup> See Solek, Christopher, and Eric Stein, *An Evaluation of Wetland Restoration Projects in Southern California using the California Rapid Assessment Model (CRAM): A Final Report to the Southern California Wetlands Recovery Project*, Technical Report 659, February 2012.

<sup>53</sup> See Zemba, Richard, and Susan Hoffman, *A Survey of the Belding's Savannah Sparrow (Passerculus sandwichensis beldingi) in California – Final Report to California Department of Fish and Game, South Coast Region*, September 2010.

*Construction Dewatering*

Groundwater levels beneath both the site and nearby wetlands are very close to the ground surface and are tidally-influenced. Project construction will require extensive excavation to remove liquefiable soils to a depth of about 20 feet below grade. The excavations will require dewatering, which Poseidon is currently proposing to do by using a conventional perimeter well dewatering system.

The SEIR stated that dewatering during construction is highly unlikely to affect nearby ESHA/wetland areas because the radius of influence of the dewatering intake wells is expected to stay within the project site. The SEIR did not include evidence supporting this conclusion, in part due to the presence of the storage tanks at the site, which currently limit Poseidon's ability to collect the site-specific information needed to confirm this statement. However, limited monitoring results from nearby groundwater monitoring wells on the power plant site indicate that groundwater levels fluctuate with tide levels in the adjacent flood control channel, suggesting that the groundwater hydrology on the site is responsive to and directly connected to groundwater in nearby areas, including the adjacent wetlands. These characteristics suggest that dewatering during construction could involve significantly higher volumes and affect a larger area than anticipated in the SEIR.

In May 2013, Poseidon provided documentation stating that dewatering will be required for two of the facility's main components – the pretreatment building and the intake pump station. Poseidon estimates the pretreatment building will require dewatering at a rate of up to 740,000 gallons per day for a total of 45.1 million gallons and that the intake pump station will require dewatering at a rate of up to 1,280,000 gallons per day for a total of 39 million gallons. If done concurrently, the total dewatering rate would be up to about 2.02 million gallons per day. Poseidon has also estimated that the radius of influence from dewatering operations – that is, the distance within which groundwater levels would be reduced – would be up to 225 feet from the dewatering activities. This distance would encompass parts of the adjacent ESHA/wetland areas.

Poseidon anticipates that its upcoming geotechnical investigations will result in a more accurate estimate of likely dewatering volumes and potential impacts. The limited amount of currently available information show that the soils underlying the project site are relatively permeable and respond to tidal input from the adjacent channel, indicating that Poseidon may need to use methods other than conventional perimeter wells to allow adequate dewatering for construction and to prevent adverse effects on the nearby ESHA/wetlands.

To ensure project dewatering does not cause offsite dewatering effects in the adjacent ESHA/wetlands, [Special Condition 10](#) requires Poseidon to submit results of the geotechnical investigation it will implement after removal of the storage tanks and identify the expected volume and extent of dewatering identified in that investigation. If results show that the proposed perimeter well dewatering method will not prevent dewatering beneath the nearby ESHA/wetlands, Poseidon will be required to install sheet piles, slurry walls, or another method approved by a geotechnical engineer that will prevent such dewatering. With this condition, the Commission can ensure that the dewatering associated with the project will not adversely impact adjacent wetlands/ESHA, consistent with LCP requirements.



*Project Noise, Vibration, and Lighting*

Poseidon's currently proposed project configuration includes construction and project components immediately adjacent to nearby ESHA/wetland areas, with parts of several buildings and parking areas within 100 feet of those ESHA/wetland areas. The SEIR stated that expected noise levels from construction equipment would be in a range of 77 to 85 decibels at a 50-foot distance. Noise levels generated during demolition of the storage tanks are likely to be higher, though the SEIR did not identify those levels. The SEIR identified noise levels during facility operations ranging up to 108 dB from several of the project's pumps and noted that several of these pumps would be outside. The SEIR also described expected groundborne noise and vibration levels from construction equipment of up to 75 VdB.<sup>54</sup> It did not assess increased vibration levels that would occur during project operations, including potential pile driving Poseidon may need to employ to place sheet piles for dewatering. The SEIR's noise and vibration analyses identified the nearest sensitive receptors as residences and parks several hundred feet from the project site. The City's CDP included a condition requiring Poseidon to conduct a noise study during the project design stage to ensure that noise levels at the nearest residential property line are no more than 5 dBA greater than existing nighttime ambient noise levels at that property. However, neither the SEIR nor the CDP addressed the effects of expected noise and vibration levels at the much closer ESHA/wetland complex, including habitat within and adjacent to the project site used by the endangered Belding's Savannah Sparrow, California Least Tern, and Light-footed Clapper Rail. These sound levels are considered harmful to avian species and could result in "take" of special status species that use these ESHA/wetland areas. Several bird species, including the Light-footed Clapper Rail, are particularly sensitive to vibration, and the CDFW specifically prohibits pile driving during their nesting season due to its relatively high levels of both noise and vibration.<sup>55</sup>

As part of determining project conformity to LCP Policy C 7.1.4 regarding required buffers, Commission staff contacted staff of the California Department of Fish and Wildlife (CDFW) regarding guidance on acceptable noise levels and mitigation measures for construction projects near habitat areas used by sensitive avian species.<sup>56</sup> Both CDFW and the U.S. Fish and Wildlife Service have developed and implemented recommended measures on a number of such projects, and the agencies' work with CalTrans has resulted in a more detailed set of thresholds than the above-referenced "typical noise threshold," for use in identifying potential "take" or harm to sensitive species.<sup>57</sup> These thresholds range from "hearing damage" to "masking," which is a level preventing or reducing communication among individuals, and are associated with several noise sources, including those resulting from construction equipment similar to that Poseidon will use.

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<sup>54</sup> Groundborne noise and vibration is measured using "VdB," or vibration decibel levels, to distinguish it from airborne sound. Very low VdB levels can be imperceptible, but levels of around 100 VdB and higher can cause structural damage.

<sup>55</sup> Commission staff personal communication with CDFW staff, October 18, 2013.

<sup>56</sup> Commission staff personal communication with CDFW staff, September 19 and October 18, 2013.

<sup>57</sup> See, for example, Dooling, Robert, and Arthur Popper, *The Effects of Highway Noise on Birds*, prepared for California Department of Transportation, September 2007.

Additionally, review conducted as part of the proposed AES power plant expansion notes that similar noise levels from that project's construction could discourage sensitive species from using the nearby habitat areas and adversely affect their breeding or nesting behavior, and that chronic exposure to excessive noise has been demonstrated to adversely affect foraging behavior, reproductive success, population density, and community structure.<sup>58</sup> Although the avian species may be more sensitive to noise during breeding and nesting season, several types of "take" or harm identified above could occur any time of year due to the relatively high noise levels expected from both project construction and operation. The Energy Commission's review specifically notes that cumulative sound from Poseidon's project and from the power plant project could create a significant adverse noise impact at monitoring locations several hundred feet farther away than these nearby wetland areas.<sup>59</sup>

The conclusions and recommendations of CDFW and USFWS essentially identify potential harm or "take" when noise levels are above ambient and greater than about 60 dBA. Mitigation measures employed by both CDFW and USFWS include a requirement that applicants conduct monitoring to ensure sound levels remain below thresholds known to result in take and conduct nesting surveys and ongoing monitoring to identify and avoid potential adverse effects to nesting birds. The USFWS has recommended several mitigation measures be implemented for the adjacent Huntington Beach power plant replacement project, which will generate construction-related noise at levels similar to Poseidon's project.<sup>60</sup> The USFWS recommends that the entire wetlands area adjacent to that project be considered a sensitive receptor and that the project include design features that maintain noise levels at or below ambient conditions.

The SEIR did not identify ambient noise or vibration levels at the project site or the nearby ESHA/wetlands to allow comparison between existing noise and vibration levels and those that would occur during project construction and operation. However, as part of the above-referenced California Energy Commission (CEC) review of the AES power plant expansion, AES has provided sound modeling information and ambient noise levels for its proposed project, and some of that information and the conclusions from that analysis can be applied to Poseidon's project.

The AES analysis provides ambient nighttime noise levels at several nearby locations, including two within the Magnolia Marsh close to Poseidon's project footprint. Its September 2012 ambient noise survey conducted at six nearby locations showed ambient levels ranging from 38 to 66 decibels, with the two sample locations in the Marsh closest to Poseidon's site measuring 51 and 66 decibels. CEC staff calculated the long-term average noise levels as 54 dBA and 61 dBA, respectively. AES also provided a site plan showing sound contours in and near the project

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<sup>58</sup> See California Energy Commission, *12-AFC-02 Preliminary Staff Assessment – Biological Resources*, October 2013.

<sup>59</sup> See California Energy Commission, *12-AFC-02 Preliminary Staff Assessment – Noise and Vibration*, October 2013.

<sup>60</sup> See September 10, 2012 letter from USFWS to California Energy Commission regarding Application for Certification 12-AFC-02.

site.<sup>61</sup> Those contours suggest that some of the noise generated during the existing power plant operations is attenuated before it reaches the wetland areas closest to the project site due to distance and due to intervening structures, including the storage tanks that Poseidon will remove as part of its project.

Based on the above, with ambient noise levels of about 60 dBA and Poseidon's construction noise ranging up to about 85 dBA, the noise generated during Poseidon's project construction would represent an increase of up to about 25 dBA over ambient levels in the nearest areas of ESHA/wetlands. During project operation, the increase could be somewhat higher. The vibration levels that would be generated in the ESHA/wetland areas during Poseidon's project construction are expected to be significantly higher than ambient, since the project site is currently devoid of vibration sources and the nearest existing source – the power plant – is several hundred feet distant, with its vibrations largely attenuated in the intervening soil and underground structures between the plant and the ESHA/wetland area.

The SEIR states that construction-related noise and vibration is expected to be short-term; however, the expected 24-month construction period would occur during at least two, and possibly three, breeding and nesting cycles of the nearby special status bird species in the adjacent habitat. The breeding and nesting season runs from about March 1 to September 15 for most birds and from January 1 to August 31 for raptors. Disturbance of these or other species using or nesting in the adjacent habitat may constitute illegal "take" under the Endangered Species Act. In the CEC's review of the proposed AES power plant modifications, it acknowledged that construction of that project, much of which would be somewhat farther from the ESHA/wetland than is Poseidon's project, could cause a significant impact by disturbing nesting birds or causing them to abandon nests and suitable habitat.<sup>62</sup> It identified a "typical noise threshold" of 60 dBA as capable of interfering with avian communication, and noted that noise from the power plant construction could be high enough to discourage birds from nesting in the area. It also acknowledged that bird species occupying this particular habitat area may have adjusted to slightly higher ambient levels, but nonetheless recommended a 60 dBA maximum sound level at the ESHA/wetland receptors.

This is consistent with the City's approach in other nearby projects where the City has cited the 60 dBA threshold as causing adverse impacts to avian species and has prohibited noise- and disturbance-generating construction activities adjacent to the Magnolia Marsh during the Belding's Savannah Sparrow breeding season, which runs between mid-February and early August (see, for example, City of Huntington Beach CDPs #2006-005 and #PW-08-003, both for nearby sidewalk replacement projects). The Commission similarly recognized this potential impact in its approval of a wetland restoration project (see CDP #5-08-061 for the Huntington Beach Wetland Conservancy) for areas in and near the Magnolia Marsh by imposing a special condition that limited project activities to September through March. In nearby Bolsa Chica, the

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<sup>61</sup> See AES, *Huntington Beach Energy Project (12-AFC-02) Additional Responses to Jason Pyle's Data Requests, Set 1 (#1-16)*, with specific reference to that document's *Figure DR Pyle 6-1 Estimated Sound Level Contours: Both HBEP Block 1 and Block 2 at Full Load – Facility Sound Only*, January 17, 2013.

<sup>62</sup> From California Energy Commission, *Preliminary Staff Assessment for 12-AFC-02, Huntington Beach Energy Project*, Section 5.2, October 2013.

Commission recently conditioned its approval of a bridge construction project by requiring noise levels to not exceed 65 dBA within 100 feet of any active nests (see the Commission's May 2013 approval of CDP 5-12-191). The Commission also generally requires that permittees conduct nest surveys to identify any active nests within 300 feet of a construction site and to prohibit noise levels greater than 65 dBA as long as those nests are active.<sup>63</sup>

The Energy Commission's October 2013 Preliminary Staff Assessment for the adjacent power plant project includes recommended USFWS conditions that limit noise levels from project construction to 60 dBA in any areas of potential nesting habitat near the site and that require ongoing monitoring of nesting or use of suitable habitat by listed bird species. It also recommends a number of measures that could reduce potential noise impacts, including placing temporary or permanent sound barriers, locating noise-generating activities away from the ESHA/wetland areas, reducing the number of noise-generating activities that occur simultaneously, and others.

#### *Mitigation*

To avoid and minimize any adverse effects of the proposed project on nearby sensitive species that depend on these adjacent ESHA/wetland areas, [Special Condition 11](#) prohibits all project-generated noise of greater than 60 dBA at the delineated boundary of the wetland areas closest to Poseidon's proposed development activities – i.e., along the eastern part of the site near the Magnolia Marsh. It also specifically prohibits pile-driving at the project site during breeding and nesting periods between January 1 and September 15 of any year because pile driving cannot be limited to just 60 dBA and is known to adversely affect nesting birds. It also requires Poseidon to submit a Sound Mitigation Plan that identifies sound levels expected during project construction and operation, identifies measures that will be implemented to reduce sound levels at the nearest wetland boundary to the extent feasible, and describes monitoring and reporting measures that will be implemented to ensure the habitat area is free from additional noise-related impacts. Additionally, [Special Condition 7](#) requires that the approved Sound Mitigation Plan be incorporated into Poseidon's Construction Plan for the facility.

LCP Policies C 7.1.2 and I-C 8(c) require protection against any significant disruption of environmentally sensitive area habitat values and that any adverse effects be minimized through avoidance. One of the significant habitat values provided by the adjacent ESHA/wetland areas is breeding, nesting, and feeding habitat for birds, including several special status species. [Special Condition 12](#) therefore requires Poseidon to hire a qualified biologist for conducting ongoing surveys to ensure the project does not adversely affect sensitive species. [Special Condition 12](#) also requires the biologist to conduct nest surveys and monitoring to ensure that the project does not cause impacts that would significantly degrade those areas. It further requires surveys before and during nesting season and continued monitoring during project construction to identify the presence of sensitive bird species near the site and to limit activities as necessary to avoid disturbance. Implementation of these conditions may result in Poseidon proposing various noise attenuation measures that could require an amendment to this CDP – for example, construction of sound walls, placement of monitoring equipment, etc. The conditions allow minor changes to be approved by the Executive Director if an amendment to this permit is not legally necessary.

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<sup>63</sup> See, for example, CDPs 5-12-191 and 5-12-268, both issued to the City of Huntington Beach.

Finally, these conditions are largely consistent with guidance provided by both CDFW and USFWS, consistent with LCP Policy I-C 8(c).

*LCP Buffer Requirement*

LCP Policy C 7.1.4 requires a buffer of at least 100 feet between new development and ESHA/wetland areas. The policy allows wider buffers to be imposed if the development is substantial or involves significant increases in adverse effects. It allows for a buffer of less than 100 feet, but only with review by CDFW. The policy establishes that buffer widths are to be based on the biological significance of the wetland area and the sensitivity of species to disturbance. LCP Policy I-C 8(c) additionally requires that setbacks and buffers between development and ESHA are adequate to protect habitat quality.

Components of Poseidon's project currently proposed to be located within 100 feet of nearby ESHA/wetland areas include parts of the facility's pretreatment plant, reverse osmosis building, an electrical transformer station, and parking areas. As noted above, construction of the pretreatment plant will involve significant dewatering, which may require the placement of sheet piles, considered a highly disturbing activity by CDFW. In addition, demolition activities associated with removal of two of the three large storage tanks would occur within this distance, as well as some of the expected remediation activities. The storage tanks, which are located between the power plant and the area of ESHA/wetland closest to Poseidon's site, currently act to partially attenuate sound levels from power plant operations, and their removal early in the construction schedule will remove that attenuation effect. The existing perimeter berm between Poseidon's site and the ESHA/wetland area will remain, though at about 15 feet above msl, it is not high enough to provide any substantial attenuation of project noise or vibration. As described above and elsewhere in these Findings, the development associated with this project is substantial and represents a significant increase in activity over the very low activity levels currently occurring within the project footprint.

Noise and vibration from project construction and operation are expected to exceed levels that cause disturbance to species using the immediately adjacent habitat. Because the project site and its storage tanks have been largely out of service since the mid-1990s, project construction and operation represent a significant increase over current levels of disturbance and adverse effects at the site. Based on the expected noise and vibration effects, the significantly increased activity at the site, and the sensitivity of species using the immediately adjacent habitat, the buffer between project activities and development and the ESHA/wetlands should be at least the 100-foot minimum required by the LCP.

**Special Condition 11**, which allows the project to generate no more than 60 dBA at the nearest wetland boundary, reduces some potential impacts that might otherwise create a need for a wider buffer. Additionally, the continued presence of the perimeter berm between the project site and the ESHA/wetland area will provide a small amount of visual shielding from some project activities. Nonetheless, in recognition of the remaining noise and vibration from the project, the significant increase in noise, activity, and disturbance at the site due to the project, the overall species sensitivity, and to ensure consistency with LCP Policies C 7.1.4 and I-C 8(c), **Special Condition 5** requires Poseidon to reconfigure its proposed project to ensure all development, other than that associated with storage tank removal and site remediation, is at least 100 feet

from the nearest ESHA/wetland boundary, as delineated by a qualified biologist approved by the Executive Director.

Finally, even with a 100-foot buffer between the project site and adjacent ESHA/wetlands, the additional lighting associated with project construction and operations represents another project component that could disturb and adversely affect sensitive species in this area during both construction and operations. To avoid and reduce potential adverse effects, [Special Condition 5](#) also requires that all project-related lighting be directed downward and inward towards the project footprint to the extent allowed by applicable health and safety requirements.

### **Conclusion**

The development, as proposed, would result in significant adverse effects to wetlands and environmentally sensitive habitat areas. However, as conditioned, the Commission finds the project is in conformity with relevant policies of the LCP.

## H. FLOOD, TSUNAMI, AND SEA LEVEL RISE HAZARDS

LCP Policy I-C.20, Environmental Hazards Element, states:

*Enforce and implement the policies and programs of the Environmental Hazards Element of the General Plan to the extent that these programs and policies are not inconsistent with the City's Local Coastal Program.*

The relevant and applicable policies and programs of the above-cited Environmental Hazards Element are listed below.

Figures in parentheses at the end of each Environmental Hazards Policy refer to the Implementation Program applicable to each Policy.

Environmental Hazards Policy 5.1.1 states: *Identify tsunami and seiche susceptible areas, and require that specific measures be taken by the developer, builder, or property owner, during major redevelopment or initial construction, to prevent or reduce damage from these hazards and the risks upon human safety (see Figure EH-8). (I-EH 1 and I-EH 4)*

Environmental Hazards Program I-EH 4, Development Review or Environmental Review Process, states: *During development review (site plan, tract map, etc.) and/or environmental review, require:*

- a. *building structures proposed in liquefaction, unstable soil/slope conditions, flood prone areas, high water tables, peat or other geologic hazards prone areas to determine potential problems and to require mitigation measures;*
- b. *a potential seismic/geologic damage assessment to be conducted for essential public utilities (gas, water, electricity, communications, sewer) and require that appropriate mitigation measures be incorporated;*
- c. *critical or sensitive facilities and uses to be located in areas where utility services and continuous road access can be maintained in the event of an earthquake;*
- ...
- g. *that proposed critical, essential, and high-occupancy facilities be subject to seismic review, including detailed site investigations for faulting, liquefaction, ground motion characteristics, and slope stability, and application of the most current professional standards for seismic design;*
- h. *that proposed projects located in the tsunami hazard areas (Figure EH-9):*
  - *are designed to minimize beach/bluff erosion and the need for sand replenishment along city beaches; and*
  - *consider design options which reduce the potential for damage to private property and threats to public safety, i.e., raised foundations, ground floor parking with upper level uses.*

LCP Coastal Element Hazards Section C10.1.19 states:

*Identify tsunami and seiche susceptible areas (Figure C-30), and require that specific measures be taken by the developer, builder or property owner during major redevelopment or initial construction, to prevent or reduce damage from these hazards and the risks upon human safety. Development permitted in tsunami and seiche susceptible areas shall be designed and sited to minimize this hazard and shall be conditioned to prohibit a shoreline protective device.*

Coastal Act Section 30253 states, in relevant part:

*New development shall do all of the following:*

- (a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
- (b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

### **Sea Level Rise**

The site and desalination facility would be subject to flooding and tsunami runup, both of which would be exacerbated by expected higher sea levels during the life of the project. The City of Huntington Beach has been singled out as being particularly susceptible to sea level rise. A 2013 study determined that up to 5,000 homes in the City, including many that are close to Poseidon's project site, are at risk due to sea level rise by 2020.<sup>64</sup> Not only is this part of the Orange County coast susceptible to sea level rise, it contains a wide range of critical infrastructure that will be affected unless significant effort is taken to protect, replace, or remove it. Several state agencies and other entities funded a study that found the full Orange County coastline has structures worth more than \$17 billion (in 2000 dollars), including the adjacent power plant, that are vulnerable to a 4.5-foot rise in sea level, which is roughly the level projected to occur by about 2100.<sup>65</sup>

The state has adopted guidance provided in the 2012 NRC Report, *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (adopted by the Ocean Protection Council in its 2013 State of California Sea-Level Rise Guidance Document, or *State Guidance Document*).<sup>66</sup> That guidance projects sea level rise of up to two feet by 2050 and up to 5.5 feet by 2100 along this part of the Orange County shoreline. This is the current best-available science on sea level rise projections. These projections of sea level rise along this

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<sup>64</sup> See Climate Central, *Surging Seas: Sea Level Rise Analysis*, June 2013.

<sup>65</sup> Heberger, Matthew, et al., *The Impacts of Sea-Level Rise on the California Coast*, prepared by the Pacific Institute for the California Climate Change Center – California Energy Commission, California Environmental Protection Agency, Metropolitan Transportation Commission, California Department of Transportation, the California Ocean Protection Council, March 2009.

<sup>66</sup> For more information on the NRC Report, go to [http://www.nap.edu/catalog.php?record\\_id=13389](http://www.nap.edu/catalog.php?record_id=13389) and on the OPC Guidance, go to: [http://www.opc.ca.gov/webmaster/ftp/pdf/docs/2013\\_SLR\\_Guidance\\_Update\\_FINAL1.pdf](http://www.opc.ca.gov/webmaster/ftp/pdf/docs/2013_SLR_Guidance_Update_FINAL1.pdf) (both last visited on 14 October 2013).



section of the California coast is also consistent with the Commission staff's recently published draft guidance for incorporating sea level rise hazards and projections into LCP and coastal development permit review.<sup>67</sup>

The *State Guidance Document* cautions that the sea level rise projections likely underestimate the amount of increase and that the uncertainties about these projections increase as planning timeframes increase – i.e., they are likely more accurate for the immediate couple of decades and less so for subsequent decades. It notes that the rate of sea level rise is not expected to be linear and that it is likely to rise faster later in this century. The *State Guidance Document* recommends that state agencies during project evaluation consider the projected lifespan of the facility, its cost, and the impact or consequence of damage or loss of the facility. It also recommends that consideration be given to the project's adaptive capacity, impacts, and risk tolerance for projects with an expected timeframe beyond 2050.<sup>68</sup>

Poseidon has requested that the Commission consider only a 30- to 35-year operating life – until approximately 2050 – and has expressed a willingness to accept a permit based only on that period of operations, even though Poseidon has options to renew its leases and water purchase agreements for an additional 30 years, which could extend the facility's operating life to about 2080. Poseidon's project design and mitigation measures, and the Commission's Special Conditions, are meant to address hazards associated with a sea level rise of up to two feet, which is expected by about 2050, and related hazards, such as higher tsunami runup elevations, increased groundwater tables, and others described below. An additional 30 years of operation would take the project to about 2080, when estimated sea level rise is up to 3.75 feet and above the hazard level Poseidon is designing for with the current project. Therefore, [Special Condition 13](#) allows the desalination facility to operate only until 2050 and requires Poseidon to submit a new coastal development permit application if it proposes to operate beyond 2050, at which time the Commission would determine whether the project needs to be redesigned or removed. Poseidon informed Commission staff that it understands that after 30 years, Poseidon may need to close fully, retrofit, or relocate the plant.

Importantly, and as noted in the *Guidance Document*, the expected increase in water levels are likely to occur not just at some point several decades in the future, but also during the very near future due to storm waves or recurring events like El Nino. The *State Guidance Document* notes that, "[w]here feasible, consideration should be given to scenarios that combine extreme oceanographic conditions on top of the highest water levels projected to result from SLR over the expected life of a project." It also states that water levels during these large, short-term events along some parts of the coast have already exceeded sea level rise levels projected for 2030 and have reached those projected for 2050. The Huntington Beach shoreline area adjacent to the project site is expected to experience significant sea level rise risks. As illustrated in **Exhibit 11**, a two-foot water level increase could result in the facility becoming an "island"

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<sup>67</sup> See California Coastal Commission, *Draft Sea-level Rise Policy Guidance*, October 14, 2013.

<sup>68</sup> See also California Emergency Management Agency, California Natural Resources Agency, and Federal Emergency Management Agency, *California Adaption Planning Guide: Planning For Adaptive Communities*, September 2012.

separated from nearby inland areas. This “island” effect could occur sooner during short-term events, causing inundation of nearby properties due to higher tides, floods, storm surges, etc. Therefore, although the project site is about one-half mile from the current shoreline, site conditions and its location make it likely that, unless mitigated, the facility will be affected by the higher expected water levels during its operating life and before 2050. The site itself is already subject to tidally-influenced high groundwater tables. Existing monitoring wells on the power plant site that are closest to the proposed desalination facility have shown groundwater levels at or above the existing grade.<sup>69</sup> Groundwater levels are expected to rise with those of sea level, with the higher groundwater table affecting the foundations of the facility, its storage tanks, and its other structures, and increasing its susceptibility to hazards such as liquefaction and lateral spread. The flood control structures adjacent to the facility have been designed to protect the site from a 100-year flood event. These structures are not adequate for the 500-year event, even without sea-level rise. Sea level rise may also result in secondary or indirect effects, such as salt water intrusion into the facility’s foundations, inundation of surrounding properties, increases in nearby beach erosion, changes in the flood channel hydraulics, potential increased sedimentation in the flood channel with an associated loss of flood conveyance, and others. The Findings and special conditions described below regarding flood and tsunami hazards incorporate this expected two-foot water level into the project’s current design and mitigation measures.

In addition, and to address the potential that the project may experience these hazards during its operating life, the Commission is requiring through [Special Condition 14](#) that Poseidon submit a permit application to allow for relocation or removal of any project components that are damaged or threatened with damage from coastal hazards during the expected operating life. Pursuant to Coastal Act Section 30235 and LCP Section C 10.1.19, [Special Condition 14](#) also prohibits Poseidon from installing protective devices, such as seawalls, revetments, or similar structures in response to such hazards. [Special Condition 15](#) ensures that Poseidon acknowledges and agrees that its facility is subject a number of coastal hazards and that it waives any claim of damage or liability against the Commission regarding such hazards.

### **Flooding**

The City’s Environmental Hazards Chapter, completed in 1996, identifies the project site as being within a City-designated Flood Zone (see **Exhibit 12** – City of Huntington Beach Flood Map). The project site is within an area that has been subjected to numerous severe floods. It is adjacent to the Huntington Beach Flood Control Channel, which was built in the 1960s in response to local flooding and is managed by the Orange County Flood Control District. The District recently upgraded a section of the Flood Channel near the project site to handle projected 100-year flood events. The Federal Emergency Management Agency (FEMA) classifies the site as “Zone X,” which designates areas that are protected by levees from the 100-year flood but are still within the 500-year Flood Zone (see **Exhibit 13** – FEMA Floodplains). The site is also within the Prado Dam Failure Inundation Zone (see **Exhibit 14**), which the City established in recognition of the potential failure of the Prado Dam, an earthen structure in the upper Santa Ana River watershed built before modern seismic-resistant designs. Failure of the dam would flood over 100,000 acres, including most of the area of Huntington Beach surrounding the proposed

project, with an inundation area of up to 15 miles wide and water levels of greater than 30 feet in some areas. Maximum water levels at the project site are estimated to reach elevations of between 10 and 15 feet. The project SEIR included a mitigation measure that partially addressed flooding impacts, though it is not sufficient to ensure consistency with the relevant LCP policies, as discussed below.<sup>70</sup>

The City has developed other planning documents meant to help implement the Environmental Hazards Chapter of the LCP. These include the City's FEMA-approved Flood Management Plan, which describes the policies and actions the City is to implement to ensure its eligibility for FEMA flood insurance and other similar programs. FEMA has established that planning and siting for "critical facilities," which include police and fire stations, hospitals, and water facilities such as the proposed project, be based on avoiding risks from the 500-year flood event.<sup>71</sup> As noted in the project description, the project includes a water storage reservoir that Poseidon will build and turn over to the City. The City has designated its other reservoirs as critical facilities.<sup>72</sup>

There are three main flood risks. First, while the facility would be protected from the 100-year flood event, the protection is dependent of structures that are not designed to resist the area's seismic forces. Second, as a critical facility, the City's reservoir being built as part of Poseidon's project is to be sited above the 500-year flood elevation and the risk assessment for that facility is to be based on that 500-year event. The City identified the proposed project site as being within the 500-year flood zone, but did not evaluate potential risks associated with this facility being located within that flood zone. Those risks include temporary or permanent loss of water supply to development dependent on that supply, contamination of the facility's water or water delivery system, and increased public costs needed to provide measures to protect the facility from these flood events. Finally, the facility is within the Prado Dam Inundation Zone, which at the facility site, would result in flood elevations of between 10 and 15 feet. As noted in the risk assessment discussion in Section IV.I below, the facility has about a 1 in 4 chance of experiencing a 100-year flood and a 1 in 16 chance of experiencing a 500-year flood during its expected 30-year operating life.

These risks will increase with the expected increase in sea level rise during the project's operating life. This is due largely to the area's characteristics described in the sea level rise discussion above and to the facility's location near the shoreline and adjacent to the tidally-

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<sup>70</sup> The SEIR's Mitigation Measure HWQ-1 states: "The City of Huntington Beach shall require that, prior to the issuance of grading permits, the applicant's Licensed Civil Engineer prepare a hydrology and hydraulic study to identify the effects of potential stormwater runoff from the project on the existing storm drain flows for the 10-, 25-, and 100-year design storm events. The study shall identify existing runoff and, proposed runoff, in addition to existing storm drain system capacity at the site discharge location to the nearest down-gradient main junction. The applicant shall design site drainage and document that the proposed project would not increase peak storm event flows over existing conditions for the design storm events."

<sup>71</sup> See, for example, *Design Guide for Improving Critical Facility Safety from Flooding and High Winds*, FEMA Publication 543, January 2007.

<sup>72</sup> See the 2012 *Huntington Beach Hazard Mitigation Plan* and the *Huntington Beach/Fountain Valley Hazard Mitigation Plan* [n.d]. These are discussed in more detail in the risk assessment provided later in these Findings.

influenced section of the flood control channel. The degree of flood protection at the site is already influenced by the tides – that is, flood waters are released more slowly during a high tide than during a low tide and back up into the channel and surrounding areas during a high tide. This effect, which affects the extent of flooding and the height of flood elevations will increase with sea level rise.

Although the City's record does not identify expected flood heights, Commission staff used data from the adjacent flood control channel and from a hydrologic analysis of the adjacent Huntington Beach wetlands that show a 100-year flood elevation of between about 9 to 10.2 feet in a nearby portion of the flood channel.<sup>73</sup> Data were not available for the 500-year flood event. Adding the two feet of projected increase in sea level rise puts the 100-year flood elevation at between 12 and 13 feet, which is in the same range as expected tsunami elevations and somewhat lower than inundation from a Prado Dam failure. The 500-year flood level with sea level rise is not known; but would exceed the 100-year flood levels.

Flooding could cause significant adverse impacts. For example, some of the facility's chemical storage areas and tanks, which would hold large amounts of various chemicals used for water treatment, including biocides (e.g., a seven-foot diameter Ammonia Tank, a 10-foot diameter Fluoride Tank, etc.) would be subject to inundation. The chemicals, if released during a flood, could cause significant adverse biological effects. Underground electrical and pumping components would be subject to complete inundation, potentially resulting in plant outages. It is also likely that the flood would produce structural debris from components of the desalination facility, which could worsen damage to nearby structures or property.

The City's LCP requires that the decision maker assess potential problems and require mitigation measures for building structures proposed in flood prone areas. For example, Environmental Hazards Program I-EH 4 requires, during development or environmental review, that potential problems in flood-prone areas be identified and mitigation measures be required. To fully implement this policy, the Commission is requiring several special conditions that require Poseidon to further identify the potential flood-related impacts to the project and to mitigate for likely adverse flood-related effects. First, [Special Condition 16](#) requires Poseidon to submit, prior to permit issuance, documentation from a licensed engineer that identifies the elevation at the project site of the 500-year flood, including the above-referenced two-foot increase in sea level during the project's expected operating life, and certification from the engineer that the desalination facility, its storage tanks, and City reservoir are elevated above, and protected from, that projected 500-year flood event.

Poseidon has also proposed preparing, in coordination with AES, a Facility Hazard Emergency Response Plan that addresses health, safety, and structural stability concerns associated with tsunami-related hazards. In recognition of these hazards, and to ensure this proposed plan is consistent with the health, public safety, and damage prevention components of Environmental Hazard Policy EH 5.1.1 and Environmental Hazards Program I-EH 4, [Special Condition 17](#)

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<sup>73</sup> See Federal Emergency Management Agency, *Flood Profiles, Huntington Beach Channel (D01)*, December 15, 2009, and Moffatt & Nichol, *Hydrologic and Hydraulic Baseline Report*, prepared for Huntington Beach Wetlands Conservancy, August 18, 2004.

requires Poseidon to submit, prior to permit issuance, a Facility Hazard Emergency Response Plan prepared in coordination with AES and other nearby property owners and government entities that identifies the hazards to Poseidon's facility and to nearby structures owned by others, and identifies measures to avoid or reduce these hazards. This plan is also to include documentation from these other nearby landowners and government entities that the plan accurately reflects expected hazards. It is also to include documentation from the City that the proposed project is consistent with the goals and objectives of the City's Flood Management Plan, which is meant to help the City implement the LCP's Environmental Hazards Chapter.

These special conditions are meant to ensure both that the project is not damaged due to flood events and that the project does not cause the type of flood damage described above during those events. In addition, and to address the potential that the project may experience flood-related or other hazards during its operating life, the aforementioned [Special Condition 14](#) requires Poseidon to submit an application to relocate or remove components of the facility that are threatened or damaged by coastal hazards.

### **Tsunami Hazards**

Despite the site's distance from the shoreline, it is subject to significant tsunami hazards. The site sits within a Tsunami Runup Zone the City designated in 1996 that extends about a mile inland from the shoreline (see **Exhibit 15** – Map of Tsunami Runup Zone).<sup>74</sup>

At the time of that designation, the City identified expected tsunami elevations of up to five feet for a 100-year event and up to 7.5 feet for a 500-year event. More recent data and updated studies show the site is subject to higher runup levels and more severe tsunami risks. The project site is within the tsunami runup zone identified in the 2009 California Geological Survey *Tsunami Inundation Map* for the Huntington Beach area, which identifies the potential runup area in this part of the City as extending more than two miles inland, with expected water levels of up to about 16 feet above mean sea level (see **Exhibit 16** – 2009 Tsunami Inundation Map for Huntington Beach).<sup>75</sup>

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<sup>74</sup> This map is the Figure C-30 referenced in LCP Policy C 10.1.19 above.

<sup>75</sup> A more recent study suggests even greater inundation levels at or near the site. A September 2013 report, *Science Application for Risk Reduction (SAFRR) Tsunami Scenario*, published by the California Natural Resources Agency, Department of Conservation, and California Geological Survey and the United States Geological Survey and Department of Interior, describes a tsunami scenario for the California coast that would result from a 9.1 earthquake in the Aleutians. The modeled tsunami would inundate large areas of the coastline, including areas with significant economic and infrastructure importance. This study used multiple coarse- and fine-grained models to identify likely inundation depths and water velocities, which were used to determine likely levels of damage along key parts of the coast, such as the Ports of Long Beach and Los Angeles. The study did not identify specific runup elevations along the Huntington Beach shoreline, but noted that in nearby Newport Beach, tsunami elevations could reach up to about 20 feet above msl with velocities of up to about 60 feet per second (or roughly 45 miles per hour).

In response to that study, Poseidon submitted a September 19, 2013 technical memorandum stating that it had calculated the runup at its project site from this tsunami scenario as 4.0 feet, which is substantially lower than the expected inundation levels it provided as part of earlier submittals. Poseidon did not provide the calculations that served as the basis for this memorandum.

Part of the site's tsunami risk and the expected tsunami runup elevations are based on nearby seafloor bathymetry and other characteristics offshore of Huntington Beach that create a tsunami amplification area.<sup>76</sup> Tsunami inundation analyses used in land use planning often refer to 100-year and 500-year events, based on FEMA's methods for floodplain mapping. For several reasons, however, determining tsunami probabilities is significantly more difficult than predicting flood events. Tsunamis occur less frequently than floods, their historic and prehistoric records are often less exact, and the events that generate them can occur over a much larger area.

The 2009 California Tsunami Inundation Maps created by the California Geological Survey are based not on 100- or 500-year probabilities, but on the maximum expected inundation an area could experience from either far-field tsunamis (i.e. those tsunamis that are generated far from Huntington Beach) and from locally generated or near-field events. For each mapped area of the coast, the CGS identified expected inundation levels for every 30-meter grid within the modeled runup zone. The Commission has relied upon the CGS tsunami maps to determine that the project site is within the tsunami inundation zone and thus needs to address tsunami inundation issues in the siting, planning and design of the proposed project.

The City's LCP requires that proposed projects within its designated Tsunami Runup Zone be evaluated for consistency with several of the Environmental Hazards policies identified above. In addition, Coastal Element section C10.1.19 requires that development located in tsunami or seiche susceptible areas be designed to prevent or reduce damage from these events.

The first step in this evaluation is to determine the elevations of the structures proposed as part of this project to determine if they will be vulnerable to tsunamis or seiches. The SEIR considered project elevations, but it included several inconsistencies about elevations of the site and of proposed facilities. For example, the SEIR stated both that the site is about five feet above sea level and that site elevations range from nine to fourteen feet above sea level.<sup>77</sup> It stated that final site elevations would range from nine to fourteen feet above mean sea level but also that all structural foundations would be at least ten feet above mean sea level.<sup>78</sup> Site elevation drawings in the SEIR showed, however, that foundations would actually range from seven to fourteen feet above sea level, and the project description noted the presence of underground project components, including electrical and pump structures (with no elevation provided). The SEIR also described grading needed to prepare the site would result in less than two feet of elevation gain within the project footprint, which would not be sufficient to provide the foundation elevations noted above or to avoid the expected tsunami-related risks described below.<sup>79</sup>

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<sup>76</sup> See Legg, Borrero, and Synolakis, *Evaluation of Tsunami Risk to Southern California Coastal Cities*, Federal Emergency Management Agency and Earthquake Engineering Research Institute, January 2003.

<sup>77</sup> The EIR at pages 4.2-2 and 4.9-1 state that the existing site is approximately five feet above mean sea level, while page 3-8 states that site elevations range from approximately 9 to 14 feet above mean sea level.

<sup>78</sup> See EIR, page 4.12-33, which states: "[T]he project site is proposed to be at elevations ranging from 9.0 to 14.0 feet AMSL [above mean sea level], with all building foundations above 10.0 AMSL."

<sup>79</sup> The EIR at page 4.9-7 states that the eleven acres of final site grading is expected to require 73,000 cubic yards of fill material. That amount of fill over eleven acres would provide less than two feet of elevation gain.

To clarify the site characteristics, given the conflicting statements in the SEIR, Commission staff asked Poseidon to provide surveyed elevations as part of the geotechnical and geophysical investigations that staff had also requested. Poseidon stated that its building foundations would be at elevations between nine and fourteen feet above mean sea level, although some of its pumps, piping, and electrical facilities will be lower.

The Commission staff requested that Poseidon provide an assessment of tsunami risks and to propose design changes that might be needed to avoid or reduce those risks over the life of the development. In addition, staff requested that Poseidon examine both tsunami risk now, and the future risk associated with a significant tsunami combined with sea level rise. Staff suggested that Poseidon use for its analysis the following reference documents:

- California Geological Survey – *Tsunami Inundation Map* (2009).
- City of Huntington Beach *Local Hazard Mitigation Plan* (2012).<sup>80</sup>
- Orange County – *Grand Jury Report on Tsunami Hazards* (2008).
- Orange County – *Emergency Operations Plans: Tsunami Annex* (2006, scheduled to be updated in 2012).
- National Academy of Sciences – *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012).

In response, Poseidon declined to use the recommended documents for its analysis, stating that their use would be “scientifically unsound,” although it did not elaborate on its basis for this determination. Poseidon instead provided a hazards’ assessment based on a 1974 Corps of Engineers report to calculate a maximum tsunami elevation of nine feet.<sup>81</sup> Poseidon also added 0.9 feet to this elevation to reflect predicted sea level rise during the project’s operating life, resulting in a projection for maximum tsunami inundation of approximately ten feet.<sup>82</sup> The Commission disagrees with both Poseidon’s characterization of tsunami inundation and its sea level rise estimate for the following reasons:

- Regarding Poseidon’s use of the 1974 Corps report, staff notes that the National Oceanic and Atmospheric Administration’s (NOAA’s) Tsunami Research Center has stated that the methods used in that Corps report were considered groundbreaking at the time of its publication, but have since been superseded by more advanced methods.<sup>83</sup>

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<sup>80</sup> Pursuant to 44 CFR Section 201.6(d)(3), Local Mitigation Plans must be updated at least once every five years in order to continue to be eligible for FEMA hazard mitigation project grant funding. The City’s Plan was most recently approved in 2006, so the City must adopt an updated Plan before it is eligible for this FEMA funding.

<sup>81</sup> Houston, J.R., and Garcia, A.W., *Type 16 Flood Insurance Study, Waterways Experiment Station Report H-74-3*, United States Army Corps of Engineers, 1974.

<sup>82</sup> As noted above, Poseidon responded to a recent September 2013 study suggesting even greater inundation levels at or near the site by contending that its facility would be subject to runups of about 4 feet above msl.

<sup>83</sup> See, for example, Tsunami Pilot Study Working Group, *Seaside, Oregon Tsunami Pilot Study – Modernization of FEMA Flood Hazard Maps*, Open-File Report 2006-1234, U.S. Geological Survey, 2006.



Methods used in the 1974 report evaluated distant sources only, were based on just the short-term historical record, used relatively low-quality bathymetry data, and calculated wave heights at the shoreline only. In contrast, current methods, as used in several of the staff-recommended documents, incorporate near-field sources, use long-term paleoseismic and paleotsunami records as well as available short-term records, employ higher quality offshore and nearshore bathymetry, and identify the inland extent of hazard zones using runup heights and currents. The limited methods used in the 1974 report are particularly unsuited for this part of the Orange County coastline, where much of the tsunami-related risk is associated with potential near-field events, such as nearby undersea landslides, and where expected inundation levels are influenced by characteristics of nearby bathymetry. For example, one of the tsunami sources that could result in the expected maximum inundation is a magnitude 7.6 earthquake on the nearby Catalina fault offshore of Orange County.<sup>84</sup> The 1974 report did not consider these components in its approach.

- Poseidon's use of a 0.9-foot increase for predicted sea level rise during the project's operating life is an underestimate, in at least two ways. First, the project's expected operating life is 30 years, which would extend until about 2050. The above-referenced 2012 National Academy of Sciences report shows an expected sea level rise of up to 24 inches by 2050.
- Poseidon characterized the suggested documents as scientifically unsound; however, those documents include several adopted by local and state agencies to reflect the most current understanding of tsunami risks along the California coast. The Commission relies upon the best available science to support its decisions, and at present, the CGS Tsunami Inundation Maps and the National Academy of Science's report on sea level rise represent the most appropriate information for use in this analysis. In addition, the Commission has previously used the 2009 CGS Tsunami Inundation Maps as a basis for determining whether a proposed project site is within a mapped inundation area.<sup>85</sup> Similarly, the Ocean Protection Council has recommended in its 2013 Sea Level Rise Guidance<sup>86</sup> that state agencies should use the National Academy projections of future sea level rise to inform their planning and project review efforts.

The Commission staff consulted with staff of the CGS and CalEMA, who provided the detailed modeling results from the CGS Tsunami Inundation Maps for Huntington Beach. Based on the

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<sup>84</sup> See California Energy Commission, *Huntington Beach Energy Project Application for Certification, Report of Conversation on Potential Tsunami Runup*, Docket No. 12.-AFC-02, June 24, 2013.

<sup>85</sup> See, for example, the Commission's 2012 Final Adopted Findings for A-2-SMC-11-021 (Big Wave Group, LLC), 2012 and A-3-MRB-11-001 (Morro Bay-Cayucos Sanitary District Waste Water Treatment Plant Upgrades [

<sup>86</sup> In the March 2013 hearing of the Ocean Protection Council, the OPC updated the sea level rise guidance to use the NAS projections, See <http://www.opc.ca.gov/2013/04/update-to-the-sea-level-rise-guidance-document/> for a discussion of the decision, and [http://www.opc.ca.gov/webmaster/ftp/pdf/docs/2013\\_SLR\\_Guidance\\_Update\\_FINAL1.pdf](http://www.opc.ca.gov/webmaster/ftp/pdf/docs/2013_SLR_Guidance_Update_FINAL1.pdf) for the most recent OPC guidance.



input from CGS and CalEMA, the Huntington Beach power plant site has a projected runup elevation of approximately 11 feet above msl. This elevation would result from at least two events – a magnitude 7.6 earthquake on the nearby offshore Catalina fault or a magnitude 9.2 event in Alaska’s Aleutian Islands.

Most of Poseidon’s structural foundations are proposed to be between nine and fourteen feet above msl, so a 13-foot tsunami would cause inundation of between one and four feet throughout the site, and the below-grade electrical and pumping components of the project would be completely inundated. As evidenced by recent tsunami events worldwide and in California, a 13 foot tsunami could cause significant adverse impacts. As described in the section above on flooding, a tsunami could cause a spill of the chemicals and biocides Poseidon uses in its desalination process, or underground electrical or pumping facilities could fail, resulting in plant outages. It is also likely that damaged structural components would contribute structural debris to the tsunami and worsen the damage at the facility and at nearby structures and properties. In addition, even smaller tsunamis can be damaging – for example, the Orange County Multi-Hazard Mitigation Plan describes a one- to three-foot tsunami as highly destructive.<sup>87</sup>

Other than locating proposed facilities outside of tsunami runup areas, the simplest approach to preventing or reducing tsunami-related hazards is to elevate structures above expected runup levels. Elevating the structures would require substantially more fill than the 17,500 cubic yards Poseidon might use to grade areas around the structures and would redirect tsunami energy to nearby structures and properties, including the adjacent power plant, substation, and flood control levees. This would likely increase tsunami-related damage and safety risks and therefore not conform to Environmental Hazards Policy 5.1.1. In addition, the fill needed to elevate the project structures would likely increase truck traffic during construction, resulting in adverse effects on public access and air quality. As noted in the SEIR, construction-related emissions are already expected to be significant and unavoidable, and the additional work would further exacerbate this already significant impact. Increasing the amount of fill on the site could also affect the high groundwater table beneath the project site, which could change the hydrologic regime of the adjacent wetlands and flood control channel. Elevating the facility or its components would also likely increase noise levels at the adjacent wetlands and ESHA during project operations, thereby adversely affecting listed special status species. Elevating would also require additional electricity to pump water to the higher elevations, which would increase the project’s indirect greenhouse gas emissions. It would also create additional visual impacts, and increased facility elevations could also result in exceedance of the Zoning Code’s 50-foot height limit, which would require the City to approve a variance. Thus, while elevating the facility’s structures might better conform to Environmental Hazards Policy 5.1.1, it could result in all of the other impacts described above.

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<sup>87</sup> See the Municipal Water District of Orange County, *Orange County Regional Water and Wastewater Multi-Hazard Mitigation Plan*, February 2012.

Poseidon instead proposed several mitigation measures to address the tsunami risks identified above.<sup>88</sup> In addition to the above-referenced SEIR Mitigation Measure HWQ-3, Poseidon has proposed two approaches to protect against tsunami forces and would implement one or both:

- One option would keep individual structures at their currently proposed elevations while grading around them to provide elevations of at least 13 feet msl. Poseidon estimates that about 17,500 cubic yards of soil would be needed to provide the necessary elevation. Poseidon had previously planned to excavate and remove about 18,000 cubic yards of material from the site during construction, so this grading option would use most of the excavated material for on-site fill.
- A second option would incorporate tsunami-resistant design features into structures that would be subject to inundation. Those design features may include enclosing below-grade structures within reinforced concrete walls to resist tsunami forces, protecting tanks against uplift due to tsunami buoyant forces, and others.

Poseidon is also proposing to implement a safety plan for facility personnel that includes on-site signage training for facility personnel to know how to recognize tsunami watches and warnings that may be issued, and identifying an evacuation site. It would also develop a coordinated Emergency Response Plan with the neighboring AES power plant. Finally, Poseidon is proposing to incorporate as-of-yet unidentified tsunami-resistant design features in its proposed structures, as described in the 2008 Federal Emergency Management Agency's (FEMA's) *Guidelines for Design of Structures for Vertical Evacuation from Tsunamis*. This document largely describes methods to elevate structures or provide vertical egress from structures during a tsunami.

While these proposed measures are useful, they do not adequately address likely tsunami-related hazards, as Poseidon has not adequately identified how it would incorporate either option into its facility design, and they are not sufficient to ensure consistency with relevant LCP policies. To address these potential additional impacts and to ensure that this project is planned, designed and built in a manner that is consistent with the LCP policies and that it reduces known and potential adverse effects and risks, the Commission is requiring several Special Conditions.

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<sup>88</sup> Poseidon's proposed Design Measure D states: "Poseidon shall develop a Hazard Emergency Response Plan with AES HBGS prior to the commencement of project operations. Poseidon has submitted a Draft Hazard Emergency Response Plan tailored to the current AES plan but revised to address a non-essential water treatment plant. Poseidon will meet with AES HBBGS to work together on a coordinated plan that is in accordance with the draft plan submitted..."

Poseidon's proposed Design Measure E states: "Poseidon shall incorporate tsunami-resistant design features into the design of proposed structures that are sufficient to accommodate potential inundation of between approximately 0.0 feet and approximately 4.0 feet of water. Guidance on tsunami-resistant design that can sufficiently accommodate these inundation levels and provide for vertical evacuation if necessary is available in the Applied Technology Council report titled *Guidelines for Design of Structures for Vertical Evacuation from Tsunamis* [ATC, 2008]. Such tsunami-related design features may include: (1) raising the grade around individual buildings that are currently below the 13.0 feet MSL runup elevation; and (2) ensuring that buildings potentially subject to inundation have a minimum concrete wall thickness of 1.25 feet."

Regarding Poseidon's proposed structural stability measures, it is not clear which design features Poseidon would use at different locations or for various structures, and it is not clear from the information so far provided whether they would provide adequate stability. For example, one proposed measure is to construct 1.25-foot thick concrete walls around some structures, but it is not clear what the basis is for this construction measure or whether it would provide the required stability. Additionally, several of the structures would have door and window openings below the expected inundation level and others currently include piers or tank walls that are narrower than the proposed thickness. To ensure structural stability, [Special Condition 5](#) builds on Poseidon's proposed Design Measure E by requiring Poseidon, prior to permit issuance, to clearly identify the structural modifications that will be used for all project structures and components, including tanks, piping, and underground utilities. In addition, [Special Condition 18](#) requires that, prior to permit issuance, Poseidon submit documentation from a licensed structural engineer certifying that all project structures and components are designed to resist forces expected from tsunami runup of 13 feet above msl.

Regarding the proposal to add grading around some structures, it is not yet clear how the grading would be designed to allow site operations and provide the necessary level of protection. The grading would also need to be in accordance with other site configuration requirements – for example, the wetland setback described in *Section IV.G – Wetlands and ESHA* and the open perimeter required for the facility's substation, as described in the SEIR. Poseidon is required to include any such proposed grading in its Revised Facility Plans required pursuant to [Special Condition 5](#). Additionally, [Special Condition 18](#) requires that any grading used for tsunami protection shall be prepared and reviewed by a licensed geotechnical or civil engineer who concurs that all grading elements are designed to withstand forces from tsunami runup of 13 feet above msl without overtopping, and any grading would need to be consistent with the other special conditions of this permit.

In addition, the Commission, through [Special Condition 17](#), is building on SEIR Mitigation Measure HWQ-3 and modifying Poseidon's proposed Design Measure D to also require Poseidon to conduct hydrodynamic modeling to ensure the proposed design of its facility and associated grading will not result in any increase in inundation levels, overflow currents, or human safety threats at adjacent structures during a maximum probable tsunami of 11 feet above msl, combined with 2 feet of sea level rise. [Special Condition 17](#) also specifies that the modeling examine not only the project site with the proposed development, but also adjacent structures associated with the power plant, the adjacent Southern California Electric substation on the power plant site, and the adjacent flood control channel. This condition can ensure that the proposed elevation of the structures will not cause the adverse offsite effects outlined above. In addition to Poseidon's proposal that it coordinate with AES, [Special Condition 17](#) also requires Poseidon to obtain concurrence from owners of the other nearby structures that the modeled results accurately reflect likely conditions and possible damage and hazard levels.

In order to ensure adequate life safety measures, as required by LCP Policy I-EH 4(g), [Special Condition 17](#) further requires Poseidon to include in the final project design approved by the structural engineer (pursuant to [Special Condition 18](#)) structural elements that allow project personnel to immediately remove themselves to one or more locations that will not be subject to tsunami inundation or that will be safe from inundation. This may include (for far field events)

evacuation to a safe inland location, and (for near field events) vertical access to rooftops above the expected inundation level or measures allowing personnel to remain inside structures that meet these requirements. [Special Condition 17](#) also requires that if these tsunami design measures will result in external changes to the bulk or height of any of the proposed structures, that these design changes may require additional review through a permit amendment application.

In addition, the project is expected to provide a reliable water supply in the face of any of several local or regional emergencies that might cut off or reduce the flow of water to the area, and the City considers at least part of the project – the water storage tank being built to serve as a City reservoir – as a critical facility in its Hazard Mitigation Plans. [Special Condition 19](#) therefore requires Poseidon to also obtain concurrence from the City that Poseidon’s Facility Hazard Emergency Response Plan is consistent with the City’s current Hazard Mitigation Plans.

Finally, and to address the potential that the project may experience hazards associated with tsunamis during its operating life, [Special Condition 14](#) requires Poseidon to submit a permit application to allow for relocation or removal of any project components that are damaged or threatened with damage from coastal hazards during the expected operating life, and, pursuant to LCP Policy C 1.10.19 and Coastal Act Section 30235, prohibits Poseidon from installing protective devices in response to these hazards.

### **Conclusion**

The development, as proposed, would be subject to significant risk from floods, tsunami runup and associated effects, and sea level rise. However, as conditioned, the Commission finds the project is in conformity with relevant policies of the LCP.

## **I. GEOLOGIC HAZARDS**

LCP Policy C1.1 states:

*Ensure that adverse impacts associated with coastal zone development are mitigated or minimized to the greatest extent feasible.*

LCP Policy C 10.1.3 states:

*Require seismic/geologic assessment prior to construction in the Alquist-Priolo Earthquake Fault Zone as shown in Figure C-28.*

LCP Policy C 10.1.4 states:

*Require appropriate engineering and building practices for all new structures to withstand ground shaking and liquefaction such as those stated in the Uniform Building Code.*

LCP Policy I-C.20, Environmental Hazards Element, states:

*Enforce and implement the policies and programs of the Environmental Hazards Element of the General Plan to the extent that these programs and policies are not inconsistent with the City's Local Coastal Program.*

The relevant and applicable policies and programs of the above-cited Environmental Hazards Element are listed below. Figures in parentheses at the end of each Environmental Hazards Policy refer to the Implementation Program applicable to each Policy.

Environmental Hazards Policy 1.1.4 states: *Evaluate the levels of risk based on the nature of the hazards and assess acceptable risk based on the human, property, and social structure damage compared to the cost of corrective measures to mitigate or prevent damage. (I-EH 3 and I-EH 4)*

Environmental Hazards Policy 1.2.1 states: *Require appropriate engineering and building practices for all new structures to withstand groundshaking and liquefaction such as stated in the Uniform Building Code (UBC). (I-EH 5)*

Environmental Hazards Program I-EH-1, Studies/Mapping/Master Plans, states, in relevant part:

a. *Conduct, prepare and/or update the following as funding permits:*

...

- *an assessment of potential damage to essential utility and transportation infrastructure and public service facilities due to geologic/seismic hazards. The findings of the assessment should be utilized in the review of proposed*

*development projects, and used for maintaining and updating emergency preparedness plans;*

Environmental Hazards Program I-EH-3, Alquist-Priolo Earthquake Fault Zone, states:

- a. Continue to implement the Alquist-Priolo Earthquake Fault Zone requirements.*
- b. Implement the fault classification system suggested by Leighton & Associates (April 17, 1986) with regard to faults in the City susceptible to fault rupture, and establish a study requirement based on risk and structure importance.*

Environmental Hazards Program I-EH 4, Development Review or Environmental Review Process, states:

*During development review (site plan, tract map, etc.) and/or environmental review, require:*

- d. building structures proposed in liquefaction, unstable soil/slope conditions, flood prone areas, high water tables, peat or other geologic hazards prone areas to determine potential problems and to require mitigation measures;*
- e. a potential seismic/geologic damage assessment to be conducted for essential public utilities (gas, water, electricity, communications, sewer) and require that appropriate mitigation measures be incorporated;*
- f. critical or sensitive facilities and uses to be located in areas where utility services and continuous road access can be maintained in the event of an earthquake;*
- ...*
- i. that proposed critical, essential, and high-occupancy facilities be subject to seismic review, including detailed site investigations for faulting, liquefaction, ground motion characteristics, and slope stability, and application of the most current professional standards for seismic design;*

Environmental Hazards Program I-EH-5 – Ordinances:

- a. Enforce the most current Uniform Building code adopted by the State of California.*
- b. Prepare ordinances prohibiting the location of critical or sensitive facilities or high occupancy facilities within a predetermined distance of an active or potentially active fault.*

Coastal Act Section 30253 states, in relevant part:

*New development shall do all of the following:*

- (a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
- (b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

The proposed site for the plant and substantial portions of the proposed pipeline routes are subject to several types of geologic hazards, including surface fault rupture, ground shaking, liquefaction, and lateral spread. The Commission's analysis, as described below, shows that there is a significant probability that the project would experience one or more of these hazards during its expected operating life. In addition, the expected increase in sea level described above, will increase the risk from some of these hazards during the project's operating life.

The project location is within a seismically-active region that makes the project subject to geologic hazards including surface fault rupture, ground shaking, liquefaction, and lateral soil spread. The site is affected by several regionally-active fault systems. The most significant is the Newport-Inglewood Fault Zone (NIFZ), which includes the proposed project site and portions of Poseidon's proposed pipeline routes. The NIFZ extends about 50 miles from Newport Beach to Los Angeles. It consists of a series of known faults, and geologists believe there are additional unknown faults in a zone that ranges up to somewhat more than a mile wide. The NIFZ is generally thought to be contiguous with the Rose Canyon Fault Zone which underlies parts of San Diego, trends offshore at La Jolla, and continues north to meet the NIFZ; no exact point is accepted as a transition from one to the other, and the structure is collectively referred to as the Newport-Inglewood-Rose Canyon (NIRC) fault zone. Much of the NIFZ is not well-characterized, due in part to the region's extensive existing development which obscures surface features. The entire NIRC fault zone is considered active as defined by the state of California.<sup>89</sup>

The California Geological Survey (CGS) has also designated several specific segments of the NIFZ as being within an Alquist-Priolo Earthquake Fault Zone, including a portion of the NIFZ's North Branch Fault, which is about 0.3 miles from the proposed project site.<sup>90</sup> The project site is within the approximately eight-mile long rupture zone of the geologically recent 1933 Long Beach earthquake, which was a magnitude 6.3 event on the NIFZ that resulted in significant loss of life and extensive property damage. The epicenter of that event was located just offshore of the project site. The City's 1996 Environmental Hazards Chapter states that faults within the NIFZ have an expected maximum earthquake of magnitude 7, an expected maximum ground acceleration of up to 1g, and potential surface fault rupture of more than ten feet in earthquakes of between magnitude 6.0 and 7.5. Other more recent reports calculate that the NIRC fault could generate a quake of up to magnitude 7.5<sup>91</sup> or an offshore magnitude 7.4

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<sup>89</sup> See, for example, Pischke, Gary, *Earthquakes and Folds on the Rose Canyon Fault Zone*, in *The Seismic Risk in the San Diego Region: Special Focus on the Rose Canyon Fault System*, edited by Glenn Roquemore, the Southern California Earthquake Preparedness Project, 1989.

<sup>90</sup> Section 1613A.2 of the California Building Code defines an "active earthquake fault" as "a fault that has been the source of earthquakes or is recognized as a potential source of earthquakes, including those that have exhibited surface displacement within Holocene time (about 11,000 years) as determined by California Geological Survey (CGS) under the Alquist-Priolo Earthquake Fault Zoning Act, those included as type A or type B faults for the U.S. Geological Survey (USGS) National Seismic Hazard Maps, and faults considered to have been active in Holocene time by an authoritative source, federal, state or local governmental agency."

<sup>91</sup> See *City of Huntington Beach Draft Hazard Mitigation Plan*, 2011.

earthquake.<sup>92</sup> The NIFZ is believed capable of earthquakes causing up to one meter of vertical offset.<sup>93</sup>

The desalination facility would be located directly above a mapped segment of the NIFZ's South Branch Fault (see **Exhibit 17a and Exhibit 17b**). The South Branch Fault is less well understood than some other segments of the NIFZ, due in part to the extensive development and areas of fill existing along the fault route, both of which tend to mask surface expressions of faulting and make investigations at depth more difficult. A 1981 study noted that the NIFZ in the immediate project area had not been designated as active mainly because of the difficulty in identifying evidence for faulting.<sup>94</sup> When investigating the NIFZ for designation within an Alquist-Priolo Earthquake Fault Zone, the CGS found sufficient evidence to designate just the above-referenced segment of the NIFZ's North Branch near the proposed project site. Results of geodetic studies published in 2001 found evidence suggesting that the South Branch may be active.<sup>95</sup> A 2004 study done at the site of the nearby Orange County Treatment Plant No. 2, which is about a mile southeast of the project site identifies several high and low activity fault splays under the Plant, some of which could extend towards or under the power plant site. Additionally, a 2007 study of another nearby project's potential pipeline routes described the South Branch Fault as "potentially active."<sup>96</sup>

More recently, the City noted that additional studies of the South Branch and other fault traces could result in Alquist-Priolo Earthquake Fault Zone designations. The City had already classified the South Branch Fault as a "Category C" fault, which requires special studies and subsurface investigation for proposed developments such as Poseidon's. In 2010, the City's *Beach and Edinger Corridor Specific Plan EIR*, which is a planning document for an area of the City near Poseidon's proposed site, discussed the hazards associated with the South Branch Fault and acknowledged the potential for surface fault rupture.<sup>97</sup> The City's 2011 Hazard Mitigation

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<sup>92</sup> Grant, L., and Shearer, P., *Activity of the Offshore Newport-Inglewood Rose Canyon Fault Zone, Coastal Southern California*, from Relocated Microseismicity, Bulletin of the Seismological Society of America, Vol., 94, No. 2, pp. 747-752, April 2004.

<sup>93</sup> See Forrest, M., Rockwell, R., Grant, L., and Garth, E., *Shattered Crust series – The Newport-Inglewood and Whittier-Elsinore fault zones*, Southern California Earthquake Center, 1997.

<sup>94</sup> See Guptill, Paul, and Edward Heath, *Surface Faulting Along the Newport-Inglewood Zone of Deformation*, California Geology, July 1981, referencing Hart, E. W., *Fault hazard zones in California: California Division of Mines and Geology Special Publication 42 Revised Edition*, 1980.

<sup>95</sup> See Bender, E., et. al, *Surface Motion Detection from a Small Aperture Geodetic Network, Southern Los Angeles Basin*, from 97<sup>th</sup> Annual Meeting of Pacific Section American Association of Petroleum Geologists, 2001. The report explains that geodetic stations installed across a potential restraining bend along the south branch of the Newport-Inglewood fault zone appeared to be converging at a high rate. Assuming that surface motions accurately depict subsurface conditions, this may indicate that strain is accumulating at depth, which could indicate the South Branch Fault is active.

<sup>96</sup> See ENSR Corporation, *Topic Report 6 – Geological Resources*, for Woodside Natural Gas, Inc., OceanWay Secure Energy, August 2007.

<sup>97</sup> The EIR states, "[t]his does not mean there is no threat of surface rupture along the other fault traces [including the South Branch]: only that the current state of our knowledge about them does not indicate whether a threat is present." It further states that "it is prudent to consider the possibility of surface rupture in the design and



Plan describes the South Branch Fault as “active,” and identifies critical infrastructure near that fault (e.g., schools, City facilities, Emergency Operations Centers, etc.) that may be subject to damage from seismic activity. A July 2012 site assessment by AES, owner of the Huntington Beach Generating Station, identified the location of the South Branch Fault trace as being in the northeast corner of the power plant site, directly below the proposed desalination facility footprint.<sup>98</sup> The AES site assessment stated that AES was proposing to locate its new generating units so as to provide a 500-foot buffer from the mapped fault, and also suggested the need for additional fault evaluation during project design.

In addition to the NIFZ, the proposed project is also subject to potential seismic events and significant hazards from other regional faults, including the Compton-Los Angeles Blind Thrust Fault, the Elysian Park Blind Thrust Fault, and the Palos Verdes, Whittier-Elsinore, Serra Madre-Cucamonga, and San Andreas fault systems and others.<sup>99</sup> The project site has been identified as subject to “Very Heavy” damage from a magnitude 6.9 earthquake on the Newport-Inglewood Fault, “Moderate to Heavy” damage from a magnitude 6.6 earthquake on the San Joaquin Fault (which is approximately 2.2 miles from the site), and “Moderate” damage from earthquakes on any of several other faults, including a magnitude 6.8 earthquake on the Peralta Hills fault (about 10 miles distant), a magnitude 7.5 earthquake on the Puente Hills fault (19.5 miles distant), and a magnitude 6.8 earthquake on the Whittier fault (20.7 miles distant).<sup>100</sup> Determining whether the project is protected from damage from these regional quakes is an important component of this review, as one of the primary project objectives is to provide a reliable local water supply when these same earthquakes damage other parts of the region’s water treatment and conveyance system.

The facility’s proposed water delivery pipelines would be subject to similar hazards and degrees of risk. Although Poseidon has not yet identified final routes, all of the potential routes would cross, or be affected by, these and other nearby faults, with at least one of the possible routes being within an Alquist-Priolo Earthquake Fault Zone.

To generally address seismic hazards, [Special Condition 18](#) requires Poseidon to provide certification from a licensed structural engineer that all components of its proposed project within the coastal zone are designed to resist without collapse or structural damage currently identified hazards and those that will be investigated as part of project construction. The hazards addressed in this Special Condition include those detailed below.

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construction of development in the Specific Plan Area south of Ellis Avenue,” an area that includes the South Branch Fault.

<sup>98</sup> See Ninyo and Moore, *Preliminary Geotechnical Report*, December 2, 2011, submitted as part of the AES Application For Certification 2012-AFC-02.

<sup>99</sup> See Magorian, D. Scott, *Preliminary Review of Geotechnical Constraints and Geologic Hazards Poseidon Resources Orange County Desalination Project – North and West Tank Options*, September 7, 2002, and Municipal Water District of Orange County, *Orange County Regional Water and Wastewater Multi-Hazard Mitigation Plan*, Orange County, California, February 1, 2012.

<sup>100</sup> See the 2012 *Orange County Regional Water and Wastewater Multi-Hazard Mitigation Plan*.

### Surface Fault Rupture

As noted above, the proposed facility would be located directly above the South Branch of the Newport-Inglewood Fault Zone.<sup>101</sup> Possible surface rupture has been identified on the West Newport Mesa on the NIFZ's North Branch, about three miles from the project site.<sup>102</sup> Although the South Branch is not as well characterized as other parts of the NIFZ, it could represent a substantial hazard to the proposed project.

The City's 2010 SEIR for the proposed project at one point cited a 1995 study for a project about five miles away as a basis for finding that the South Branch Fault was considered "neither active nor potentially active," but elsewhere noted that the geologic investigations the City conducted in 2002 for a proposed reservoir located adjacent to the desalination facility site indicated the possibility of surface fault rupture directly beneath the desalination facility footprint.<sup>103</sup> Additionally, and as noted above, the City classified the South Branch as active in its 2012 Hazard Mitigation Plan.

The City's General Plan designates the South Branch as a "Category C" fault, which is described as containing "diverse or hidden faults" and where earthquakes may occur on one of a number of recognized or unrecognized faults."<sup>104</sup> It requires that critical and important land uses over "Category C" faults conduct special studies and subsurface investigations.

Commission staff requested Poseidon conduct the geotechnical investigations necessary to identify the potential for surface fault rupture at the site. These investigations generally require trenching, closely spaced borings or cone penetrometer (CPT) readings, or other similar techniques to identify fault rupture potential at a site. Poseidon stated it was unable to conduct the full set of investigations due to the presence of existing structures within the proposed project footprint. However, it was able to conduct limited field work, including five CPT soundings, and provided evaluations of previous investigations from adjacent areas of the AES property. It also proposed to model the potential risk of surface fault rupture.

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<sup>101</sup> The South Branch Fault is also shown at this location on the site plan prepared by AES Huntington Beach as part of its 2012 Application For Certification to the California Energy Commission. The Fault is also shown at this location, along with a 200-foot buffer zone, in the *Huntington Beach/Fountain Valley Hazard Mitigation Plan* (n.d.).

<sup>102</sup> Guphill, Paul and Edward Heath, *Surface Faulting Along the Newport-Inglewood Zone of Deformation*, California Geology, Volume 34, No. 7, July 1981.

<sup>103</sup> The EIR cites a 1995 study at Bolsa Chica as the basis for determining the South Branch Fault is neither active nor potentially active. The EIR also includes a 2010 *Preliminary Review of Geotechnical Constraints and Geologic Hazards*, which states that while nearby geotechnical investigations conducted in 2002 were inconclusive in determining whether this fault was active, surface fault rupture potential existed directly within the desalination facility's proposed footprint and within the footprint of the City water reservoir proposed to be built adjacent to the desalination facility. The 2010 report recommended conducting further subsurface investigations to better characterize the site's seismic hazards.

<sup>104</sup> See page 5 of "*USC-SCEC/CEA Technical Report #4 – Part A: Earthquake Rate Model 2.0 For Milestone 1b*", submitted to California Earthquake Authority from the Southern California Earthquake Center (University of Southern California), August 31, 2006.

In 2013, Poseidon submitted results of a model which provided preliminary results of its geotechnical investigation, for planning purposes, until the full investigation can be completed. The submittal applied a set of criteria to the model results to identify the “Structural Damage Threshold” for structures that would be built above the fault. This Threshold identifies likely ranges of damage based on the ratio of the fault’s expected vertical displacement to the dimensions of the overlying structure subjected to that displacement.<sup>105</sup> It essentially describes how much vertical displacement might occur under a structure and how much structural damage is expected to result from that displacement. For example, vertical displacement of six inches beneath a 100-foot long structure would result in a ratio of 1/200, while vertical displacement of two feet beneath that structure would result in a ratio of 1/50.

This modeling approach categorizes the resulting ratios based on the amount of structural damage expected from potential surface fault rupture, as shown below:

<b><u>Ratio:</u></b>	<b><u>Amount of Expected Damage:</u></b>
Below 1/170	Ultimate Limit State: structural damage likely
Between 1/170 and 1/300	Serviceability Limit State: architectural damage likely (e.g., wall cracking)
Above 300	Unlikely to lead to either of the above.

Using the dimensions of the structures Poseidon proposes to construct over the fault, the analysis concluded that maximum vertical displacement over the South Branch Fault would be about 11 inches, which results in a ratio of 1/277, which is at the upper end of the Serviceability Limit State. That is, Poseidon expects that its modeled event would likely result in wall cracking and temporary serviceability issues, but not structural or frame damage.

However, Poseidon’s assessment used several key assumptions that individually or collectively resulted in a significant underestimation of potential structural damage from the modeled event. Those assumptions and their effects on the analysis are described below.

- Out-Of-Date References: Poseidon stated in its analysis that “it appears that the Newport-Inglewood fault system, in general, has a limited potential for surface fault rupture impacts” and that “it is reasonable to assume that this conclusion also applies to the South Branch Fault.” It based this conclusion on geologic investigations done in 1933, 1974, and 1981. However, as noted above, the California Geologic Survey has since placed part of the NIFZ within an Alquist-Priolo designation in recognition of its potential for surface fault rupture, and the City has identified the potential for surface fault rupture in the NIFZ to cause up to ten feet of horizontal displacement.
- South Branch Fault as a “Secondary Fault”: Poseidon’s assessment assumed that the North Branch of the NIFZ, about one-half mile distant from the site, was the controlling fault for causing surface fault rupture. Based on the NIFZ structure, this may not be the case.

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<sup>105</sup> Salgado, R., *The Engineering of Foundations*, McGraw Hill, 2008.

- The NIFZ includes numerous mapped, and as described above, expected but unmapped fault traces, any of which could experience movement during an earthquake within the NIFZ. The NIFZ is thought to be underlain by a single deep fault from which numerous other faults branch upwards and diverge toward the surface in what is known as a “flower structure”, resulting in a zone of faults that are connected at seismogenic depths. With this type of fault pattern, a seismic event can propagate through any number of fault pathways and result in different types and locations of surface expressions. The South Branch Fault may therefore be as likely to express the main seismic movement of an NIFZ quake as other faults in the zone. Further, and as noted above, the California Geologic Survey’s designation of just the NIFZ’s North Branch as active was based primarily on lack of data from the other faults. Additionally, as the City noted in its above-referenced EIRs, the uncertainties of the CGS studies make it prudent to maintain the potential for surface fault rupture from NIFZ faults other than the North Branch.
- Vertical Fault Displacement on North Branch Fault: Poseidon assumed the maximum vertical displacement on the nearby North Branch Fault to be 3.8 feet during a magnitude 7.1 event. This estimate is based on a 1994 study that established empirical relationships between observed fault displacement and earthquake magnitude, based on 244 well characterized earthquakes from around the world ranging from about magnitude 5.5 to 8.0.<sup>106</sup> The range of vertical displacement of quakes included in the study varied significantly from the average, with higher magnitude earthquakes described in the study having up to six meters of vertical displacement. Poseidon’s use of the average displacement was therefore significantly lower than the maximum displacement identified. Given the inherent uncertainties in estimating future seismic events and that Environmental Hazards Policy 1.1.4 requires that new structures withstand ground-shaking, it is more appropriate to evaluate new development based on potential vertical displacement, rather than an average of past events. Additionally, other sources have planned for substantially higher possible vertical displacement at nearby locations within the NIFZ. For example, the tsunami analysis conducted for Southern California Edison’s San Onofre Nuclear Generating Station assumed a seven-foot displacement of the offshore segment of the NIFZ.
- South Branch Fault Displacement: Based in part on the above assumption that the South Branch Fault was a “secondary” fault, Poseidon assumed that displacement along the South Branch Fault would be only 25% of the North Branch displacement, about one-half mile distant. If, however, the South Branch Fault is subject to similar amounts of displacement as the North Branch or other faults within the NIFZ its displacement would be significantly higher and would result in exceedance of the Structural Damage Threshold Poseidon used in its assessment, placing the proposed structures well within the category of “structural damage likely.”

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<sup>106</sup> Wells, Donald, and Kevin Coppersmith, *New Empirical Relationships among Magnitude, Rupture Length, Rupture Width, Rupture Area, and Surface Displacement*, Bulletin of the Seismological Society of America, Vol. 84, No. 4, pp. 974-1002, August 1994.

As noted above, some aspects of the NIFZ are not well characterized, due in part to the few modern data sources available for events on the NIFZ. Given the dearth of data, it is prudent to assess potential surface fault rupture at the site using more conservative assumptions. Applying the more conservative assumptions to Poseidon's approach would result in anywhere from a 3.8-foot to a 6- or 7-foot displacement on the South Branch. Any displacement in that range would fall within the Ultimate Limit State – i.e., structural damage – on Poseidon's proposed Structural Damage Threshold.

Appropriate engineering and building practices typically require development proposed to be located near known faults to be set back a particular distance from the fault. In some cases, this may not be necessary – for example, the 2010 *Technical Advisory Committee Guidelines* of California's Mining & Geology Board acknowledge that for well-characterized faults with expected displacements of less than 4 inches vertical or twelve inches lateral, it may be appropriate to build over the fault as long as structural mitigation, such as strengthened foundations, is included in the design. For Poseidon's proposed project, however, this approach is not appropriate, as the NIFZ and its South Branch Fault are not well characterized.

Although Commission staff considers the site to have the potential for somewhat higher displacement, even the 11-inch displacement Poseidon derived from its modeling effort exceeds the 4-inch vertical displacement limit in the above-referenced Guidelines. This strongly suggests that building at this site should involve a setback, such as the one AES selected for its power plant, rather than structural mitigation. Poseidon has not proposed an alternative layout with a setback and has not yet demonstrated that it can build the proposed structures to withstand that expected amount of displacement.

The SEIR addressed this concern by requiring Poseidon, after it removes the storage tanks from the project site, to conduct a subsurface fault investigation using methods approved pursuant to the California Geological Survey's Note 49, which identifies investigation techniques for determining potential surface fault rupture. The Commission can determine through results of that investigation whether the proposed facility can be built to withstand the expected fault rupture or will require a setback. In order to ensure consistency with LCP Policy C 10.1.4, requiring appropriate engineering and building practices, and Coastal Act section 30253, requiring minimization of risks to life and property, [Special Condition 10](#) therefore requires Poseidon to submit a Geotechnical Investigation Plan that includes the approved surface fault investigation methods. Upon Executive Director approval of that plan, Poseidon is to implement the investigation and provide results to the Executive Director. Those results are to be accompanied by certification from a licensed structural engineer that the project is designed and constructed to ensure structural stability and reduce collapse from seismic forces identified through the investigation. If that investigation shows evidence for potential surface fault rupture that, as determined by the structural engineer, exceeds Poseidon's ability to construct and operate the facility as currently configured, [Special Condition 10](#) requires Poseidon to submit an amendment to amend its CDP to allow the re-design of the project to include an adequate setback.

### Ground Shaking

The SEIR, citing seismic design guidelines published in 2006 by the American Society of Civil Engineers,<sup>107</sup> estimated Probable Ground Acceleration (PGA) at the site as 0.74g. This estimate is low, however, compared to the determinations the City made in estimating the design earthquake for two other EIRs done at about the same time for projects in the same area. For those projects – the 2010 *Beach and Edinger Corridor Specific Plan EIR* and the 2007 *Village at Bella Terra EIR*, the City used the more recent 2007 California Geologic Survey's *Probabilistic Seismic Hazards Assessment Program*, which identified expected ground accelerations of 1.1g and 1.0g, respectively. The Beach and Edinger Corridor is within about a mile of Poseidon's site and the Village at Bella Terra is about four miles from the Poseidon site.

It is not clear from the City's record why it used different methods to calculate predicted ground motions for three local projects subject to similar seismic forces. Additionally, as the City notes in its Environmental Hazards Chapter, earthquake intensities are likely to be higher in liquefaction-prone areas, such as Poseidon's proposed site, than in similar nearby non-liquefaction prone areas (see findings on Liquefaction below), yet the SEIR estimated the ground acceleration at Poseidon's site to be about 30% lower than the other two sites. It appears, therefore, that the project SEIR may have underestimated the ground shaking hazard at the project site.

To address this issue, Poseidon submitted a September 2013 report prepared by Geosyntec with results from the Java Seismic Hazard Calculator posted on the USGS seismic design map web site (<http://earthquake.usgs.gov/hazards/designmaps/>). The resulting design spectra, for a bedrock site, is presented as figure 6.2 in the Geosyntec report, and serves as the basis for the analysis related to actual soil conditions at the site. Because the soils at the site are liquefiable (IBC Class F), a site-specific analysis of ground motion is required. To do this, Geosyntec used a suite of acceleration time histories representative of the design earthquake selected in accordance with the ASCE 7-05 requirements and scaled to a PHGA of 0.61g. Using a shear wave velocity model based on the upper 97 feet of the soil profile (data from CPT borings), the average site response from the suite of acceleration time histories was calculated, and is shown in figure 8.2 of the report.

Pursuant to CBC [2010] requirements, the average acceleration response spectrum calculated from such a site-specific response analysis should be compared against a code-based minimum. As explained in the Geosyntec report:

“This code-based minimum spectrum corresponds to 80% of the probabilistically-established acceleration response spectrum for a Site Class E site. Figure 8-2 shows this code-based minimum spectrum (i.e., black dashed line) with respect to the average spectrum calculated from the site response analysis (i.e., solid black line). Because the spectrum calculated from the site response analysis is below the code-based minimum spectrum, CBC [2010] requires that the 80% Site Class E spectrum (i.e., black dashed line) should be used for design at this Site.”

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<sup>107</sup> See ASCE 7-05 – *Minimum Design Loads for Buildings and Other Structures*, January 2006.

Accordingly, Geosyntec recommended the following “design measure:”

Design Measure A: Geosyntec recommends that the Project be designed following CBC [2010] requirements for Site Class F, with an acceleration response spectrum corresponding to 80% of the Site Class E response spectrum.

The Commission’s staff geologist has checked this procedure, including an independent evaluation of the bedrock and Class E response spectra using the USGS Java Seismic Hazard Calculator, and concurs with this design measure.

The Commission requires in [Special Condition 18](#) that Poseidon implement Design Measure A of the Geosyntec report and that it provide confirmation from a structural engineer that its project, including its intake and outfall, is designed to resist the ground acceleration identified by the Geosyntec report. [Special Condition 10](#) requires Poseidon to propose any necessary changes and submit an application to amend its CDP should its upcoming geotechnical investigation show that the site would be subject to higher ground acceleration than is estimated in the Geosyntec report.

### **Liquefaction**

The proposed project site is within an area the City has designated as having “Very High” liquefaction potential (see **Exhibit 18** – Map of Liquefaction Potential in Huntington Beach). Additionally, and as noted above, liquefaction-prone areas such as the project site, are likely to experience earthquake intensities that are higher than in similar nearby non-liquefaction prone areas.

The SEIR, citing geotechnical investigations done for other nearby projects, identified the top 10 to 16 feet of native soils in the area as being subject to liquefaction, though it also noted that it is difficult to apply characteristics from one site to another because the soil layers in this area of the City are interbedded and discontinuous. The SEIR included results of a 2002 site-specific investigation done at one part of the project site showing that liquefiable soils extended to about 17 feet below the ground surface (bgs).<sup>108</sup> A post-2002 reassessment of potential ground shaking at the site recommends that this presumed 17-foot bgs depth of liquefiable soils be re-evaluated and documented as part of the future site-specific geotechnical investigation to be conducted as part of Poseidon’s project. Poseidon has proposed supporting the desalination facility on 25-foot deep stone columns, though the SEIR noted that the feasibility of that approach will need to be determined through its required future geotechnical investigation. The SEIR also identifies an amount of fill needed for the proposed project; however, the amount identified does not appear to include fill that may be needed to replace those soils removed or “overexcavated” to reduce liquefaction.

Available information suggests the entire site is underlain with soils subject to liquefaction, and the City’s approval addressed this only indirectly – by requiring Poseidon to conduct a future geotechnical assessment to address liquefaction impacts. The area and depth of soils to be

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<sup>108</sup> GeoLogic Associates, *Preliminary Geotechnical Assessment, Southeast Reservoir Site Acquisition, Huntington Beach, California*, May 24, 2002.



removed and either replaced or compacted to address liquefaction could range up to about 60-80,000 cubic yards, though the SEIR does not address potential impacts associated with this amount of grading. The SEIR also anticipates that dewatering the excavation site may require sheet piling, use of perimeter wells, and other methods to ensure project dewatering does not affect adjacent wetland areas. Without site-specific information, however, the actual expected rate and volume of dewatering cannot be determined.

Commission staff requested Poseidon evaluate the site's liquefaction potential based on currently available data, given that some information will be unavailable until the storage tanks are removed. The September 2012 Geosyntec report, making use of the ground shaking analysis described above, and the CPT data at five locations, calculated that the site could experience up to about nine inches of vertical displacement due to liquefaction in the design earthquake. The Commission's staff geologist has reviewed this analysis and concurs with its conclusions. Poseidon states that this could be avoided through measures such as strengthening structural foundations, soil "over-excavation" and recompaction, *in-situ* soil densification, injection grouting, or others, though the specific options available at this site may be limited due to the relatively high groundwater table and tidal influence on groundwater levels. As part of its assessment, Geosyntec recommended proposed "Design Measure B," which would involve designing a foundation system that can accommodate the expected vertical displacement. The proposed Design Measure B states:

"In order to mitigate potential seismic hazards Poseidon will ensure that the Project's Structural and Geotechnical Engineers collaborate on the design of a foundation system for the proposed structures that can accommodate (1) approximately nine inches of liquefaction-induced settlement; and (2) lateral spread displacement of approximately fifteen to thirty-eight inches. Such foundation system may include both geotechnical ground improvement methods to reduce the anticipated settlements and displacements to acceptable levels, and structural design methods (stone columns or piles) to allow Site structures to tolerate the estimated settlements and displacements."

To ensure the project remains structurally stable in the face of potential liquefaction, thereby minimizing risks from hazards and ensuring that appropriate engineering and building practices are used, [Special Condition 18](#) requires implementation of Geosyntec's recommended Design Measure B and further requires Poseidon to provide, prior to permit issuance, confirmation from a licensed structural engineer that all facility structures, including its intake and outfall, are designed to resist liquefaction-induced settlement of up to nine inches. Additionally, [Special Condition 10](#) requires Poseidon to submit results of its site-specific geotechnical investigation, and if site conditions result in additional design or mitigation measures that may result in additional coastal resource effects, the Executive Director may require Poseidon to submit an application to amend its coastal development permit.



## Lateral Spread

The SEIR and Poseidon’s 2002 preliminary geologic report additionally noted that the site had a “high potential for lateral spread”, due to its surface soil characteristics, high groundwater levels, liquefaction-prone soils, and the several hundred linear feet of sloping sides of the adjacent flood control channel.<sup>109</sup> Lateral spread occurs when soils that are on flat to gently sloping surfaces above liquefiable soils and adjacent to an unsupported slope move in response to a seismic event – essentially, a landslide that occurs on nearly flat ground. Although the Orange County Flood Control District recently installed sheet piles along part of the flood channel, they were not designed to resist liquefaction or lateral spread.<sup>110</sup> As noted above, these and other hazards at the site are likely to be exacerbated by the increasing surface and groundwater levels at the site that are associated with sea level rise.

The SEIR’s Mitigation Measure GEO-2 required Poseidon to conduct an in-depth site-specific analysis of the potential for lateral spread and to determine what measures will be needed to avoid or reduce this potential. As noted above, Poseidon is not able to conduct the full required investigation until it removes tanks and utilities from the site. In response to Commission staff’s request, however, Poseidon provided an initial analysis, again reported in the September 2013 Geosyntec report, estimating that lateral soil spread on the site would range from about 15 to 38 inches. The Commission’s staff geologist has reviewed this analysis and concurs with its conclusions. As part of the aforementioned “Design Measure B”, which is incorporated into [Special Condition 18](#), Poseidon has proposed addressing this potential impact by having its structural and geotechnical engineers devise a structural foundation capable of accommodating up to 38 inches of lateral soil spread, using any of four methods, including over-excavation and recompaction of soils, in situ soil densification (including installation of stone columns), injection grouting, or deep soil mixing. Poseidon notes that its most likely choice would be either stone columns or pile foundations. It might also construct “buttress walls” of densely-placed stone columns along those parts of its facility closest to the flood control channel to reduce potential lateral spreading towards the channel.

Poseidon has not yet identified its selected approach or design, and it is not yet clear how its eventual selection might affect coastal resources. For example, placement of buttress walls could alter or lower groundwater flow under the site and beneath the adjacent wetlands. Excavation to install these structures would likely require significant amounts of dewatering, which could adversely affect adjacent wetland areas. Additionally, without results of the final geotechnical investigations, it is not yet clear whether structures are able to resist forces associated with lateral spread or whether they may need to be redesigned or relocated.

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<sup>109</sup> See Magorian, D. Scott, *Preliminary Review of Geotechnical Constraints and Geologic Hazards Poseidon Resources Orange County Desalination Project – North and West Tank Options*, September 7, 2002, and Magorien, D. Scott, *Updated Preliminary Review of Geotechnical Constraints and Geologic Hazards, Poseidon Resources Seawater Desalination Project, Huntington Beach, California*, February 2, 2010.

<sup>110</sup> See SEIR, Appendix C – *Updated Preliminary Review of Geological Constraints and Geologic Hazards*, page 13.

Environmental Hazards Program I-EH 4 requires mitigation measures for structures proposed in geological hazard areas. In order to implement this policy and to ensure that the risks to life and property are minimized, the Commission imposes [Special Condition 18](#), which requires Poseidon to provide documentation from a licensed structural engineer that its proposed facilities, including its intake and outfall, will be constructed to resist structural damage or collapse from the expected maximum 38 inches of lateral spread at the desalination facility site and from the site-specific expected amounts of lateral spread along the project's pipeline routes.

### **Comprehensive Geologic Hazards**

To address the potential that the project may experience any or all of these hazards during its operating life, [Special Condition 14](#) allows for the project as long as it remains safe without needing additional substantive measures to protect it from coastal hazards and requires Poseidon to apply for a permit amendment to relocate or remove those parts of its development that may be threatened due to these hazards.

### **Coastal and Geologic Hazards and Risks to a Critical Facility**

LCP Environmental Hazards Policy 1.1.4 requires evaluating the risk to the proposed project from the above-described hazards. It also requires evaluating the risk of human, property, and social structure damage resulting from these hazards, identifying a level of "acceptable" risk, and comparing the risks to the costs of corrective measures to mitigate or prevent these damages. These analyses are particularly important for a facility that, despite its location on a relatively hazardous site, is meant to provide a reliable water supply in the face of emergencies.

Although the City did not conduct a facility-specific risk assessment for the project, it has developed several hazard mitigation plans that address hazards and risks to critical infrastructure in the City, including components of the City's water supply system such as that provided by Poseidon's project. The findings in these hazard mitigation plans can be applied to Poseidon's project to determine the project's consistency with the hazard planning and risk assessment required pursuant to the above LCP policies.

Pursuant to state and federal requirements, local jurisdictions prepare Hazard Mitigation Plans to identify the suite of natural hazards known or expected to affect a community, identify actions that will reduce losses from those hazards, and establish a coordinated process for implementing the plan and these actions.<sup>111</sup> These requirements also require the Plans be in place for local jurisdictions to be eligible for certain disaster recovery funding. The Plans are to include:

- A risk assessment of the type, location, and extent of all natural hazards that can affect the local jurisdiction, along with a description of previous occurrences and the probability of future occurrences.
- A description of the local jurisdiction's vulnerability to these hazards, including the type and number of critical facilities and infrastructure located in hazard areas and an estimate of potential costs should these facilities be lost or damaged due to these hazards.

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<sup>111</sup> See guidance from the California Emergency Management Agency regarding compliance with AB 2140 at [http://hazardmitigation.calema.ca.gov/docs/AB2140\\_Letter\\_to\\_Local\\_Government.pdf](http://hazardmitigation.calema.ca.gov/docs/AB2140_Letter_to_Local_Government.pdf), and Federal Emergency Management Agency, pursuant to 44 CFR 201 *et. seq.* regarding Federal Emergency Management Agency requirements.

- Mitigation measures needed to avoid or reduce hazards and potential effects of the loss of critical facilities.
- A description of land uses and development in the local jurisdiction to allow the Plan's mitigation options to be considered as part of land use decisions.<sup>112</sup>

The City has prepared three plans that address these concerns – the aforementioned Flood Management Plan, prepared pursuant to FEMA requirements and meant to help implement the City's Environmental Hazards Element of its LCP, a 2012 Hazard Mitigation Plan, and a Multi-Hazard Mitigation Plan [n.d.] prepared with the neighboring City of Fountain Valley.

The Plans identify a number of hazards at the project site, including those described above – flooding, tsunami, seismic events, and others. Similar risks exist along many portions of the potential pipeline routes. It is highly probable that the facility will experience one or more of the identified hazards during its operating life.<sup>113</sup>

<sup>112</sup> Poseidon provided a February 26, 2013 letter from the City stating that the City's Plan was not meant to be used as a land use planning document. However, that letter appears to be incorrect. The above-cited FEMA guidance states that these Plans are to describe how a local government will integrate the mitigation elements identified in its Plan into that government's local land use decisions.

<sup>113</sup> Probabilities of hazardous events: Considering just those site hazards that have an expected recurrence interval or return period – e.g., a “100-year flood” – results in the following probabilities that the site will experience just one of the following events during the facility's 30-year operating life:

<b>Hazard:</b>	<b>Probability:</b>
100-year flood	<b>26%</b> (approximately 1 in 4 chance).
100-year tsunami:	<b>26%</b> (approximately 1 in 4 chance).
500-year tsunami:	<b>6%</b> (approximately 1 in 9 chance).
500-year flood:	<b>6%</b> (approximately 1 in 9 chance).

The calculation used is  $r = 1 - (1 - 1/T)^N$ , with T = the return period (e.g., a 100-year event), N = the expected operating life of the facility (i.e., 30 years), and r = the probability that the event will occur at least once in N years.

Because there are multiple hazards, however, there is an increased probability that the facility will experience not just one, but any one of several events. For example, the probability that the area will experience either a 100-year tsunami or a 100-year flood is about twice as high than if the site was subject to just a tsunami or just a flood. Looking at just the above probabilities, there is a greater than even chance that the site would experience at least one of these events during its operating life, a significantly higher probability than if the area was subject to just one of them. This combined probability is the sum of the individual probabilities minus the probabilities of the site experiencing more than one of the hazards during its operating life. The probability that it will experience any one of several hazards (i.e., a 100-year flood or a 500-year flood or a 100-year tsunami or a 500-year tsunami) is  $((0.26 + 0.26 + 0.06 + 0.06 - (0.26 * 0.26) - (0.26 * 0.06) - (0.26 * 0.06) - (0.06 * 0.06)) = .5376$ , or just over 50%.

The actual probability is somewhat higher, as the list above does not include all the site hazards for which recurrence intervals can be developed – for example, damaging seismic events from nearby regional faults for which recurrence intervals have been calculated. There are similar but likely higher probabilities for the proposed project's water delivery pipeline, which would cross several earthquake faults, would be within liquefaction zones, and could be subject to flood- or tsunami-related damage or other hazards, though data needed to calculate those probabilities are not available.

The site's hazards make the desalination facility highly vulnerable to structural damage, although the Commission's Special Conditions significantly reduce the facility's potential vulnerability to those hazards. Still, hazards at the site or along the pipeline route could result in a short- or long-term disruption of the facility's water supply and create at least two main types of risk that Environmental Hazards Policy 1.1.4 requires be addressed. First, any development that is dependent on the water supplied by the facility would either not have water available to it or would increase demands on other water supplies being used by other development in the area, which may further exacerbate an emergency situation following a seismic event. For example, the City's Hazard Mitigation Plan states that a key purpose of the proposed City reservoir Poseidon is building as part of its project is to provide water to development on the seaward side of the NIFZ Fault Zone if supplies from the landward side are cut off due to a major earthquake, and loss of that water supply would increase the pressure on other nearby water sources.

Second, some of the measures needed to prevent short- or long-term disruption of the facility's water supply will require the coordinated planning efforts of multiple interested entities, as described in these plans. Although Poseidon will address many of the hazards to its facility onsite, others, such as flooding or tsunamis, will likely require further involvement by local governments and nearby landowners. With flooding, for instance, Poseidon's proposed site is protected from 100-year floods by levees and sheet piles constructed and managed by the Orange County Flood Control District; however, as described in the City's MHMP, those structures are not designed to withstand the area's seismic forces or inundation from dam failure. The reliability of Poseidon's facility is therefore somewhat dependent on ongoing system improvements made by the Flood Control District. These types of hazards and risks, and the coordination among various entities needed to address them, are described in the City's hazard mitigation plans, along with mitigation and planning measures to be implemented to protect critical facilities. Along with the above-referenced Special Conditions, [Special Condition 19](#) therefore requires Poseidon to submit documentation from the City that its facility is consistent with applicable provisions of the City's hazard mitigation plans.

### **Conclusion**

The development, as proposed, would be subject to significant risk from geologic hazards. However, as conditioned, the Commission finds the project is in conformity with relevant policies of the LCP and Coastal Act.

## J. CLIMATE CHANGE

LCP Policy C8.3.1 states:

*Promote the use of solar energy and encourage energy conservation.*

Coastal Act Section 30253(d) states:

*Minimize energy consumption and vehicle miles traveled.*

The construction and operation of major water, energy, telecommunication, and transportation projects can significantly increase emissions of greenhouse gases<sup>114</sup> (GHG) and therefore climate change through global warming, which in turn can cause significant adverse impacts to coastal resources of California. The Coastal Act has a number of provisions that provide authority to take steps to reduce climate change and to adapt to the effects of global warming. These include the Coastal Act's public access and recreation policies (Sections 30220 and 30211), marine resource and water quality policies (Sections 30230 and 30231), the environmentally sensitive habitat area protection policy (Section 30240), and the coastal hazards policy (Section 30253(1) and (2)). Further, Section 30253(4) in part requires development to minimize energy consumption.

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act of 2006. In passing the bill, the California Legislature found:

*Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems*  
(California Health & Safety Code, Division 25.5, Part 1).

AB 32 requires the California Air Resources Board (CARB) to adopt a statewide GHG emissions limit equivalent to the statewide GHG emissions levels in 1990 to be achieved by 2020. It requires CARB to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. Strategies that the state will pursue for managing GHG emissions focus on generally reducing consumption of petroleum across all areas of the California economy. Improvements in transportation energy efficiency (fuel economy) and

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<sup>114</sup> Greenhouse gases are any gas, both natural and anthropogenic, that absorbs infrared radiation in the atmosphere and include water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). These greenhouse gases lead to the trapping and buildup of heat in the atmosphere near the earth's surface. Carbon dioxide is the major anthropogenic greenhouse gas. All greenhouse gases are quantified collectively by the carbon dioxide equivalent, or the amount of CO<sub>2</sub> that would have the same global warming potential, when measured over a specific time period.

alternatives to petroleum-based fuels are to provide substantial reductions by 2020. AB 32 also establishes protocols for offset measures used to mitigate for emissions, requiring that such measures be “real, quantifiable, permanent, verifiable, additional, and enforceable.”

Climate change covers a broad range of impacts that can occur due to GHG emissions, such as increased sea level rise, changes in the frequency, intensity or occurrence of heavy precipitation and droughts, changes in the frequency and intensity of extreme temperature events, and changes in ocean water chemistry. California’s 2006 *Climate Change Impacts Assessment*, 2009 *Climate Adaptation Strategy* and 2013 *Indicators of Climate Change in California* reports, and reports by the Intergovernmental Panel on Climate Change (IPCC Reports in 1990, 1995, 2001, 2007 and 2013) and various climate research centers (such as the Pew Center on Global Climate Change and the Heinz Center), and the Commission’s own 2013 *Draft Sea-Level Rise Policy Guidance* recognize that within the coming century potentially severe impacts could occur in the areas of sea level, water resources, agriculture, forests and landscapes, and public health. Many of these effects will impact the coastal zone and resources specifically protected by the Coastal Act, including impacts to air quality, species distribution and diversity, agriculture, expansion of invasive species, increase in plant pathogens, alteration of sensitive habitat, wildfires, rising sea level, coastal flooding, and coastal erosion. In addition, absorption of carbon dioxide by the ocean leads to a reduction in ocean pH with concomitant consumption of dissolved carbonate ions, which adversely impacts calcite-secreting marine organisms (including many phytoplankton, zooplankton, clams, snails, sea stars, sea urchins, crabs, shrimp, and many others). The most direct impacts of global warming focused on the coastal zone are sea level rise and its associated impacts, ocean warming, and ocean acidification.

Poseidon’s project would result in significant indirect GHG emissions resulting from purchased electricity. All of the electricity supply for the desalination plant operations is expected to be provided by Southern California Edison (SCE). The plant is expected to use about 30 to 35 megawatts of electricity, or about 260,000 to 306,000 megawatt-hours per year. Its total indirect annual emissions are dependent on: (1) how much electricity is used by the project; and (2) sources of energy (fossil fuels, wind, sun, etc.) used to generate the electricity supplied to the plant. Poseidon’s 2010 *Energy Minimization and GHG Reduction Plan* (GHG Plan) estimates that gross indirect GHG emissions from purchased electricity will initially be between 87,763-91,215 CO<sub>2</sub> metric tonnes per year. These indirect emissions are expected to decrease over time as SCE and the energy producers it purchases electricity from are able to institute emission reduction measures required pursuant to AB 32, such as increasing the use of lower emitting energy sources, purchasing credits or offsets for generated emissions, etc.

Poseidon has proposed as part of its project a number of technological measures, such as energy recovery devices, that will reduce its overall electricity use and provide a level of conservation. In addition, Poseidon has proposed mitigating for its indirect GHG emissions through a GHG Plan that Poseidon believes will make its desalination facility operations “net carbon neutral.” Poseidon’s proposed GHG Plan is similar to the one the Commission approved as part of Poseidon’s Carlsbad desalination facility. It includes a number of measures Poseidon believes will result in “net carbon neutral” indirect emissions from the desalination plant. Several of the proposed measures are uncontroversial, and would likely result in modest energy savings (and reduced GHG emissions) relative to a project that did not incorporate these features. For instance, Poseidon describes a potential energy savings of 300 – 500 MWh/year to be achieved

through the use of green building design features such as natural lighting and high-efficiency HVAC and compressors. Similarly, the installation of a rooftop photovoltaic system could generate approximately 600 MWh/year of electricity, which would fulfill a small portion of the facility's electricity demand. Together, these proven measures could reduce Poseidon's annual emissions by up to 316 metric tons of CO<sub>2</sub>. However, these proven measures would offset only a tiny fraction (0.35%) of the anticipated indirect emissions from the purchase of electricity that are associated with plant operations. Instead, Poseidon's claim of "net carbon neutrality" rests on the implementation of several more speculative emissions reductions measures and, as discussed in detail below, the unwarranted assumption that the desalinated water produced at the plant will reduce water deliveries to Southern California from the SWP and Colorado River.

Because determining the measures necessary to offset indirect GHG emissions is an ongoing process dependent on dynamic information, Poseidon's GHG Plan for the assessment, reduction and mitigation of GHG emissions proposes to establish a protocol for identifying, securing, monitoring and updating measures to eliminate the project's net carbon footprint. Once its desalination facility is operational and all measures to reduce energy use at the site have been taken, the protocol involves taking the following steps, among others, to be completed each year:

- Determine the energy consumed by the project for the previous year using substation(s) electric meter(s) readings from SCE or any other entity from which the project obtains all or part of its electricity at any time in the future.
- Determine SCE's GHG emission factor for delivered electricity.
- Calculate the project's *gross* indirect GHG emissions by multiplying its electricity use by the emission factor.
- Calculate the project's *net* indirect emissions by subtracting emissions avoided as a result of the project (i.e., replacement water) and any existing offset<sup>115</sup> projects and/or Renewable Energy Credits (REC).<sup>116</sup>
- If necessary, implement GHG offset projects and purchase carbon offsets or RECs to zero-out the project's net indirect GHG emissions. The offset projects, except for RECs, would be purchased through the California Air Resources Board (CARB), or any California Air Pollution Control District (APCD) or Air Quality Management District (AQMD).

Poseidon's proposed GHG Plan allows Poseidon to get a "credit" for emissions reductions based on an assumption that the water produced by the plant will reduce the amount of water that would otherwise need to be pumped into the region from Northern to Southern California via the SWP or from the Colorado River. This credit would represent about two-thirds of the offsets needed for Poseidon's facility to be net carbon neutral. Poseidon argues that:

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<sup>115</sup> An offset is created when a specific action is taken that reduces, avoids, or sequesters GHG emissions in exchange for a payment from an entity mitigating its GHG emissions.

<sup>116</sup> One type of offset project is RECs. Each REC represents proof that 1 MW of electricity was generated from renewable energy. For GHG offsetting purposes, purchasing a REC is the equivalent of purchasing 1 MW of electricity from a renewable energy source, effectively offsetting the GHGs otherwise associated with the production of that electricity. RECs may be sold separately from the electricity.

- Water imported from the SWP has a relatively high cost and high level of uncertainty compared with other sources, so it would be the first to be replaced as other sources, such as water from Poseidon's facility, become available; and
- A key financial incentive for the project – \$250 for each acre-foot of water produced by the facility – is available from the Metropolitan Water District only if the produced water replaces an existing water demand or prevents a new water demand.

Poseidon's contention that its supply of desalinated water will result in a reliable one-for-one reduction of water imported to Southern California and therefore result in a one-to-one emission reduction is not well supported. Poseidon's analysis seems to be based largely on descriptions of MWD and Colorado River water as "supplemental" supplies to Southern California; however, that classification does not affect whether those supplies will diminish due to Poseidon's project.<sup>117</sup> Poseidon's contention is also contradicted by contractual and operational agreements that determine the amount of water imported to the region. At best, some local water districts purchasing water from Poseidon might purchase less imported water. However, and as noted in the SEIR's analysis of Poseidon's proposed plan, that change may reduce imported water deliveries to Orange County, but are unlikely to reduce the overall amount of water imported into Southern California from the SWP and the Colorado River, as MWD and other entities that purchase imported water from these sources are expected to continue purchasing any water available.

Water delivery from the SWP to Southern California averages about 3,000 kilowatt hours per acre-foot (kWh) and about 2,000 kWh from the Colorado River.<sup>118</sup> The vast majority of that electricity use is used to transport SWP water over the Tehachapi Mountains. Once that water gets to delivery points just outside of Orange County, most of the electricity use has already occurred, and any potential reduction in Orange County deliveries will result in, at best, only a minor reduction or offset of the SWP GHG emissions. Therefore, without documentation that Poseidon's project will reduce electricity or emissions from pumping water over the Tehachapis, its proposed emissions reduction measure does not appear consistent with the state's AB 32 criteria that such measures be "real, quantifiable, permanent, verifiable, additional, and enforceable."

Regarding the contractual agreements, the Metropolitan Water District (MWD) imports water from the SWP and Colorado River and distributes it to member agencies, including those in Orange County to which Poseidon would sell its water. Supplies from the MWD are governed by a contract between the MWD and the Department of Water Resources (DWR) that allows the MWD to purchase up to about two million acre-feet per year, though the actual amount available is subject to the DWR determining each year how much water can be delivered, based on rainfall, snowpack, watershed conditions, etc. The MWD has a number of times expressed its intent to take the full amount of water available to it from the SWP and the Colorado River,

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<sup>117</sup> See SEIR, Appendix W, Malcolm Pirnie, *Orange County Water Resources Mix and Implications for Desalinated Water*, prepared for Municipal Water District of Orange County, April 2010.

<sup>118</sup> See Wilkinson, Robert, *Analysis of the Energy Intensity of Water Supplies for West Basin Municipal Water District*, prepared for West Basin Water District, March 2007.



regardless of the water available to it from other sources. As noted in the above-referenced SEIR analysis, MWD started receiving less Colorado River water in 2002, due to increased apportionment by Arizona and Nevada that cut MWD's supplies to about half of its previous 1.2 million acre-foot allotment; however, in 2004, MWD set a goal to restore those full deliveries, and its allotment in 2009 exceeded one million acre-feet. MWD also has available about five million acre-feet of storage capacity in its system and in the SWP to store water that it may not need immediately or to provide a supply in case of lower water deliveries in future years. The result is that the SWP pumps water as it is available for MWD to use or store. It does not vary its delivery or pumping rate (which is its main source of GHG emissions) based on new local supplies, such as Poseidon's, becoming available, and therefore Poseidon's proposed mitigation measure does not appear to meet the AB 32 criteria – i.e., it is not real, verifiable, etc.<sup>119</sup>

MWD also seeks other sources of water – for example, through purchases, exchanges or transfers – that can be delivered through the SWP system for MWD to use or to store. At best, Poseidon's supply may at times allow MWD to reduce its efforts to obtain these other sources. However, any such reduction that might occur would not be the one-to-one import reduction asserted in Poseidon's GHG Plan and would have minimal, if any, effect on SWP and Colorado River's pumping rate, as those operations are independent of Poseidon's and because entities other than MWD also receive water from the SWP and the Colorado River. For example, the above-referenced Department of Water Resources bulletin is the latest of a series of annual bulletins that describe SWP operations and the contracted water deliveries, exchanges, and water transfers that occur each year. Among those listed in the current bulletin are several agreements with MWD and other Southern California water purveyors that involve water storage or transfer in both Southern and Northern California – i.e., they include water deliveries to Southern California for which emissions have already been generated and water in Northern California for which future emissions will be generated when it is delivered. The contract terms and deliveries are not based on Poseidon's operations.

Although the Commission, in 2008, approved a GHG Plan for the Poseidon Carlsbad desalination project that allowed Poseidon to be credited with emission offsets from SWP import reductions, as described below, the Commission subsequently found in 2010, as part of a permit revocation proceeding, that Poseidon misrepresented and omitted material information related to its claimed reduction of imported water. Poseidon's Huntington Beach project is being considered for coverage under a MWD program offering a \$250 per acre-foot subsidy for newly developed local water supplies. Among the requirements of that program is a provision that allows the MWD to terminate the subsidy if the project limits MWD's entitlements to import or use water from the SWP or other sources. Agreements for projects covered under this program include the following provision:

*The Parties agree that this Agreement shall terminate forthwith if Metropolitan reasonably determines that as a result of Water Authority's or LRA's action or support, Metropolitan is required by any statute or administrative order, court, or other entity to reduce, defer, or exchange entitlement to or reduce usage of Colorado River water, State Water Project water,*

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<sup>119</sup> See California Department of Water Resources, *Management of the California State Water Project*, Bulletin 132-10, June 2013.

*or other water supplies Contracted for by Metropolitan as a result of expected or actual production of the Desalinated Seawater by the Project.*

When the Commission approved the Poseidon Carlsbad GHG Plan in 2008, it was not aware of this provision. Only when investigating the 2009 revocation request did Commission staff obtain a copy of the MWD agreement, which Poseidon knew of at the time of the Commission's approval, that included this provision prohibiting desalination projects from reducing MWD's entitlements or usage of water imported from the SWP or other sources. The MWD agreement also defines water eligible for the subsidy – i.e., the “eligible yield” – as water that would augment (not replace) imported water.<sup>120</sup> The MWD agreement therefore specifies that in order for a project to be eligible for the subsidy, it must *augment* MWD's imported water supplies and not cause a reduction in those supplies.<sup>121</sup>

Additionally, water from the SWP and Colorado River, to date, has been much less expensive than the projected cost of Poseidon's water.<sup>122</sup> Poseidon expects its water will cost roughly \$1850 per acre-foot to produce and deliver, while imported water and transfers currently cost from about \$200 to \$1000 per acre-foot. While Poseidon expects that over time the cost of desalination will go down and the cost of imports will go up, this “crossover,” if it occurs, is not likely to be until between 2035 and 2040, according to a recent study by the Orange County Water District.<sup>123</sup> Therefore, at least for a while, when selecting among water supply choices, water districts are likely to select lower cost water supplies before selecting higher cost water supplies.

For these reasons, the Commission believes that Poseidon's project will not ensure a decrease in imported water supplies to Southern California or in the associated energy consumption and GHG emissions, and therefore this “crediting” approach to achieving carbon neutrality is not warranted and is not consistent with the protocols established pursuant to AB 32.

Regarding the threshold for which the Commission may require mitigation for the project's indirect GHG emissions, at least two components of other state programs and policies suggest that a “net carbon neutral” standard is not appropriate. Since the adoption of AB 32, California state agencies

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<sup>120</sup> See, for example, this provision:

*“‘Eligible Yield’ shall mean the amount of Desalinated Seawater actually delivered to an LRA's or Water Authority's local potable water distribution system from the Project in a Fiscal Year, **excluding any Desalinated Seawater that Metropolitan reasonably determines will not augment water supply available to Metropolitan's service area, including Metropolitan's imported water.**”* (emphasis added)

<sup>121</sup> The November 2009 MWD Contract, which is based on the 2005 Agreement, also describes how it will calculate the “reasonable costs” for which the subsidy can be awarded. They include a project's costs for mitigation and may also include a project's “net electrical energy” costs, which are defined as costs of energy purchases minus costs of energy recovered; however, they do not specify any SWP-related electricity reductions.

<sup>122</sup> See Municipal Water District of Orange County, *Orange County Water Suppliers Water Rates and Financial Information*, March 2012.

<sup>123</sup> See Orange County Water District, *Huntington Beach Poseidon Resources Ocean Desalination Project Information and Update*, July 2013.

have implemented policies to include GHG emissions in the environmental review process conducted under CEQA. Amendments made to the CEQA Guidelines in March 2010 now require lead agencies to consider whether GHG emissions stemming from a proposed project will have a significant environmental effect, and if so, to identify feasible mitigation measures that would reduce emissions impacts below the level of significance.<sup>124</sup> The CEQA Guideline amendments do not, however, prescribe GHG emissions threshold levels for determining significance. In the absence of a statewide standard, individual agencies have developed and applied a number of different methods for evaluating GHG emissions impacts. Among the more rigorous existing evaluation methods is the tiered analysis developed by the South Coast AQMD, adopted in 2008.<sup>125</sup> At the heart of SCAQMD's analysis is a numerical significance threshold for emissions from stationary industrial source of 10,000 metric tonnes of CO<sub>2</sub> equivalent per year, which was based on the finding that this threshold would ensure environmental review of approximately 90% of the total sector GHG emissions in the District. The 10,000 metric tonne threshold includes direct, indirect, and life cycle emissions associated with a project, and has been adopted as a significance threshold by a number of other air districts in California. Under this framework, Poseidon would need to mitigate or offset its indirect project GHG emissions down to the 10,000 metric ton CEQA significance threshold.

Additionally, some fraction of the indirect emissions stemming from Poseidon's electricity use will have already been mitigated by emissions offsets purchased by electricity generators or suppliers under the AB 32 Cap-and-Trade program. The electricity used at the Poseidon plant would be provided by SCE, and generated from a mix of facilities (e.g., fossil fuel burning, renewable, etc.) that would vary from year to year depending on market conditions. The GHG emissions associated with the delivered electricity would then be calculated using an annual emissions factor that accounts for the specific sources of SCE electricity. Both SCE and other large electricity generators are covered under the AB 32 Cap-and-Trade Program, which establishes a declining annual cap on emissions. SCE is subject to an annual emissions cap that it can meet by (a) reducing its GHG emissions, (b) surrendering its allocation of emissions allowances, (c) purchasing surplus allowances from another covered entity, or (d) purchasing emissions offsets.

With these programs in place, the "unmitigated" indirect emissions remaining from Poseidon's operations are those between the 10,000 tonne CEQA threshold and the percentage of power plant emissions being mitigated through actions by SCE. Using Poseidon's current estimates that its indirect emissions would total between about 87,000 and 91,000 tonnes per year, it needs to mitigate for the difference – that is the amount between the 10,000 tonne CEQA threshold and the amount for which SCE is not providing mitigation – to address its remaining, unmitigated indirect emissions. As noted above, this figure will change annually, typically decreasing, as the energy providers change their emissions rate and as they implement new or additional offsets and credits.

The Commission is therefore requiring through [Special Condition 20](#) that Poseidon, prior to issuance of this permit, submit for the Executive Director's review and approval a Revised GHG Plan that includes only those mitigation measures, offsets, and credits that the state Air Resources

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<sup>124</sup> 14 Cal. Code Regs. Section 15064. If the project's emissions impacts remain significant even after identifying all feasible mitigation measures, the lead agency must adopt a Statement of Overriding Considerations to explain why further mitigation is not feasible and why project approval is still warranted.

<sup>125</sup> *South Coast AQMD Interim CEQA Threshold for Stationary Sources, Rule and Plans* (12/5/2008); <http://www.aqmd.gov/hb/2008/December/081231a.htm>.

Board or a local Air District has determined to be consistent with the protocols established pursuant to AB 32. The Plan is to include an annual reporting provision to allow adjustments each year to reflect changes in Poseidon's indirect emissions due to changes in the emissions rate of its energy suppliers and additional mitigation measures those suppliers may adopt. This will ensure conformity to the LCP and Coastal Act policies that emphasize conservation and energy use minimization, as well as LCP Policy C 1.1., which requires that adverse effects of development in the coastal zone be minimized to the extent feasible.

**Conclusion**

The development, as proposed, would result in significant adverse effects due to its indirect greenhouse gas emissions. However, as conditioned, the Commission finds the project is in conformity with relevant policies of the LCP and Coastal Act.

## **K. PUBLIC ACCESS AND RECREATION**

LCP Policy C 2.5 states:

*Maintain and enhance, where feasible, existing shoreline and coastal resource access sites.*

LCP Policy C3.1 states:

*Preserve, protect, and enhance, where feasible, existing public recreation sites in the Coastal Zone.*

Coastal Act Section 30211 states:

*Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

The proposed facility is to be built within an industrial site about one-half mile from the shoreline where public access is not available and not warranted. However, the project, as proposed, would cause adverse effects on public access and would result in two types of adverse effects on public recreation. Regarding public access, it would increase and interrupt traffic on streets used for public access to the shoreline in this area of Huntington Beach. Regarding recreational opportunities, it would diminish recreational fishing in nearshore waters due to its entrainment and impingement effects, as described in Section IV.F above.

### **Public Access**

Project-related traffic during approximately two years of demolition, remediation, and construction activities at the facility site will occur along several local thoroughfares, including three main arterial roads used for public access to the shoreline – the Pacific Coast Highway (PCH), Newland Avenue, and Beach Boulevard. Project-related parking will be accommodated within the power plant site. Construction of the project's water delivery pipeline will disrupt traffic along several streets yet to be determined, pending Poseidon's selection of its pipeline route(s), although only a portion of the selected route(s) will be in the coastal zone. The SEIR states that pipeline construction will occur over a period of between about 500 and 600 days.

The SEIR estimated that the maximum traffic generated during demolition, remediation, and construction would be up to about 225 trips per day. Based on the City's August 2009 traffic study, the SEIR identified existing traffic volumes along Beach Boulevard as up to 69,000 average trips per day, and it noted that project traffic would represent only a small percentage increase of this total and would not result in a decreased Level of Service (LOS) on nearby roads.<sup>126</sup> Nonetheless, the SEIR included Mitigation Measure CON-34, which requires Poseidon

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<sup>126</sup> A road's Level of Service is based on its design volume and capacity compared with its actual volume and capacity. Ratings range from LOS A, which denotes free flowing traffic and insignificant delays, to LOS F, which denotes jammed conditions. See, for example, California Energy Commission, *12-AFC-02 Preliminary Staff Assessment – Traffic and Transportation*, page 4.10-7, October 2013.

to prepare a Traffic Management Plan that includes measures to ensure traffic congestion and delay are not substantially increased. Measures include limiting pipeline construction to one side of any roads, submitting a truck routing plan for City and County approval that minimizes adverse effects from truck traffic, and requires coordination with other nearby construction projects, including activities associated with the Ascon Landfill remediation project.

Since the City's 2010 certification of the SEIR, two nearby proposed projects are now anticipated to occur during the same timeframe as Poseidon's activities. The Department of Toxic Substances Control issued its Draft EIR and Remedial Action Plan for the nearby Ascon Landfill showing proposed cleanup and remediation activities scheduled to occur over about a year starting in 2015.<sup>127</sup> These activities would include up to about 200 truck tips per day along Hamilton Avenue, the route of one of Poseidon's proposed pipeline alignments, and along Magnolia Street, Beach Boulevard, and the PCH, all of which provide beach access. In October 2013, the California Energy Commission (CEC) released its Preliminary Staff Assessment regarding the repowering of the adjacent Huntington Beach power plant. That project would occur over a period of up to about seven years, from 2015 to 2022, and involve a maximum of over 700 daily trips during that construction period along several of the same roads used for Poseidon's and the landfill's traffic, including PCH, Beach Boulevard, and Newland Street, all of which provide beach access. The traffic analysis developed as part of the CEC's review shows that traffic generated during the power plant project would result in traffic delays and reduced Levels of Service on several nearby roads.<sup>128</sup>

Unless mitigated, traffic generated by Poseidon's project will individually cause adverse effects on public access to the shoreline, and if combined with traffic from these other two projects, would cumulatively cause more severe adverse effects. Pursuant to the SEIR, Poseidon is required to submit a Traffic Management Plan, and the draft evaluations for the other two projects also recommend that a traffic management plan be required for those projects. Both the Ascon Landfill and power plant analyses recommend that the required traffic management plans ensure that project-related traffic will not cause a decrease in the existing Levels of Service on nearby roads.

To ensure Poseidon's project, either on its own or in association with the power plant and landfill projects, does not adversely affect public access to the shoreline, [Special Condition 21](#) builds on the SEIR's requirement that Poseidon provide a Traffic Management Plan for City approval, and additionally requires Poseidon to submit for Executive Director review and approval a Traffic Management Plan approved by the City demonstrating that traffic generated due to Poseidon's project results in no Level of Service decrease on nearby roads used for beach access. These include the Pacific Coast Highway, Beach Boulevard, and Newland Street. Mitigation measures included in an approved plan are likely to include project traffic scheduling requirements, use of employee shuttles, staggered work schedules, or other similar measures needed to reduce

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<sup>127</sup> Department of Toxic Substances Control, *Draft Environmental Impact Report – Ascon Landfill Site*, August 27, 2013 and *Draft Remedial Action Plan – Ascon Landfill Site*, August 20, 2013.

<sup>128</sup> See California Energy Commission, *Preliminary Staff Assessment for 12-AFC-02*, October 2013.

potential adverse effects on public access to the shoreline. [Special Condition 21](#) additionally requires that upon approval of either or both of the AES power plant project and the Ascon Landfill remediation, that Poseidon provides an updated Traffic Management Plan approved by the City demonstrating that the combined effects of the projects do not cause a decrease in the Level of Service on the nearby arterial roads the projects would use and that are for beach access, including the PCH, Beach Boulevard, Newland Street, and Magnolia Street.

## **Recreational Activities**

### *Recreational Fishing*

The project as proposed would create three types of adverse effects on recreational fishing opportunities – due to entrainment, impingement, and its discharge. As discussed above, in *Section IV.F – Marine Life and Water Quality* of these Findings, the project as proposed would each year entrain and kill about 80 million invertebrates and fish larvae and impinge several hundred adult fish. The 2005 entrainment study shows that this intake draws in and kills organisms originating up to several dozen miles away, including from within several areas now designated as Marine Protected Areas. The study also showed that the intake’s entrainment caused effects on commercially- and recreationally-important species, such as halibut, crab, and others. Although only a small proportion of the entrained organisms are species sought in recreational fishing and very few would become “catchable” adults, the entrained organisms represent a sizeable part of the local and regional food web upon which recreational species depend. The SEIR stated that the facility would produce a waste stream of about 6.5 tons per day, with some proportion of that being entrained marine life that would otherwise remain in the nearshore system as part of the food web or that would grow to adult size. Similarly, Poseidon’s project as proposed would result in impingement of adult fish, some of which would be catchable recreational species.

Regarding the project discharge, Poseidon’s proposed project would create an area covering up to several dozen acres of seafloor and water column area with salinity concentrations that some marine life would avoid. The SEIR stated that these areas of higher salinity would not cause substantial ecological effects or water quality degradation because those immediate areas do not include special biological areas or endangered or threatened species and because many of the species present in the nearby waters are also present in higher-salinity waters elsewhere – e.g., in the Gulf of California. However, this conclusion does not address the likelihood that local organisms not acclimated to higher salinities may avoid areas within the effluent plume, resulting in loss of habitat as well as loss of recreational fishing opportunities within that area. The findings also state that any species exposed to elevated salinities would have low exposure times and that the areas represent insubstantial foraging areas; however, the SEIR did not cite *in situ* tests or monitoring results to support such findings. The SEIR’s conclusions are also inconsistent with the more recent findings of the State Water Resources Control Board’s Expert Review Panel convened as part of its development of a desalination policy (described in Section IV.F above). The Panel has recommended a maximum allowable salinity concentration of no more than 5% above background salinities within 100 meters of a desalination discharge.

However, with the project modifications, mitigation measures, and the Special Conditions described in *Section IV.F* of these Findings, the proposed project’s adverse entrainment,

impingement, and discharge effects are either avoided entirely or significantly reduced. By minimizing these adverse effects, the Special Conditions result in the project causing no more than negligible adverse effects on recreational fishing opportunities.

**Conclusion**

The development, as proposed, would result in reduced public access to the shoreline and reduced opportunities for recreational fishing. However, as conditioned, the Commission finds the project is in conformity with relevant policies of the LCP and the Coastal Act.



## L. LAND USE – SITE DESIGNATION AND ALLOWABLE USES

The subject site is identified in the city’s Land Use Plan as Public (P).<sup>129</sup> Typical permitted uses for such sites, as defined in Table C-1 of the Coastal Element Land Use Plan are:

“[g]overnmental administrative and related facilities, such as public utilities, schools, libraries, museums, public parking lots, infrastructure, religious and similar uses.” The LCP does not define the term “infrastructure,” nor is that term defined in the Coastal Act or elsewhere in the Public Resources Code. It is a term typically applied to describe the physical development needed to support essential public functions, such as water, sewer, energy and roads.<sup>130</sup> In addition, a section of the California Water Code defines “public safety infrastructure” to include water and wastewater treatment facilities.”<sup>131</sup> The proposed project is a water treatment facility that would provide potable water to communities throughout Southern California and can thus be considered an infrastructure project. Given that infrastructure is an allowed use in the “Public” land use designation, the proposed project is consistent with the LUP land use designation.

The City’s certified Zoning Map designates the subject site as “Public-semipublic,” which is a district that allows large public or semipublic uses.<sup>132</sup> Section 214.06 of the City’s Zoning and Subdivision Ordinance describes allowed uses on parcels designated public-semipublic as:

“cemetery, cultural institutions, day care, government offices, hospitals, maintenance & service facilities, park & recreation facilities, public safety facilities, religious assembly, residential care, schools, major and minor utilities, commercial parking facilities, communication facilities, eating and drinking establishments, vehicle/equipment sales and services, and accessory uses and structures.”

Typically a project such as the proposed desalination plant would not be considered a “utility,” primarily because it is not publicly owned or subject to the requirements of the California Public Utilities Commission. The subject LCP, however, defines “utilities, major” much more broadly than that term is typically defined. Section 204.08(R) of the City’s Zoning and Subdivision Ordinance defines “utilities, major” as:<sup>133</sup>

---

<sup>129</sup> The site is identified as Subarea 4G “Edison Plant” in Table C-2, in which the Permitted Uses for the site are identified as Public and Conservation.

<sup>130</sup> In 2009, the American Society of Civil Engineers (“ASCE”) defined infrastructure as: “complex and interrelated physical, social, ecological, economic, and technological systems such as transportation and energy production and distribution; water resources management; waste management; facilities supporting urban and rural communities; communications; sustainable resources development; and environmental protection.” Fulmer, Jeffrey, *Infrastructure Investor*, July/August 09, p. 30. In addition, the ASCE includes water systems in its description of critical infrastructure. <http://ciasce.asce.org/working-definitions>.

<sup>131</sup> California Water Code § 12646(d).

<sup>132</sup> City of Huntington Beach Zoning Code § 214.02.

<sup>133</sup> The zoning ordinance also includes a definition for “Utilities, Minor”, which is not applicable to the project.

**“Utilities, Major.** Generating plants, electrical substations, above-ground electrical transmission lines, switching buildings, refuse collection, transfer, recycling or disposal facilities, flood control or drainage facilities, water or wastewater treatment plants, transportation or communications utilities, and similar facilities of public agencies or public utilities.”

This definition does not require that a utility be publicly owned. It also specifically includes a water treatment plant as a major utility. The proposed project is a water treatment plant and therefore an allowable use under the City’s Public-semipublic zoning designation.

The Commission finds that the proposed project does conform to the land use and zoning code designations for this site because it is allowed infrastructure under the City’s “Public” land use designation, and it is a water treatment plant, which is classified as a major utility in the City’s IP.

#### **M. LIABILITY FOR COSTS AND ATTORNEYS’ FEES**

Coastal Act section 30620(c)(1) authorizes the Commission to require applicants to reimburse the Commission for expenses incurred in processing CDP applications. *See also* 14 C.C.R. § 13055(e). Thus, the Commission is authorized to require reimbursement for expenses incurred in defending its action on the pending CDP application. Therefore, consistent with Section 30620(c), the Commission imposes [Special Condition 1](#), requiring reimbursement of any costs and attorneys fees the Commission incurs in connection with the defense of any action brought by a party other than Poseidon challenging the approval or issuance of this permit.

## **V. CALIFORNIA ENVIRONMENTAL QUALITY ACT**

Section 13096 of the Commission's administrative regulations requires Commission approval of coastal development permit applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act ("CEQA"). Section 21080.5(d)(2)(A) of CEQA prohibits approval of a proposed development if there are feasible alternatives or feasible mitigation measures available that would substantially lessen any significant impacts that the activity may have on the environment. The project as conditioned herein incorporates measures necessary to avoid any significant environmental effects under the Coastal Act, and there are no less environmentally damaging feasible alternatives or mitigation measures. Therefore, the proposed project is consistent with CEQA.

In addition, the City's LCP Policy C 1.1 similarly requires that adverse impacts associated with coastal zone development be mitigated or minimized to the greatest extent feasible. The Commission finds that, as conditioned, the adverse effects of the proposed development are minimized to the greatest extent feasible, consistent with this LCP Policy.





DATE: 10/20/01

SCALE 1"=60'

seidon Water

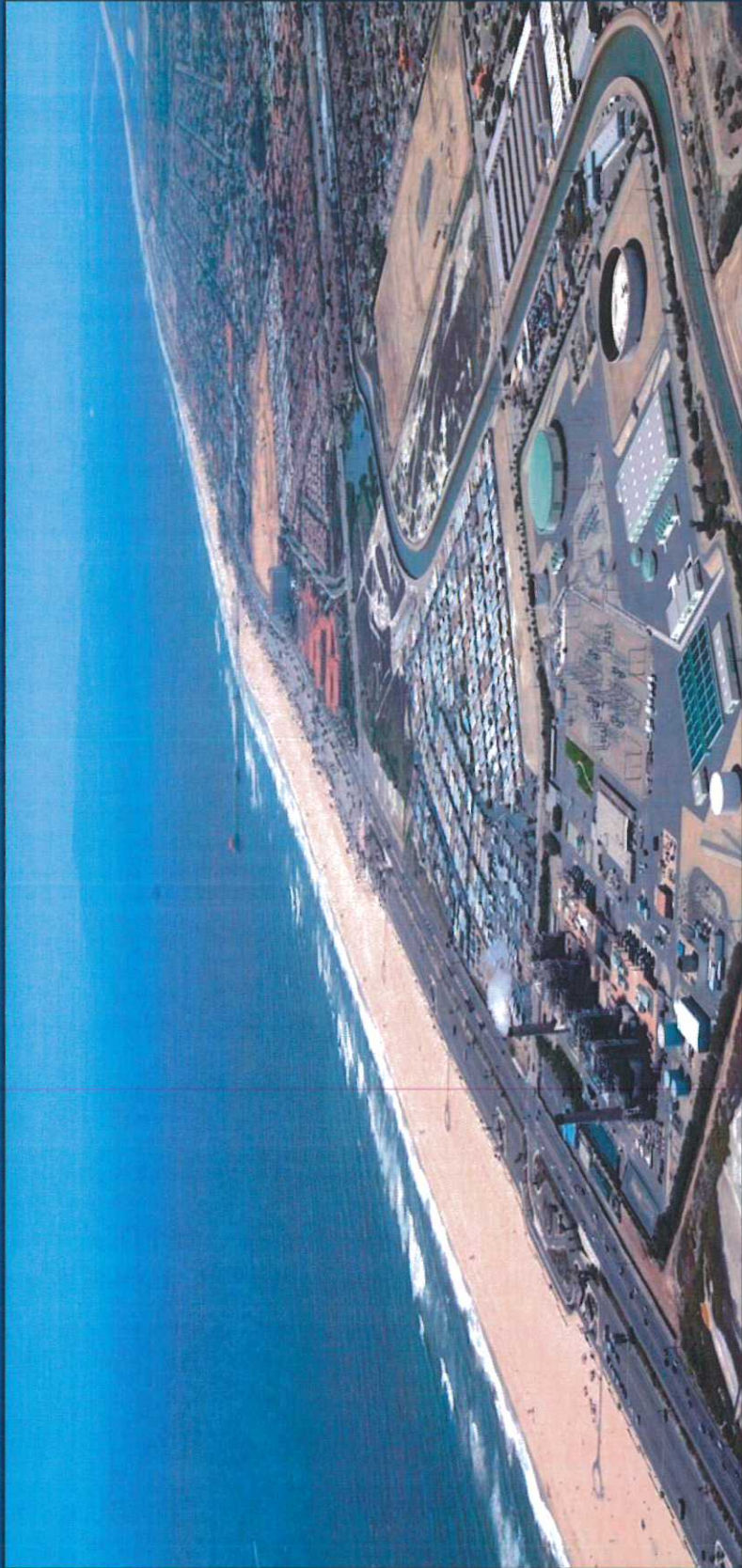


DATE: 10/20/01

SCALE 1"=60'



# Huntington Beach Desalination Facility Schematic





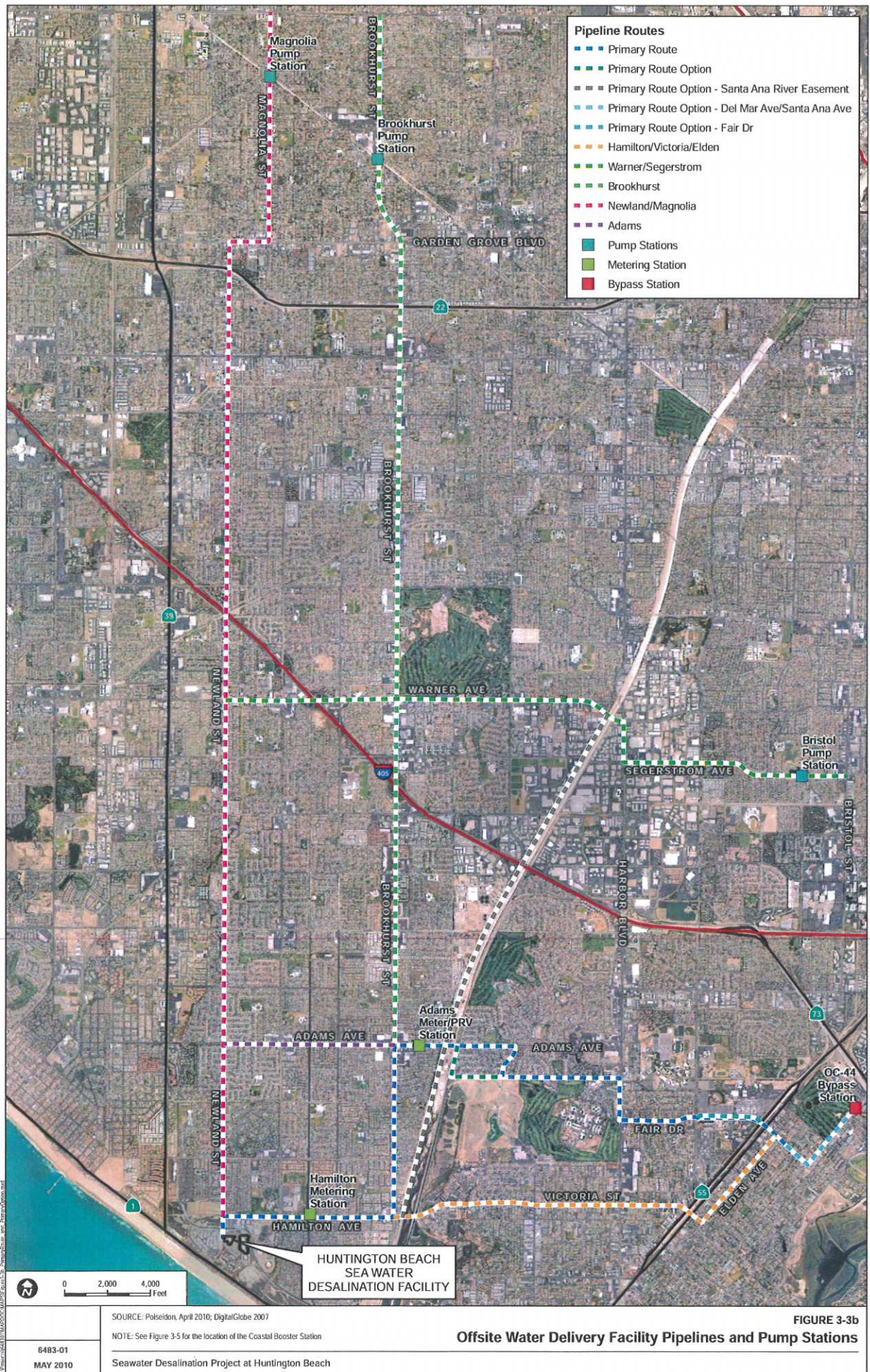
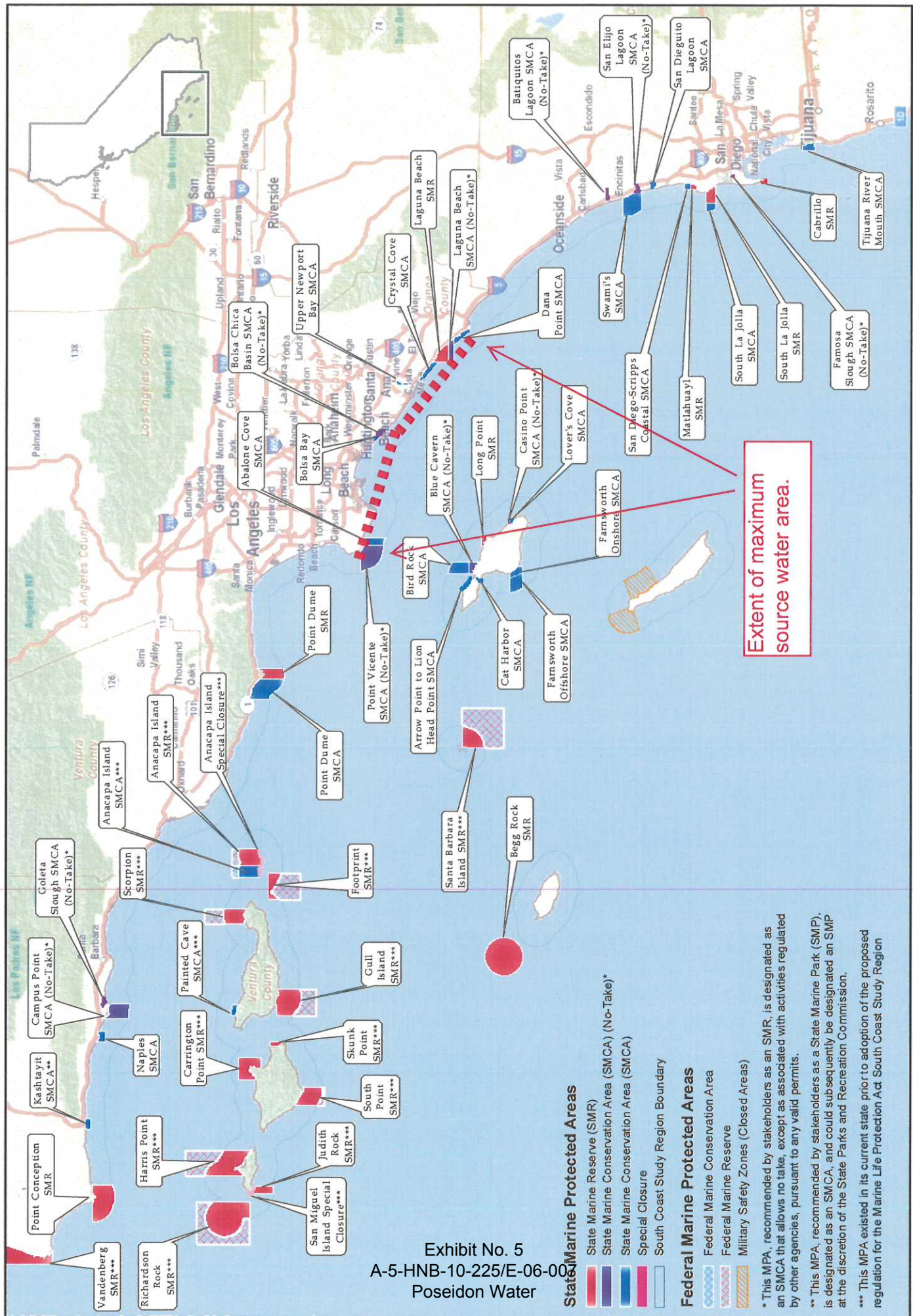


FIGURE 3-3b  
Offsite Water Delivery Facility Pipelines and Pump Stations



## Southern California State and Federal Marine Protected Areas



Projection Information:

World Mercator  
WGS 1984

October 31, 2011



For complete MPA information including boundaries and regulations, please go to <http://www.dfa.ca.ca/mlba>



**Subsurface Seafloor Infiltration Gallery**

32 collector wells spaced 110 feet apart

1.25 miles

32 intake filtration sand cells

11' 40" diameter collector pipelines

300 feet

Huntington Beach desalination plant

Huntington Beach power plant

1 mile

1/4 mile

Scale: 1 inch = 1/4 mile

North Arrow

Map Date: 8/2/2011

Map Scale: 1 inch = 1/4 mile

Map Projection: NAD 83

Map Data: 8/2/2011

Map Author: 8/2/2011

Map Title: Subsurface Seafloor Infiltration Gallery

Map File: 8/2/2011

Map Path: 8/2/2011

Map Name: 8/2/2011

Map ID: 8/2/2011

Map Version: 8/2/2011

Map Status: 8/2/2011

Map Type: 8/2/2011

Map Category: 8/2/2011

Map Subcategory: 8/2/2011

Map Keywords: 8/2/2011

Map Tags: 8/2/2011

Map Description: 8/2/2011

Map Notes: 8/2/2011

Map Comments: 8/2/2011

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Map Changes: 8/2/2011

Map Updates: 8/2/2011

Map Revisions: 8/2/2011

Map Versions: 8/2/2011

Map Iterations: 8/2/2011

Map Attempts: 8/2/2011

Map Failures: 8/2/2011

Map Successes: 8/2/2011

Map Errors: 8/2/2011

Map Warnings: 8/2/2011

Map Messages: 8/2/2011

Map Logs: 8/2/2011

Map Reports: 8/2/2011

Map Alerts: 8/2/2011

Map Notifications: 8/2/2011

Map Announcements: 8/2/2011

Map Updates: 8/2/2011

Map Revisions: 8/2/2011

Map Versions: 8/2/2011

Map Iterations: 8/2/2011

Map Attempts: 8/2/2011

Map Failures: 8/2/2011

Map Successes: 8/2/2011

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Map Successes: 8/2/2011

Map Errors: 8

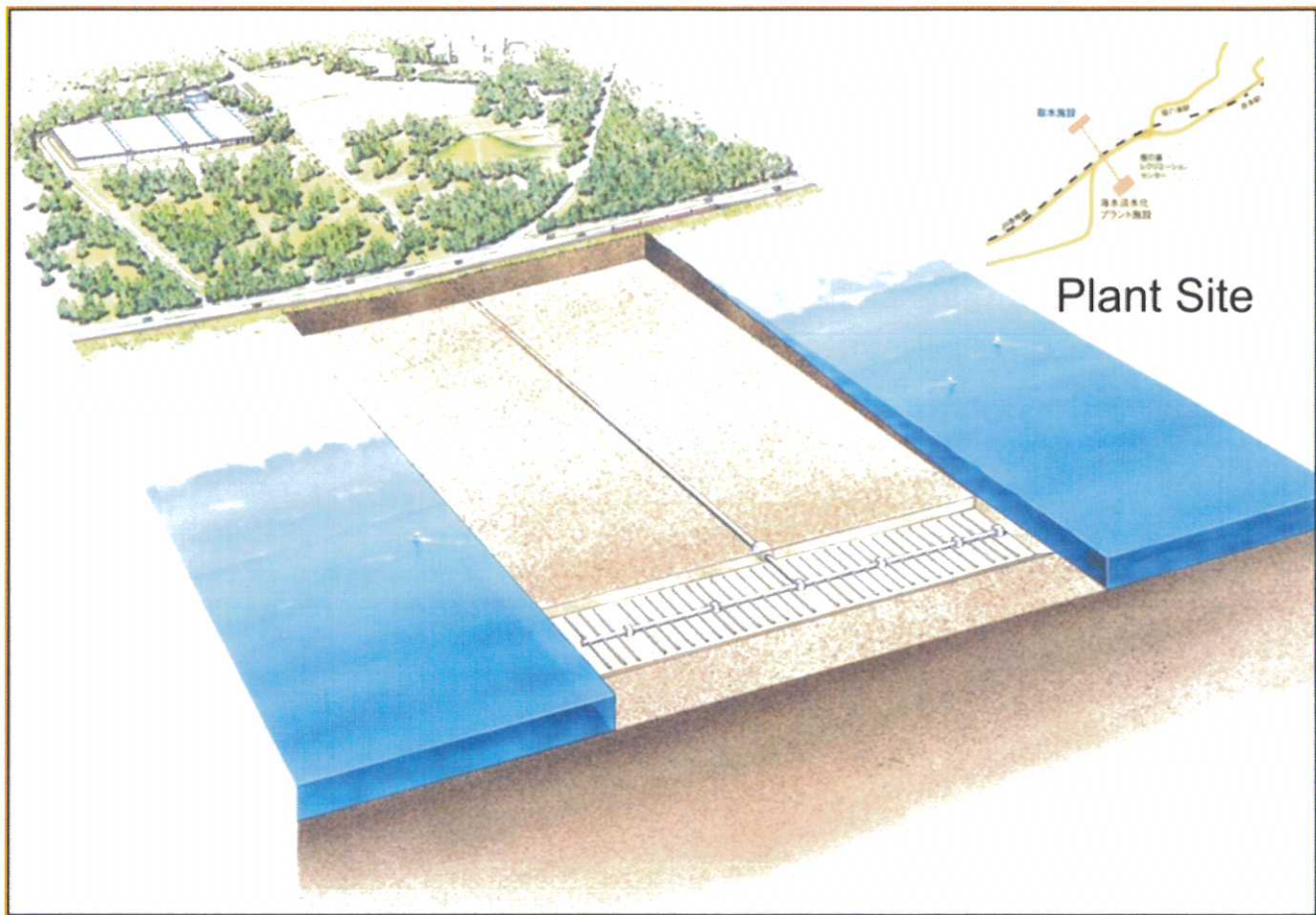
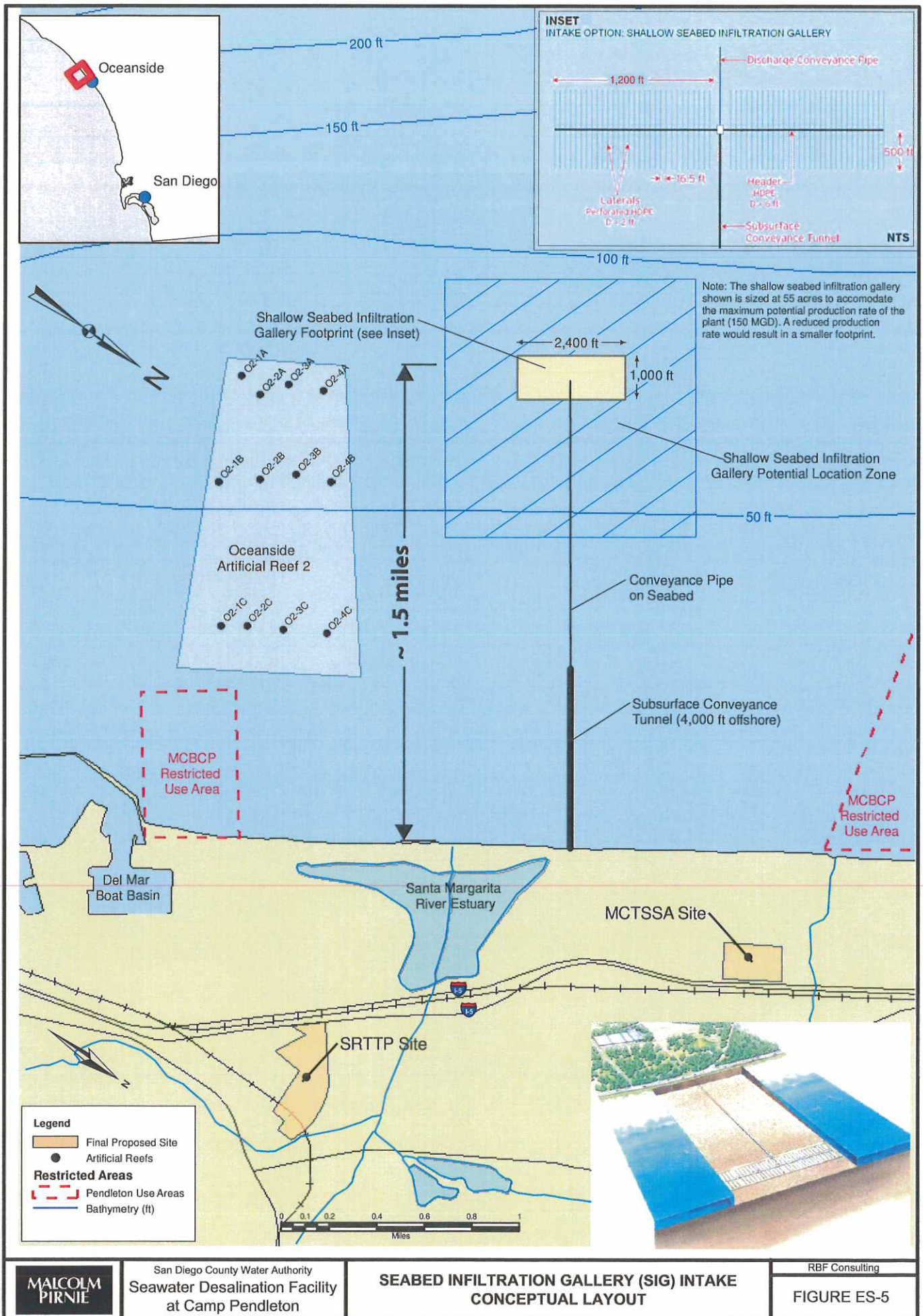


Exhibit No. 7  
A-5-HNB-10-225/E-06-007  
Poseidon Water



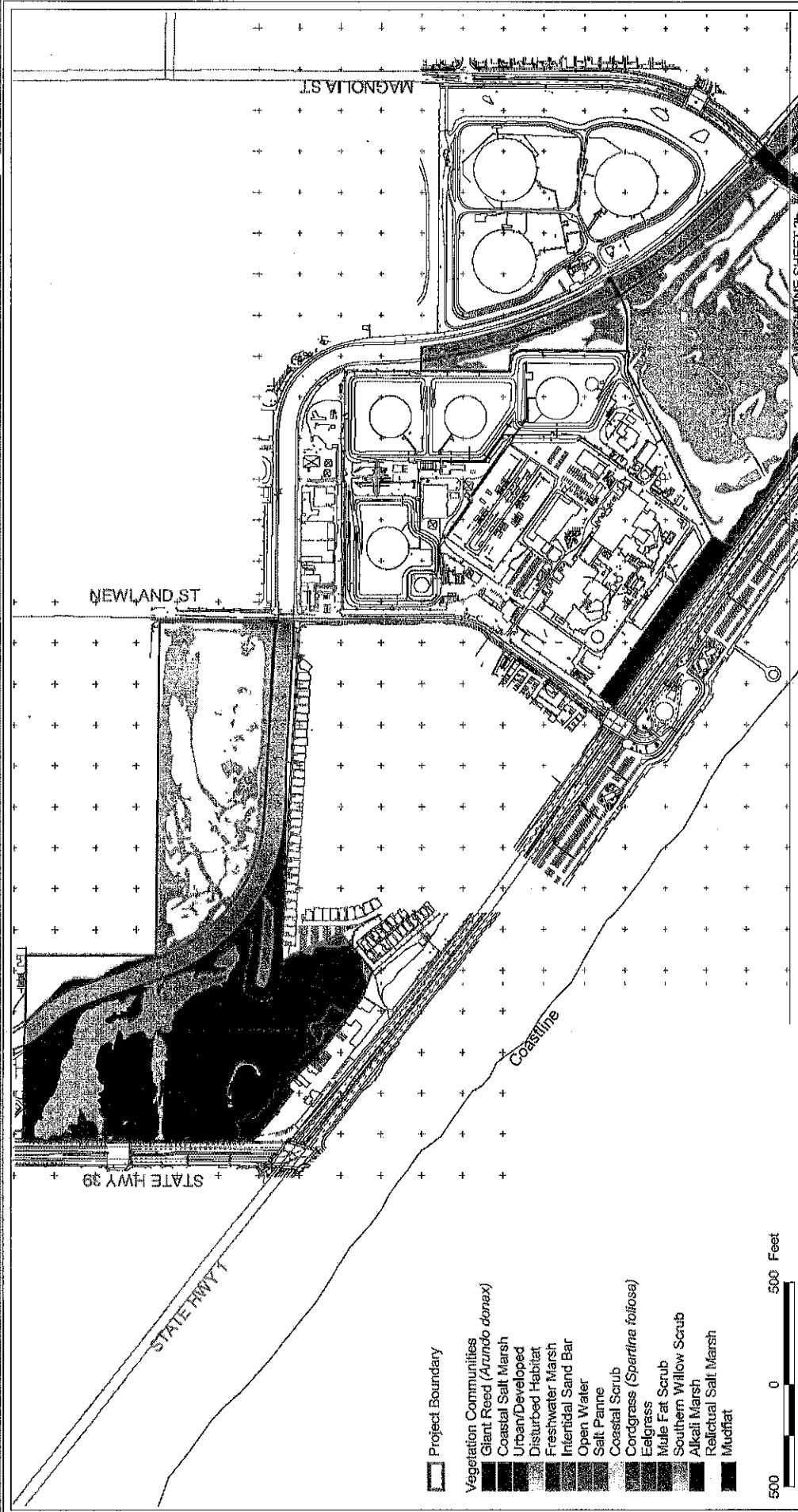








# HUNTINGTON BEACH WETLANDS



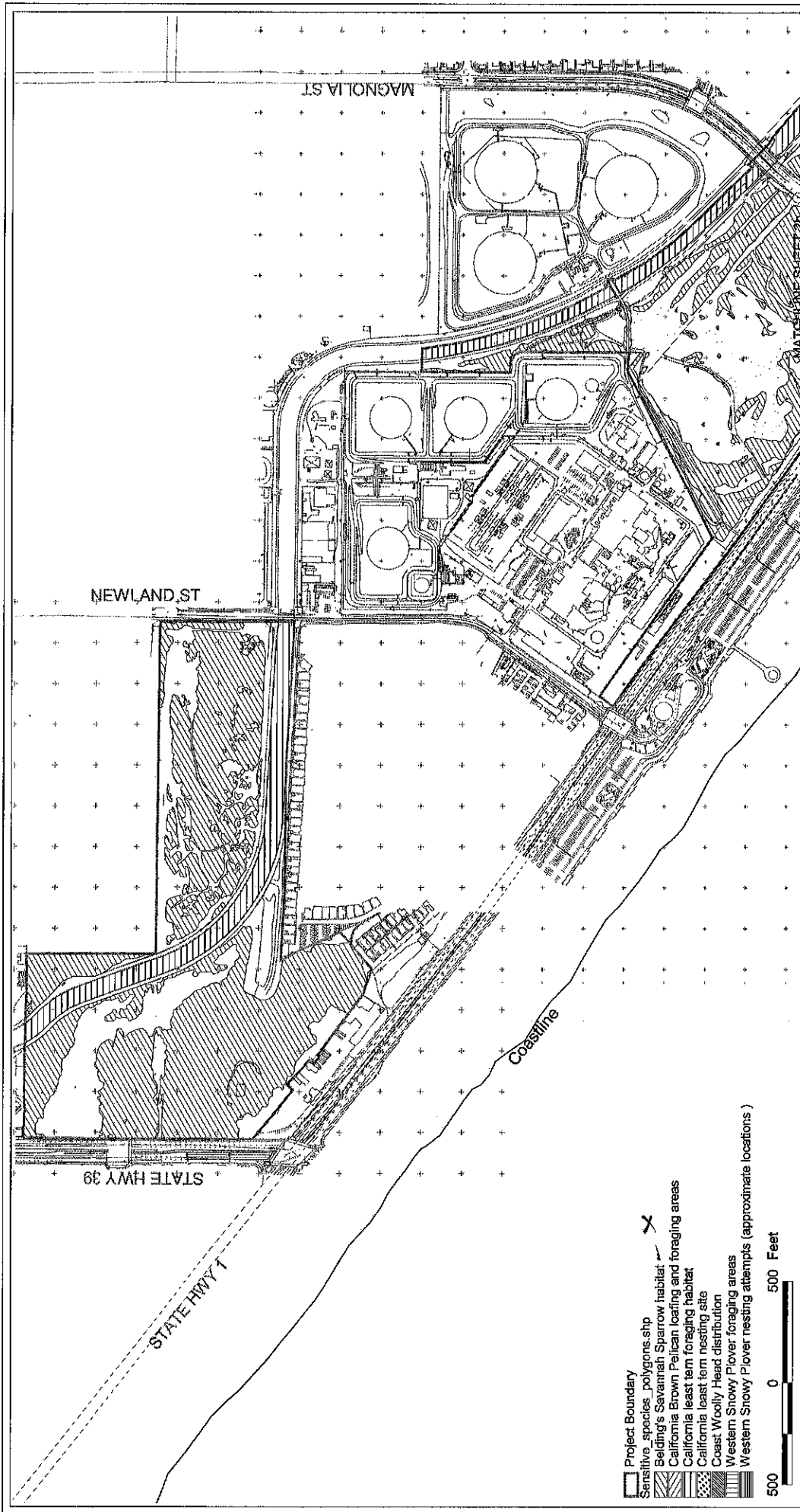
- Project Boundary
- Vegetation Communities
  - Giant Reed (*Arundo donax*)
  - Coastal Salt Marsh
  - Urban/Developed
  - Disturbed Habitat
  - Freshwater Marsh
  - Intertidal Sand Bar
  - Open Water
  - Salt Pannes
  - Coastal Scrub
  - Cordgrass (*Spartina foliosa*)
  - Eelgrass
  - Mule Fat Scrub
  - Southern Willow Scrub
  - Alkali Marsh
  - Relictual Salt Marsh
  - Mudflat

Huntington Beach Wetlands  
Vegetation Communities  
Western Portion

Figure 2a

McKee & Associates, Inc.

04-001-01



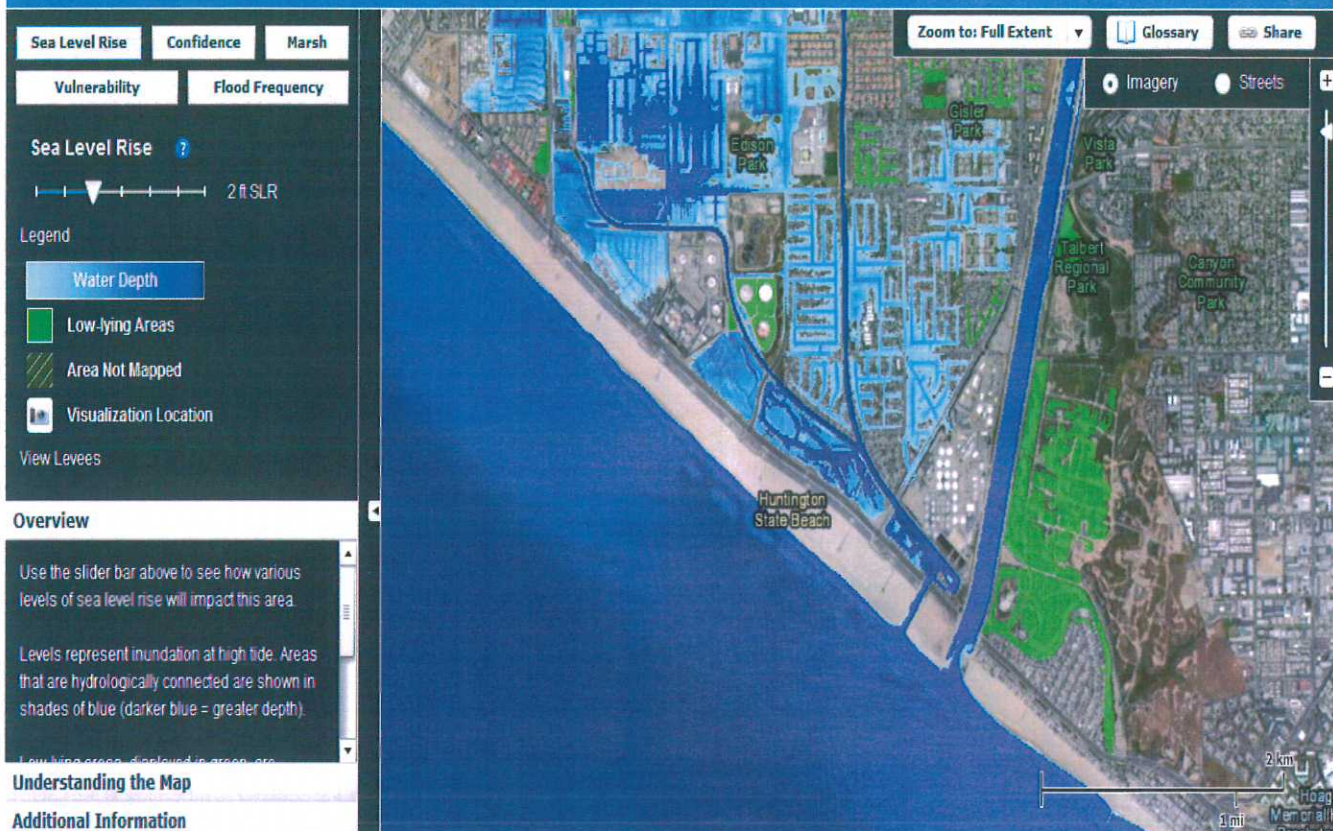
**Huntington Beach Wetlands**  
Sensitive Species Habitats  
Western Portion

**Figure 4a**

Merke & Associates, Inc.

# Sea Level Rise and Coastal Flooding Impacts

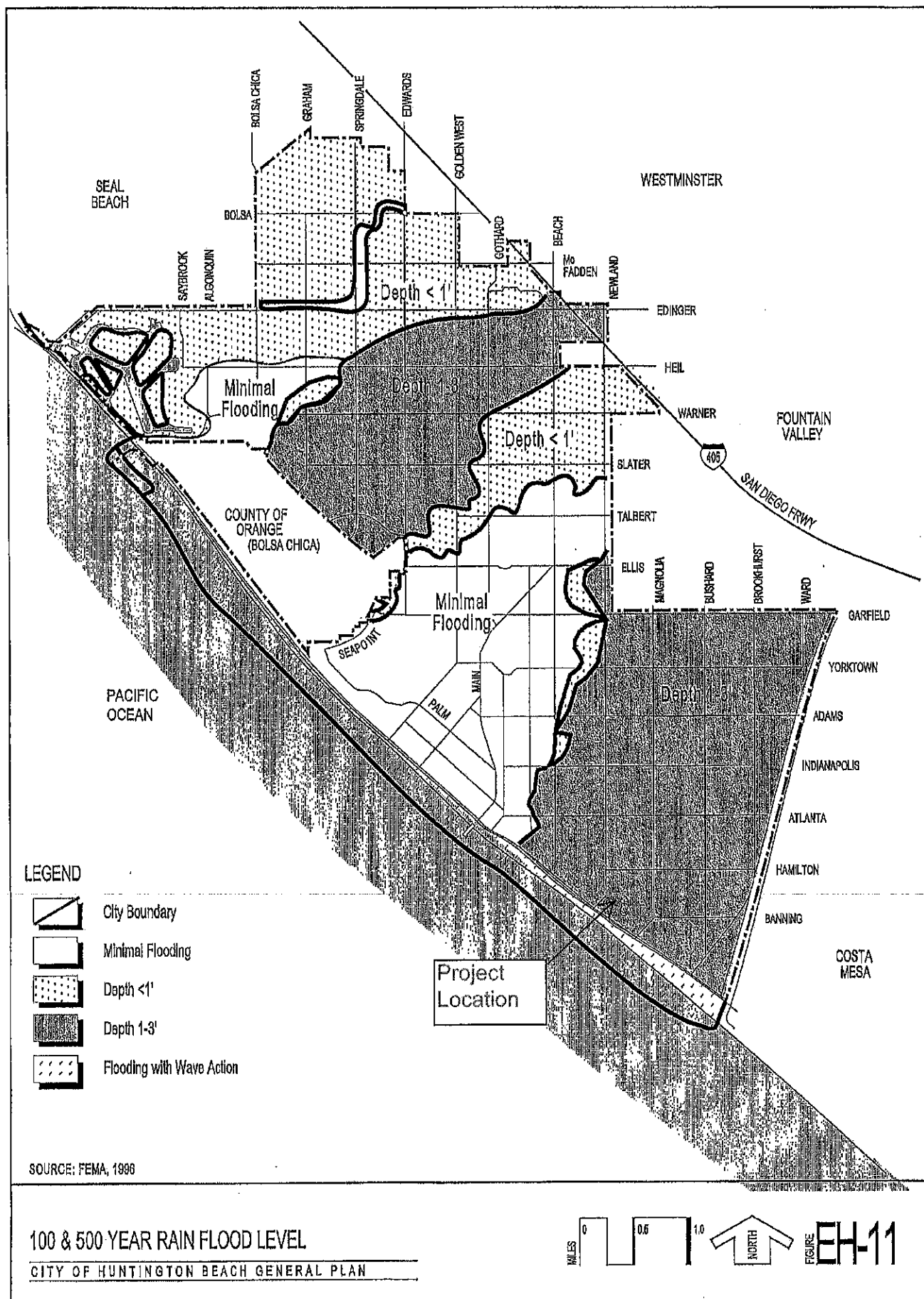
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



[United States Department of Commerce](#) | [National Oceanic and Atmospheric Administration](#) | [National Ocean Service](#)

[Contact Us](#) | [Privacy Policy](#) | [Link Disclaimer](#) | [USA.gov](#)

Exhibit No. 11  
A-5-HNB-10-225/E-06-007  
Poseidon Water







#### Legend



AE The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.



X Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. Are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.



AES Huntington Beach Generating Station



AES Huntington Beach Energy Project

0 250 500 Feet

Source: FEMA (2009)

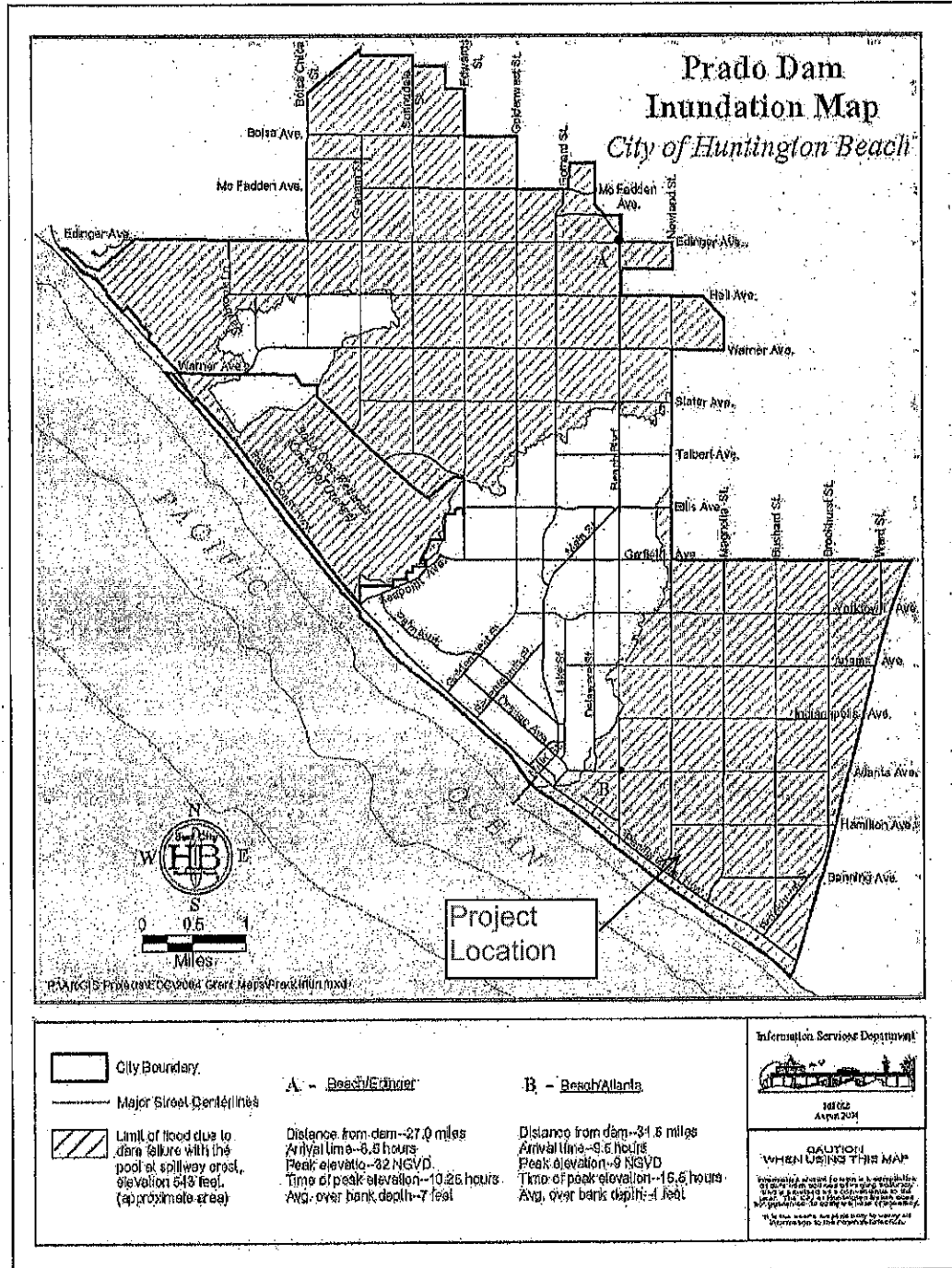
#### FIGURE 5.15-3 FEMA Floodplains

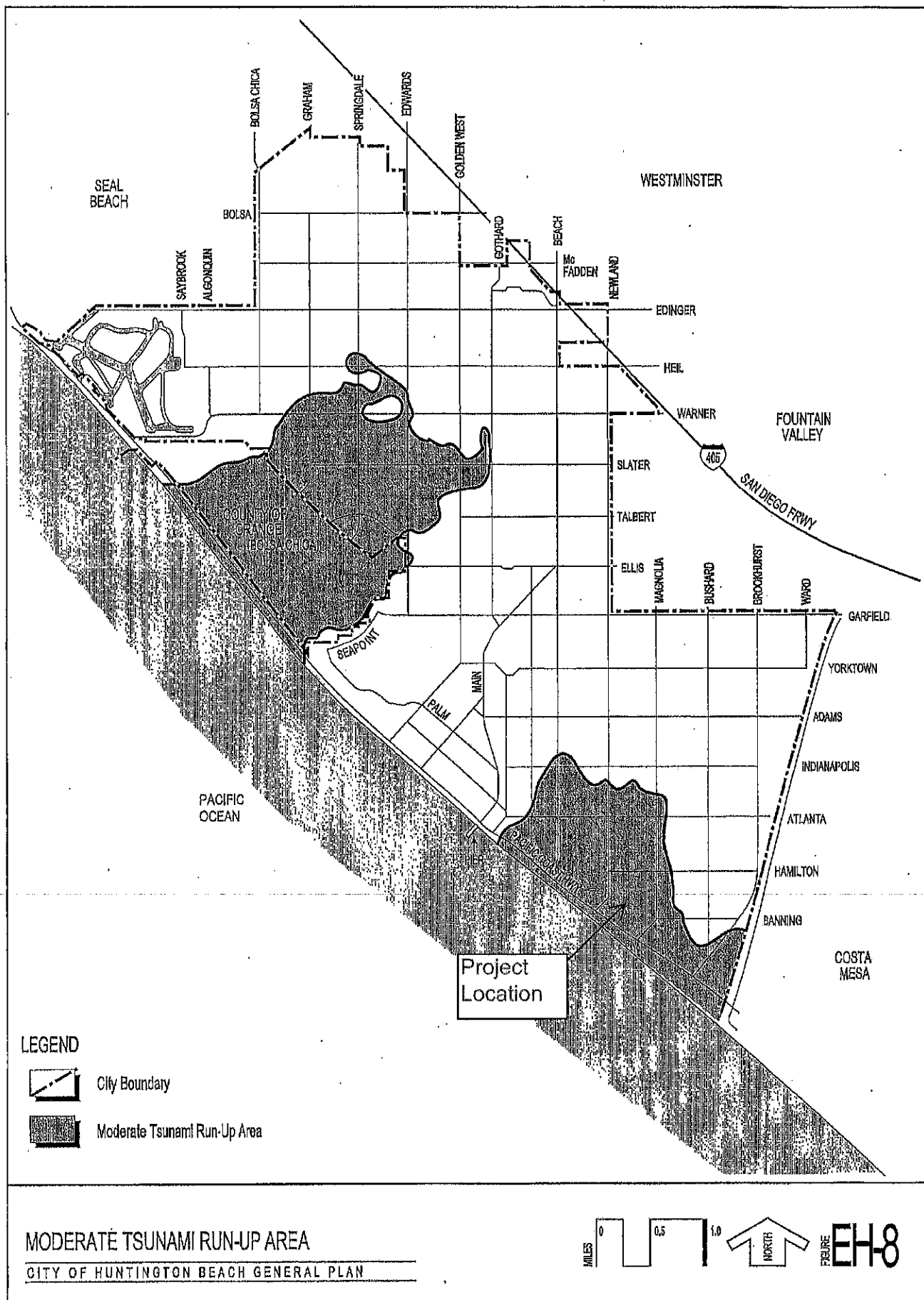
AES Huntington Beach Energy Project  
Huntington Beach, California

CH2MHILL

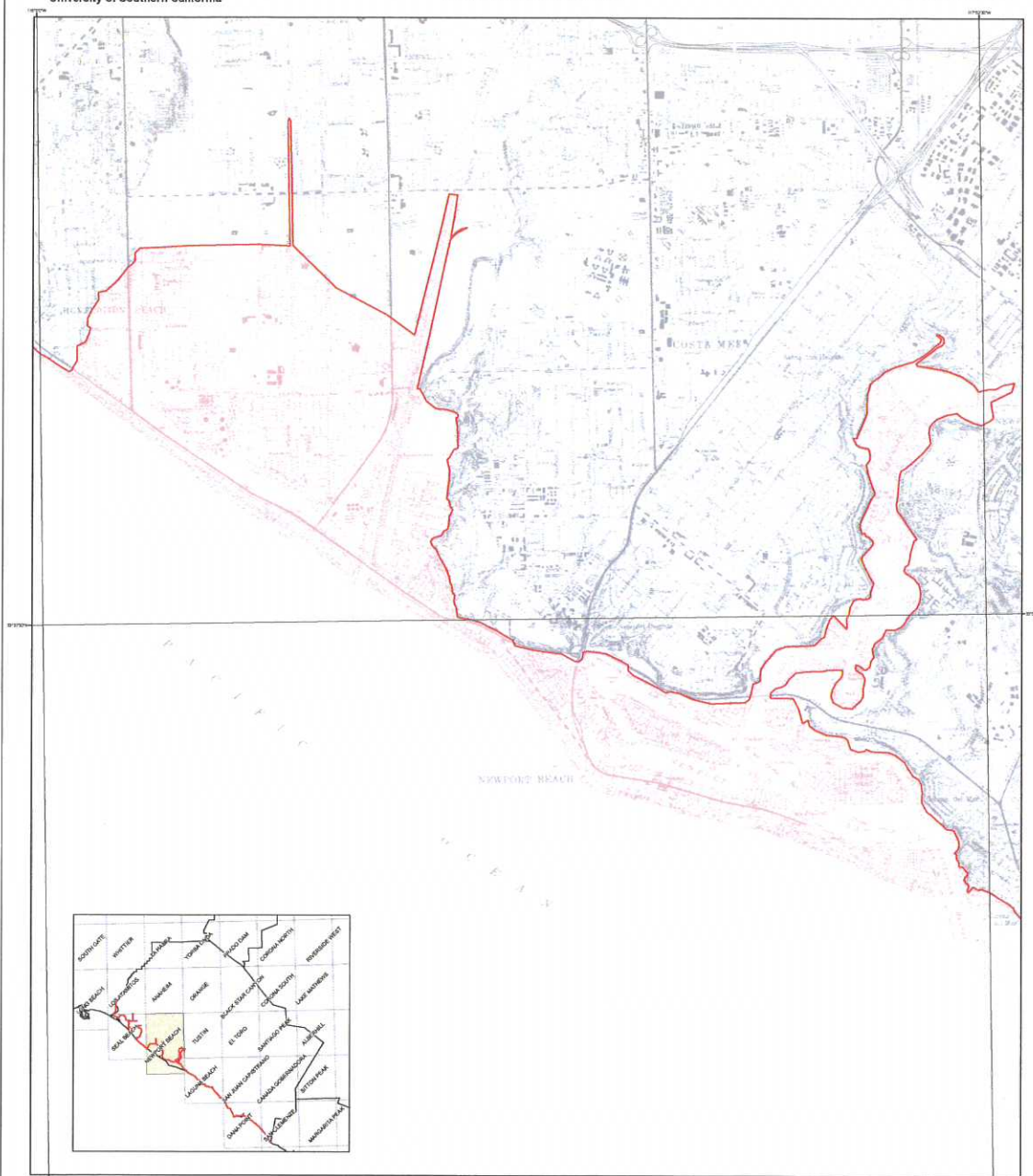


## Exhibit IV-D-2: City of Huntington Beach Prado Dam Inundation Map







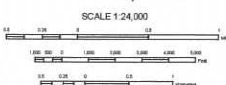


### MAP EXPLANATION

**State of California ~ County of Orange**

NEWPORT BEACH QUADRANGLE

March 15, 2009



The accuracy of the inundation line shown on these maps is subject to limitations in the accuracy and completeness of available terrain and tsunami source information, and the current understanding of tsunami generation and propagation phenomena as expressed in the models. Thus, although an attempt has been made to identify a credible upper bound to inundation at any location along the coastline, it remains possible that actual inundation could be greater in a major tsunami event.

This map does not represent inundation from a single scenario event. It was created by combining inundation results for an ensemble of source events affecting a given region (Table 1). For this reason, all of the inundation region in a particular area will not likely be inundated during a single tsunami event.

### References

Intermap Technologies, Inc., 2003, Intermap product handbook and quick start guide: Intermap NEXTmap document on 5-meter resolution data, 112 p.

Lander, J.F., Lovridge, P.A., and Kozuch, M.J., 1983, Tsunamis Affecting the West Coast of the United States 1906-1992. National Geophysical Data Center Key to Geophysical Record Documentation No. 29, NOAA, NESDIS, NGDC, 242 p.

National Atmospheric and Oceanic Administration (NOAA), 2004, Interferometric Synthetic Aperture Radar (ISAR) Digital Elevation Models from GeoStar platform (EarthData).

Tilov, V.V., and Gonzalez, F.J., 1997, Implementation and Testing of the Method of Tsunami Springing (MOST): NOAA Technical Memorandum ERL PMEL – 112, 11 p.

Tilov, V.V., and Synotskis, C.E., 1998, Numerical modeling of tidal wave runup: The Journal of Waterways, Port, Coastal and Ocean Engineering, ASCE, 124 (4), pp 157-171.

U.S. Geological Survey, 1993, Digital Elevation Models: National Mapping Program, Technical Instructions, Data Users Guide 5, 68 p.

### PURPOSE OF THIS MAP

This tsunami inundation map was prepared to assist cities and counties in identifying their tsunami hazard. It is intended for local jurisdictional, coastal evacuation planning uses only. This map, and the information presented herein, is not a legal document and does not meet disclosure requirements for real estate transactions nor for any other regulatory purpose.

The inundation map has been compiled with best currently available scientific information. The inundation line represents the maximum considered tsunami runup from a number of extreme, yet realistic, tsunami sources. Tsunamis are rare events; due to a lack of known occurrences in the historical record, this map includes no information about the probability of any tsunami affecting any area within a specific period of time.

Please refer to the following websites for additional information on the construction and/or intended use of the tsunami inundation map:

State of California Emergency Management Agency, Earthquake and Tsunami Program:  
<http://www.oes.ca.gov/WebPages/oeswebsite.nsf/Content/81EC>

51BA215931768825741F006E8D807OpenDocument

University of Southern California – Tsunami Research Center:  
<http://www.usc.edu/dept/tsunamis/2005/index.php>

State of California Geological Survey Tsunami Information:  
[http://www.conservation.ca.gov/cgs/geologic\\_hazards/Tsunami/index.htm](http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/index.htm)

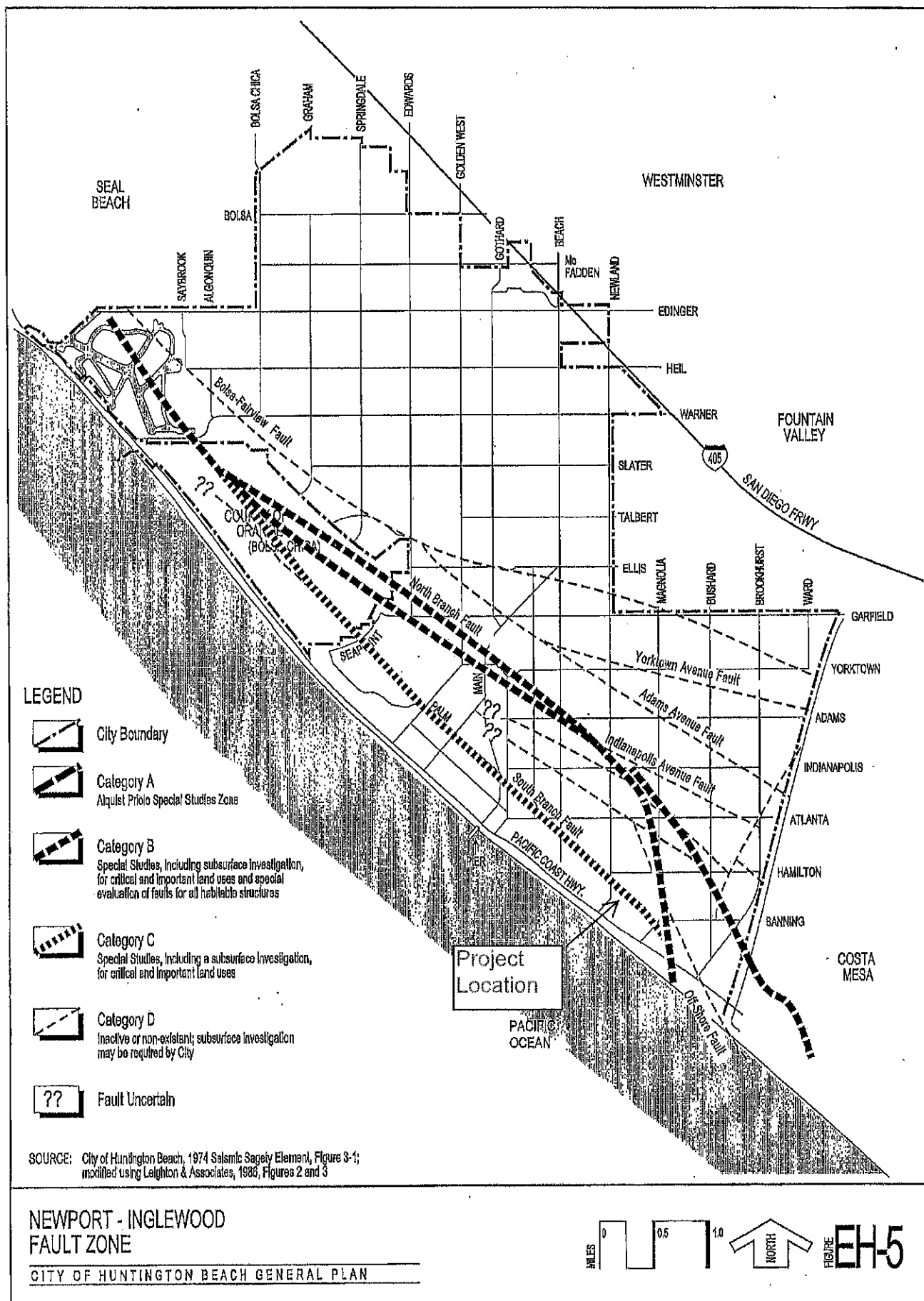
National Oceanic and Atmospheric Agency Center for Tsunami Research (MOST model): <http://oerf.noaa.gov/realtime/background/models.html>

## MAP BASE

Topographic base maps prepared by U.S. Geological Survey as part of the 7.5-minute Quadrangle Map Series (originally 1:24,000 scale). Tsunami inundation line boundaries may reflect updated digital orthophotographic and topographic data that can differ significantly from contours shown on the base map.

## DISCLAIMER

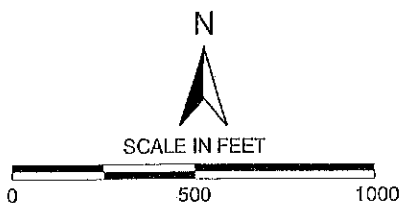
The California Emergency Management Agency (CalEMA), the University of Southern California (USC), and the California Geological Survey (CGS) make no representation or warranties regarding the accuracy of this inundation map nor the data from which it was derived. Neither the State of California nor USC shall be liable under any circumstances for any direct, indirect, special, incidental or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this map.



208356\_A2.DWG.....-M.T.



REFERENCE: GOOGLE EARTH AERIAL PHOTO, 2011.



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND

EXISTING DRAINAGE PROPOSED DRAINAGE

SITE BOUNDARY

**Ninyo & Moore**

**SITE AERIAL PHOTOGRAPH**

FIGURE

PROJECT NO.

DATE

HUNTINGTON BEACH GENERATING STATION

21730 NEWLAND STREET

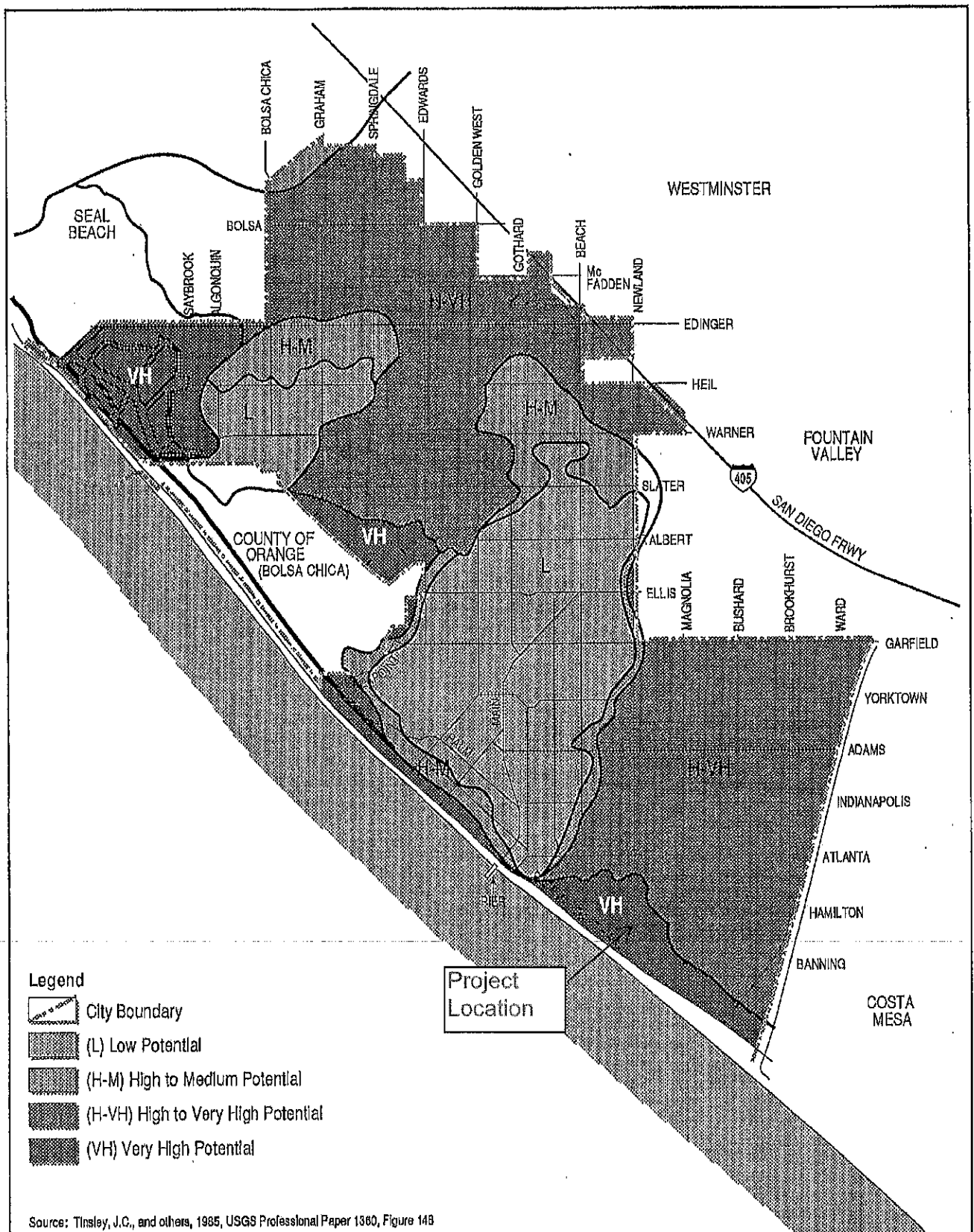
HUNTINGTON BEACH, CALIFORNIA

208356001

12/11

**2**





**LIQUEFACTION POTENTIAL**  
**CITY OF HUNTINGTON BEACH GENERAL PLAN**



# APPENDIX A



**Attachment 1**

**Applicant's Representatives**

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(203) 327-5563 Fax

[akingman@poseidon1.com](mailto:akingman@poseidon1.com)

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# **APPENDIX B**

## APPENDIX B – SUBSTANTIVE FILE DOCUMENTS

Bartak, Rico, Thomas Grischek, Kamal Ghodeif, and Chittaranjan Ray, *Beach Sand Filtration as Pre-Treatment for RO Desalination*, International Journal of Water Sciences, 2012.

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# APPENDIX C



# City of Huntington Beach

2000 Main Street • Huntington Beach, CA 92648

## OFFICE OF THE CITY CLERK

JOAN L. FLYNN

CITY CLERK

### NOTICE OF ACTION

September 23, 2010

Josie McKinley  
Poseidon Resources Corporation  
17011 Beach Blvd., #900  
Huntington Beach, CA 92647

RECEIVED

SEP 24 2010

Dept. of Planning  
& Building

**SUBJECT:** COASTAL DEVELOPMENT PERMIT (CDP) NO. 10-014 AND  
TENTATIVE PARCEL MAP. NO. 10-130 (POSEIDON SEAWATER  
DESALINATION PROJECT)

**APPLICANT:** Poseidon Resources Corporation, 17011 Beach Blvd., #900,  
Huntington Beach, CA 92647

**REQUEST:** CDP: To permit the construction and operation of a 50 million gallons per day seawater desalination project on a  $\pm 13$  acre site. The project includes up to  $\pm 4$  miles of water transmission lines ( $\pm 1$  mile in the Coastal Zone) in Huntington Beach to connect to an existing regional transmission system in Costa Mesa and a tentative parcel map to facilitate the development of the project. Concurrent with its consideration of Coastal Development Permit No. 10-014 the City Council shall consider rescission of Coastal Development Permit No. 02-05. Should the City Council approve Coastal Development Permit No. 10-014, that approval would replace the City Council's prior approval of Coastal Development Permit No. 02-05. TPM: To subdivide three parcels totaling  $\pm 19.5$  acres into four parcels to facilitate the development of the project.

**PROPERTY  
OWNERS:**

AES HB, LLC, 21730 Newland St., Huntington Beach, CA 92646; City of Huntington Beach, 2000 Main St., Huntington Beach, CA 92648

**LOCATION:** 21730 Newland (east side, south of Edison Avenue)

**DATE OF ACTION:** September 20, 2010

Dear Ms. McKinley:

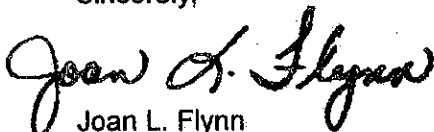
At a regular meeting held on Monday, September 20, 2010 the City Council of the City of Huntington Beach considered your application and took action to conditionally approve Coastal Development Permit (CDP) No. 10-14 and Tentative Parcel Map (TPM) No. 10-013 and rescind Coastal Development Permit No. 02-05. Attached to this letter are the findings and conditions of approval for this application.

This project is in the appealable portion of the coastal zone. Action taken by the City Council may be appealed directly to the Coastal Commission unless Title 14, Section 13573 of the California Administrative Code is applicable. Section 13573(a)(3) states that an appeal may be filed directly with the Coastal Commission if the appellant was denied the right of local appeal because local notice and hearing procedures for the development did not comply with the provisions of this article. If the above condition exists, an aggrieved person may file an appeal within ten (10) working days, pursuant to Section 30603 of the Public Resources Code, in writing to:

South Coast Area Office  
California Coastal Commission  
200 Oceangate, 10th Floor  
Long Beach, CA 90802-4302  
Attn: Theresa Henry  
(562) 590-5071

Provisions of the Huntington Beach Zoning and Subdivision Ordinance are such that any application becomes null and void one (1) year after final approval, unless actual construction has started. If you have any questions regarding this matter, please contact my office at (714) 536-5227.

Sincerely,



Joan L. Flynn  
City Clerk

Enclosure: Findings and Conditions of Approval: CDP No. 10-014/TPM No. 10-013  
Page 4 of the City Council Action Agenda for September 20, 2010

c: Scott Hess, Director of Planning and Building  
Mary Beth Broeren, Planning Manager  
Ricky Ramos, Senior Planner

FINDINGS AND CONDITIONS OF APPROVAL  
COASTAL DEVELOPMENT PERMIT NO. 10-014/  
TENTATIVE PARCEL MAP NO. 10-130

FINDINGS FOR APPROVAL - TENTATIVE PARCEL MAP NO. 10-130:

1. Tentative Parcel Map (TPM) No. 10-130 to subdivide three parcels totaling  $\pm 19.5$  acres into four parcels is consistent with the General Plan Land Use Element designation of P (Public) on the subject property, or any applicable specific plan, or other applicable provisions of this Code. As modified by conditions and code requirements TPM No. 10-130 proposes four parcels that will comply with all requirements of the General Plan and Huntington Beach Zoning and Subdivision Ordinance including, but not limited to, minimum lot size, lot width, and landscaping. The proposed parcels can adequately accommodate development consistent with the General Plan and zoning designations on the parcels.
2. The site is physically suitable for the type and density of development. As modified by conditions and code requirements the proposed parcels will comply with, among others, minimum lot size, lot width, and landscaping requirements within the PS (Public-Semipublic) zoning district. The proposed parcel configuration and topography are suitable for the proposed development.
3. The design of the subdivision or the proposed improvements will not cause serious health problems or substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat with the exception of significant unavoidable impacts relating to short term construction air quality impacts and growth inducing impacts outside of Orange County. Notwithstanding the foregoing, the City Council approves the tentative parcel map because Subsequent Environmental Impact Report (SEIR) No. 10-001 was prepared with respect to the project and a finding was made that specific economic, social or other considerations outweigh any impacts that cannot be avoided.
4. The design of the subdivision or the type of improvements will not conflict with easements, acquired by the public at large, for access through or use of, property within the proposed subdivision unless alternative easements, for access or for use, will be provided. There are no public access or use easements within the proposed parcel map.
5. The Final SEIR certified for the project on September 7, 2010 serves as adequate and appropriate environmental documentation for approval of TPM 10-130. The unavoidable significant adverse effects of the project as identified in Section 5.0 of the Statement of Facts and Findings (growth inducement outside of Orange County and short-term construction related impacts in regards to air quality) have been lessened in their severity by the application of standard code requirements, conditions, the inclusion of project design features and the imposition of the mitigation measures. The remaining unavoidable significant impacts are clearly outweighed by the economic, social, and other benefits of the project, as set forth in the "Statement of Overriding Considerations" included as Section 7.0 of the Statement of Facts and Findings. The City Council adopts the recitation of overriding considerations which justify approval of the project notwithstanding certain unavoidable significant environmental effects which cannot feasibly be substantially mitigated as set forth in the Statement of Overriding Considerations.

**FINDINGS FOR APPROVAL – COASTAL DEVELOPMENT PERMIT NO. 10-014 (REPLACING COASTAL DEVELOPMENT PERMIT NO. 02-05):**

1. Coastal Development Permit No. 10-014 to permit the construction and operation of a 50 million gallons per day seawater desalination project on a  $\pm 13$  acre site including up to  $\pm 4$  miles of water transmission lines ( $\pm 1$  mile in the Coastal Zone) in Huntington Beach to connect to a regional transmission system in Costa Mesa and Tentative Parcel Map No. 10-130 to facilitate the development of the project as proposed and modified by conditions of approval and code requirements, conforms to the General Plan, including the Local Coastal Program by implementation of the following Coastal Element goals, objective, and policies:

- a. Objective C1.1 (p. IV-C-106): Ensure that adverse impacts associated with coastal zone development are mitigated or minimized to the greatest extent feasible.

The project is consistent with this objective because all of the project's potential adverse impacts have either been mitigated or they have been minimized to the greatest extent feasible. This objective has been met on an impact-by-impact basis as demonstrated in the Subsequent EIR certified in connection with the project, as supported by substantial evidence in the record, and as documented in the Statement of Facts and Findings. The severity of certain adverse impacts (growth inducement outside of Orange County and short-term construction related impacts in regards to air quality) have been lessened by the application of standard code requirements, conditions, the inclusion of project design features and the imposition of mitigation, but it has not been feasible to minimize those impacts to a level of insignificance. Consequently, those impacts have been mitigated to the greatest extent feasible and a statement of overriding considerations has been adopted (see, Statement of Facts and Findings).

- b. Policy C1.1.1 (p. IV-C-106): With the exception of hazardous industrial development, new development shall be encouraged to be located within, contiguous or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services, and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.

The project is consistent with this policy because it is proposed on a site that is already developed and will be in close proximity to the existing Huntington Beach Generating Station and the Station's existing seawater intake which will be able to accommodate the project. Pipelines are proposed to be routed in existing street right-of-way and easements or other already developed areas.

- c. Policy C1.1.2 (p. IV-C-106): Coastal dependent developments shall have priority over other developments on or near the shoreline. Coastal-related developments should be accommodated within reasonable proximity of the coastal-dependent uses they support.

The project would be a coastal-dependent development because it would need to be sited on or adjacent to the sea in order to function at all. Seawater desalination facilities like the project fall within the Coastal Act's definition of coastal dependent because such facilities require "a site on, or adjacent to the sea" in order to draw seawater into the facility, which is the only source water that this project will use to produce potable desalinated water. The project's location adjacent to the existing Huntington Beach Generating Station and proximate to its existing seawater intake is consistent with

provisions in the Commission's 2004 report "Seawater Desalination and the California Coastal Act," which noted that desalination facilities sited near existing water distribution systems can mitigate potential adverse impacts and avoid additional infrastructure build out and growth that may be associated with such a build out. Further, seawater desalination facilities like the project are similar to other recognized coastal dependent uses that must be located adjacent to the sea to function, such as electric generating facilities, refineries, and offshore drilling for oil and gas. Thus, the project as located is consistent with this policy.

- d. Policy C 1.2.1 - Accommodate existing uses and new development in accordance with the Coastal Element Land Use Plan and the Development and Density Schedule Table C-1

The project is consistent with this policy because it is consistent with the Coastal Element Land Use Plan and Density Schedule.

- e. Policy C1.2.3 (p. IV-C-108): Prior to the issuance of development entitlement, the City shall make the finding that adequate services (i.e., water, sewer, roads, etc.) can be provided to serve the proposed development, consistent with the policies contained in the Coastal Element, at the time of occupancy.

The project is consistent with this policy because adequate services can be provided to serve the proposed development, consistent with the policies contained in the Coastal Element. Section 4.6 of the Subsequent EIR details the availability of all required public services for the proposed development.

The project will convey water to the regional distribution system through an approximately 10 mile pipeline including four miles of new pipeline in the City of Huntington Beach. The portions of the pipeline in the City will be built in the public street right of way and is subject to the terms in the pipeline Franchise Agreement between Poseidon Resources and the City of Huntington Beach and approved by the Huntington Beach City Council on September 7, 2010. Connection to the regional distribution system through the City of Costa Mesa will utilize an existing water pipeline known as the OC-44, which will be upgraded to a 48 to 54 inch diameter pipe. The OC-44 pipeline is jointly owned by the City of Huntington Beach and the Mesa Consolidated Water District.

- f. Objective C3.1 (p. IV-C-113): Preserve, protect and enhance, where feasible, existing public recreation sites in the Coastal Zone.

The project is consistent with this objective because, as discussed in Section 4.10 of the Subsequent EIR, the limited area affected by salinities caused by the project that are higher than 40 ppt would not represent substantial ecological effects or degradation of water quality due to the absence of areas of special biological significance or the presence of threatened or endangered species. Specifically, benthic areas affected by project discharge do not support sensitive species, species that encounter elevated salinity will have very low exposure times, foraging areas affected would not be substantial, and no threatened or endangered species or kelp beds exist within the vicinity of the existing outfall. Furthermore, fishes with high commercial or recreational importance are very uncommon in the intake source water. In addition, the project is anticipated to



**have a negligible impact on parks and recreation facilities, and will be required to pay development impact fees prior to the issuance of grading permits. (See Subsequent EIR Section 4.6.)**

- g. Policy C4.2.1 (p. IV-C-119): Ensure that the following minimum standards are met by new development in the Coastal Zone as feasible and appropriate: Preservation of public views to and from the bluffs, to the shoreline and ocean and to the wetlands; Adequate landscaping and vegetation; Evaluation of project design regarding visual impact and compatibility; and Incorporate landscaping to mask oil operations and major utilities, such as the electrical power plant on Pacific Coast Highway.

The project is consistent with this policy because the project plans include a number of measures to minimize adverse visual effects of the proposed facility. The facility would be comprised of relatively low profile buildings reaching approximately 35 feet above the existing grade, which is below the 50-foot height limitation specified in the Zoning Code. The overall appearance would be similar to a commercial office building. As part of the facility design, both vegetative and architectural screening has been added to ensure that exposed pipelines, tanks, and other utility-type equipment are screened from public view. The project would not significantly affect the scenic and visual qualities of the surrounding coastal areas and has been sited and designed to protect public views to and along the ocean and scenic coastal areas, such that it is visually compatible with the character of surrounding areas.

- h. Objective C 4.7 - Improve the appearance of visually degraded areas within the Coastal Zone.

The project is consistent with this objective because it will be an improvement to the area by demolishing three 40-foot high fuel storage tanks. The new proposed structures are more compatible with the surroundings because they are lower in height and have a more attractive design consistent with the General Plan and Design Guidelines. The project is required to provide a 10 foot (Edison) and 20 foot (Newland) landscape planter along the perimeter of the site to enhance the appearance of the area.

- i. Policy C4.7.5 (p. IV-C-122): Require the review of new and/or expansions of existing industrial and utility facilities to ensure that such facilities will not visually impair the City's coastal corridors and entry nodes.

The project is consistent with this policy because the project will result in the demolition of three 40-foot high fuel storage tanks. The new proposed structures are more compatible with the surroundings because they are lower in height and have a more attractive design consistent with the General Plan and Design Guidelines. Proposed pipeline facilities are located within the coastal zone; however consistent with the Local Coastal Program, the facilities would be located below grade to ensure that such facilities will not visually impair the City's coastal corridors and entry nodes.

- j. Policy C4.7.8 (p. IV-C-122): Require landscape and architectural buffers and screens around oil production facilities and other utilities visible from public rights-of-way.

The project is consistent with this policy because exterior berms will remain in place, landscaping is proposed along the Edison and Newland project frontages and architectural screening is provided for proposed tanks and structures.

- k. Policy C4.7.9 (p. IV-C-122): Require the removal of non-productive oil production facilities and the restoration of the vacated site.

The project will replace a dilapidated fuel oil storage tank and will restore the site, substantially improving the existing visual character of the site.

- l. Policy C6.1.1 (p. IV-C-124): Require that new development include mitigation measures to enhance water quality, if feasible; and, at a minimum, prevent the degradation of water quality of groundwater basins, wetlands, and surface water.

The project is consistent with this policy because it is subject to mitigation measures relating to water quality. The Subsequent EIR contains a number of mitigation measures designed to prevent the degradation of and enhance water quality in groundwater basins, wetlands, surface water and product water. These mitigation measures are contained in the Subsequent EIR.

As provided in Section 4.3 of the Subsequent EIR, the project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, or contribute significant increases in the flow velocity or volume of stormwater runoff to cause environmental harm, or provide substantial additional sources of polluted runoff.

The project also will enhance water quality by removing bacteria from source water. In addition, the Project further will enhance water quality by reducing thermal footprint of the discharge from the power plant during the co-located operating condition. Moreover, neither the Project's discharge of trace amounts of cleaning compounds nor the slightly increased salinity levels in the area will degrade the quality of ocean water surrounding the existing Huntington Beach Generating Station and the proposed desalination facility. The desalination facility will clean its reverse osmosis membranes with chemicals that are analogous to household cleaners. The initial rinse of the membrane cleaning solution will be treated at a wastewater treatment facility, and only the second rinse, which will contain trace amounts of cleaning compounds below detection limits for hazardous waste, will be discharged into the ocean after it is thoroughly diluted in water. As concluded in Appendix R to the Subsequent EIR (RO Membrane Cleaning Solution Discharge Test Stream Data), even before dilution, the vast majority of the chemicals within the membrane cleaning solution would be either below detection levels or regulatory limits. Dilution of these substances will even further minimize the already less than significant impacts on the local marine environment.

The Subsequent EIR analyzed the potential impacts of the project on ocean water quality. Based on the analysis contained in the Subsequent EIR, no mitigation measures are required to protect or enhance ocean water quality. (See SEIR Section 4.10.) Specifically, the Subsequent EIR found that there would be no degradation of water quality and there was not a reasonable potential for acute toxicity effects to occur at or below a seawater concentration of 40 ppt. The slightly elevated salinity level of the project's seawater discharge in the co-located operating scenario achieves compliance with the project's approved NPDES Order No. R8-2006-0034 and the standards established in the Order and the water quality objectives established within the Ocean Plan. NPDES Order No. R8-2006-0034 establishes a 1,000 foot Zone of Initial Dilution (ZID) and a dilution factor of 7.5:1 or greater that must be met at the edge of the ZID. Further, most marine species in

the water around Huntington Beach are also found in geographic regions that naturally have a salinity range comparable to or greater than what is predicted in the ZID. See Appendix O to EIR (Marine Biological Considerations Related to the Reverse Osmosis Desalination Project at the Applied Energy Sources Huntington Beach Generation Station).

The stand-alone operating condition would comply with the standards and 7.5:1 dilution factor established in Order No. R8-2006-0034 and comply with Ocean Plan standards. Similar to the co-located condition, the limited area affected by salinities higher than 40 ppt would not represent substantial ecological effects or degradation of water quality due to the absence of areas of special biological significance or the presence of threatened or endangered species.

Further, dewatering discharge during project construction would be directed to a desilting system, and would be sampled and tested periodically to ensure compliance with all NPDES regulations and with *De minimus* Permit requirements (Order No. R8-208-0003 (CAG 9980)). Should contaminated groundwater be encountered, mitigation measures require groundwater remediation prior to any discharge into the sanitary sewer system. The maximum dewatering volume associated with desalination facility construction will be over five times smaller than the groundwater "draw" volume associated with natural daily tidal fluctuations to which the wetlands are exposed. Despite the fact that it is highly unlikely for dewatering operations to have an effect on the nearby wetlands and structures, a monitoring well system will be installed and operated for the duration of the project construction period in order to ascertain that construction activities do not have any measurable impacts on groundwater quality or levels outside of the boundaries of the desalination facility site. The measured water level will be compared to the water level in a control groundwater monitoring well that is outside of the desalination facility site in order to confirm that groundwater level in the wetlands is not influenced by the dewatering operations. Thus, dewatering activities due to project construction are not anticipated to have significant impacts in regards to hydrogeology and water quality.

- m. Policy C6.1.2 (p. IV-C-124): 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.

The project is consistent with this policy because, as discussed in Section 4.10 of the Subsequent EIR, the limited area affected by salinities caused by the project that are higher than 40 ppt would not represent substantial ecological effects or degradation of water quality due to the absence of areas of special biological significance or the presence of threatened or endangered species. Specifically, benthic areas affected by project discharge do not support sensitive species, species that encounter elevated salinity will have very low exposure times, foraging areas affected would not be substantial, and no threatened or endangered species or kelp beds exist within the vicinity of the existing outfall. Thus, there are no areas or species requiring special protection.

Studies of desalination facility entrainment and impingement analyzed in Section 4.10 of the Subsequent EIR also show that the project will result in less than significant entrainment and impingement impacts and therefore will not conflict with this policy. The most frequently entrained species by the existing Huntington Beach Generating station are very abundant in the area of the Huntington Beach

**Generating Station intake and the Southern California Bight, and therefore actual ecological effects due to any additional entrainment from the desalination facility under co-located operating conditions are insignificant, and the loss of marine organisms due to the project's potential entrainment will have no effect on the species' ability to sustain their populations. Moreover,** species with high commercial and recreational importance, such as California halibut and rockfishes, were shown to be very uncommon in the Huntington Beach Generating Station intake flows, and therefore the project would not adversely impact species of special significance. Project entrainment under stand-alone conditions is similarly less than significant and impacts on marine organisms resulting from the project are relatively small, would not substantially reduce populations of affected species, or affect the ability of the affected species to sustain their populations.

With respect to impingement, under co-located operating conditions the project would not increase the volume or velocity of the existing Huntington Beach Generating Station cooling water intake and thus would not increase the number of impingement losses caused by that intake and would avoid impingement impacts that would result from the implementation of a new intake structure. Under stand-alone operating conditions, the project would result in an estimated average daily impingement of 0.9 pounds per day, which is less than the daily diet of one brown sea. For the Carlsbad Desalination Project, Coastal Commission determined of impingement of more than twice this amount was de minimus and insignificant. The Huntington Beach Generating Station's existing velocity cap and bar racks on the Huntington Beach Generating Station intake would remain in place during stand-alone operating conditions, which serve to substantially reduce impingement of marine mammals and sea turtles. Studies on the effectiveness of the HBGS' velocity cap have shown impingement reductions as high as 90%<sup>1</sup>. Based on impingement measurements discussed in Section 4.10 of the Subsequent EIR, project impingement would not result in substantial reductions in fish or shellfish operations, and it is not anticipated that project impingement losses would have any effects on the ability of impinged species to sustain their populations. Moreover, the project is not within an Area of Special Biological Significance, and the low flows projected for the stand-alone operating condition indicate that stand-alone project impingement may be lower than impingement caused by existing Huntington Beach Generating Station operations.

- n. Policy C6.1.3 (p. IV-C-124): 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.

The project is consistent with this policy because, as discussed in Section 4.10 of the Subsequent EIR, **the limited area affected by salinities caused by the project that are higher than 40 ppt would not represent substantial ecological effects or degradation of water quality due to the absence of areas of special biological significance or the presence of threatened or endangered species. Specifically, benthic areas affected by project discharge do not support sensitive species, species that encounter elevated salinity will have very low exposure times, foraging areas affected would not be substantial, and no threatened or endangered species or kelp beds exist within the vicinity of the existing outfall.**

<sup>1</sup>Water Quality Control Policy for the use of Coastal and Estuarine Waters for Power Plant Cooling, Final Substitute Environmental Document (SED pg. 100)

Furthermore, fishes with high commercial or recreational importance are very uncommon in the intake source water.

Studies of desalination facility entrainment and impingement analyzed in Section 4.10 of the Subsequent EIR also show that the project will result in less than significant entrainment and impingement impacts and therefore will not conflict with this policy. The most frequently entrained species by the existing Huntington Beach Generating station are very abundant in the area of the Huntington Beach Generating Station intake and the Southern California Bight, and therefore actual ecological effects due to any additional entrainment from the desalination facility under co-located operating conditions are insignificant, and the loss of marine organisms due to the project's potential entrainment will have no effect on the species' ability to sustain their populations. Moreover, species with high commercial and recreational importance, such as California halibut and rockfishes, were shown to be very uncommon in the Huntington Beach Generating Station intake flows, and therefore the project would not adversely impact species of special significance. Project entrainment under stand-alone conditions is similarly less than significant and impacts on marine organisms resulting from the project are relatively small, would not substantially reduce populations of affected species, or affect the ability of the affected species to sustain their populations.

With respect to impingement, under co-located operating conditions the project would not increase the volume or velocity of the existing Huntington Beach Generating Station cooling water intake and thus would not increase the number of impingement losses caused by that intake and would avoid impingement impacts that would result from the implementation of a new intake structure. Under stand-alone operating conditions, the project would result in an estimated average daily impingement of 0.9 pounds per day, which is less than the daily diet of one brown sea pelican. For the Carlsbad Desalination Project, Coastal Commission determined of impingement of more than twice this amount was de minimus and insignificant. The Huntington Beach Generating Station's existing velocity cap and bar racks on the Huntington Beach Generating Station intake would remain in place during stand-alone operating conditions, which serve to substantially reduce impingement of marine mammals and sea turtles. Studies on the effectiveness of the HBGS' velocity cap have shown impingement reductions as high as 90%<sup>2</sup>. Based on impingement measurements discussed in Section 4.10 of the Subsequent EIR, project impingement would not result in substantial reductions in fish or shellfish operations, and it is not anticipated that project impingement losses would have any effects on the ability of impinged species to sustain their populations. Moreover, the project is not within an Area of Special Biological Significance, and the low flows projected for the stand-alone operating condition indicate that stand-alone project impingement may be lower than impingement caused by existing Huntington Beach Generating Station operations.

Thus, healthy populations of all species of marine organisms that may be affected by project operations would be maintained.

- o. Policy C6.1.4: The biological productivity and the quality of coastal waters, streams, wetlands, estuaries and lakes appropriate to maintain organisms and for the protection of human health shall be maintained, and where feasible, restored.

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<sup>2</sup> Ibid.

The project is consistent with this policy because, as provided in the findings for Policies C6.1.1 and 6.1.3, the project would not degrade water quality or adversely affect biological productivity.

- p. Policy C6.1.12 (p. IV-C-127): Periodically review the City's policies on water conservation, including the Water Conservation Ordinance, to ensure the use of state of the art conservation measures for new development and redevelopment, and retrofitting of existing development, where feasible and appropriate, to implement these measures.

The project is consistent with this policy because as a user of potable water provided by the City of Huntington Beach, the project must comply with all applicable requirements of the Water Conservation Ordinance. (See Municipal Code Chapter 14.18.)

- q. Policy C6.1.13 (p. IV-C-127): Encourage research and feasibility studies regarding ocean water desalinization as an alternative source of potable water. Participate in regional studies and efforts where appropriate.

The project does not conflict with this policy as it is a seawater desalination facility intended to provide an alternative source of potable water.

- r. Policy C6.1.19 (p. IV-C-128): 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.

Application of CEQA significance thresholds results in a determination that the seawater desalination facility would not cause significant adverse impacts to marine life due to entrainment when it operates in either the co-located operating condition, or in the stand-alone operating condition. Sections 30230 and 30231 of the California Coastal Act (Coastal Act) require generally that marine resources be maintained, enhanced, and where feasible, restored. They also require that the marine environment be used in a manner that sustains biological productivity and maintains healthy populations of all marine species. The Subsequent EIR concluded that under either the co-located or stand-alone operating condition that the desalination project would not substantially reduce populations of affected species such that the sustainability of the affected species could not be maintained. As discussed in Section 4.10 of the Subsequent EIR, the most frequently entrained species by the existing Huntington Beach Generating station are very abundant in the area of the Huntington Beach Generating Station intake and the Southern California Bight, and therefore actual ecological effects due to any additional entrainment from the desalination facility under co-located operating conditions are insignificant, and the loss of marine organisms due to the project's potential entrainment will have no effect on the species' ability to sustain their populations. Project entrainment under stand-alone conditions is similarly less than significant and impacts on marine organisms resulting from the project are relatively small, would not substantially reduce populations of affected species, or affect the ability of the affected species to sustain their populations. Further, there are no threatened or endangered species in the desalination project's source water and the project is not within an Area of Special Biological Significance. Therefore, it is not anticipated that the project would conflict with these policies or the LCP.

It should also be noted that the existing Huntington Beach Generating Station intake is fitted with a velocity cap and bar racks which serve to substantially reduce impingement effects, as noted in the discussion of project design features in Subsequent EIR Section 3.4. These features serve to avoid impingement of larger fishes and organisms such as marine mammals and sea turtles, and would remain in place. Therefore it is not anticipated that impingement of marine mammals or sea turtles would result from operation of the desalination facility. Studies on the effectiveness of the HBGS' velocity cap have shown impingement reductions as high as 90%<sup>3</sup>. Thus it is not anticipated that the project would conflict with provisions of the Water Code requiring that new industrial facilities using seawater for processing must use the best available site, design, technology and mitigation feasible to minimize intake and mortality of marine life. (See Water Code Section 13142.5(b).)

- s. Policy C7.1.3 (p. IV-C-129): Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

The project has been intentionally located, and additional mitigation measures have been crafted, to avoid any significant environmental impacts to the Magnolia Marsh wetland area situated to the southeast of the project site. (See SEIR Section 4.9.) The project will be separated from coastal wetlands by significant setbacks and existing containment berms, which will keep storm water onsite. In addition, the desalination facility will feature an onsite local storm water drainage system, which will include catch basins that will collect any potential runoff that is contained by the existing berms and then direct it to a storm water pump via gravity lines. The project is conditioned to incorporate applicable Best Management Practices in order to contain stormwater runoff and will be in compliance with all standards as administered by the State Water Resources Control Board and County of Orange. Further, the project will be graded so that all onsite stormwater will flow away from the wetland area and toward the local drainage system. Any outdoor lighting will have limited intensity and be directed away from the sky and adjacent wetlands.

The project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, or contribute significant increases in the flow velocity or volume of stormwater runoff to cause environmental harm, or provide substantial additional sources of polluted runoff. (See SEIR Section 4.3.) Although no significant impacts have been identified, mitigation measures ensure adequate sizing and design of the stormwater drainage system.

Accordingly, the project is consistent with this policy because it includes significant setbacks from the areas discussed in this policy, is further buffered by existing berms and proposed landscaping, and is subject to mitigation measures to ensure that runoff will not adversely affect these areas. In addition, pipelines are proposed to be routed in existing street right-of-way and easements or other already developed areas.

- t. Policy C7.1.4 (p. IV-C-130): Require that new development contiguous to wetlands or environmentally sensitive habitat areas include buffer zones. Buffer zones shall be a

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<sup>3</sup> Ibid.



minimum of one hundred feet setback from the landward edge of the wetland, with the exception of the following:

A lesser buffer may be permitted if existing development or site configuration precludes a 100-foot buffer, or conversely, a greater buffer zone may be required if substantial development or significantly increased human impacts are anticipated. In either case, the following factors shall be considered when determining whether a lesser or wider buffer zone is warranted. Reduced buffer zone areas shall be reviewed by the Department of Fish and Game prior to implementation. (a) Biological significance of adjacent lands: The buffer should be sufficiently wide to protect the functional relationship between wetland and adjacent upland. (b) Sensitivity of species to disturbance: The buffer should be sufficiently wide to ensure that the most sensitive species will not be disturbed significantly by permitted development, based on habitat requirements of both resident and migratory species and the short and long term adaptability of various species to human disturbance. (c) Susceptibility of parcel to erosion: The buffer should be sufficiently wide to allow for interception of any additional material eroded as a result of the proposed development based on soil and vegetative characteristics, slope and runoff characteristics, and impervious surface coverage. (d) Use of existing cultural features to located buffer zones: The buffer zone should be contiguous with the environmentally sensitive habitat area and make use of existing features such as roads, dikes, irrigation canals, and flood control channels where feasible.

The project is consistent with this policy because it adheres to all of the minimum setback requirements included in Policy C7.1.4. A buffer zone in excess of 100 feet is not warranted because the proposed development is not substantial. Rather it is limited to the buildings, tanks, pipelines and appurtenances described in Section 3.4 of the Subsequent EIR which include project design features agreed to by the applicant (for example, noise attenuation features). Likewise, human impacts have not been significantly increased by the project because the proposed desalination facility would only employ an approximate total of 18 people. None of the factors that could result in requiring a greater buffer zone are present. The buffer zone provided by the project is sufficiently wide to protect the functional relationship between the nearby wetland and the upland, to protect the most sensitive species and to intercept any material eroded as a result of the proposed development. The buffer zone provided by the project makes use of existing features including without limitation the existing flood control channel and existing containment berms. Finally, even though a buffer zone in excess of 100 feet is not warranted, due to the project location the buffer zone provided by the project often exceeds 100 feet.

- u. Policy C7.1.5 (p. IV-C-130): Notify county, state, and federal agencies having regulatory authority in wetlands and other environmentally sensitive habitats when development projects in and adjacent to such areas are submitted to the City. The implementation of any Habitat Conservation Plan shall require an amendment to the Local Coastal Program. Incidental take of sensitive habitat and/or species that occurs in the context of development must be consistent with this LCP.

The project does not conflict with this policy because it does not propose any development in wetlands or environmentally sensitive habitats, and would not result in the incidental take of sensitive habitats or species.

- v. Goal C8 (p. IV-C-131): Accommodate energy facilities with the intent to promote beneficial effects while mitigating any potential adverse effects.

As part of this Coastal Development Permit and Poseidon's related entitlement applications, the project was reconfigured to accommodate potential future plans for the existing power plant either to expand or to switch to a different cooling system. Accordingly, the project does not conflict with this goal, because the project was reconfigured to accommodate the existing energy facility.

- w. Policy C8.2.4 (p. IV-C-132): Accommodate coastal dependent energy facilities within the Coastal Zone consistent with Sections 30260 through 30264 of the Coastal Act.

The project is not an energy facility. The project is co-located with the existing Huntington Beach Generating Station. As provided in the finding for LCP Goal C8, the project was reconfigured to accommodate an existing energy facility and thus does not conflict with this policy.

- x. Policy C8.3.1 (p. IV-C-133): Promote the use of solar energy and encourage energy conservation.

The project is consistent with this policy because the desalination facility buildings would accommodate potential solar panels on a roof surface of approximately 39,000 square feet, with the potential to generate approximately 606 MWh/yr of electricity. Moreover, the proposed project would incorporate high-efficiency design, green building design and would reduce energy that would otherwise be needed to pump 56,000 acre feet of water per year into Orange County. The project's Energy Minimization and Greenhouse Gas Reduction Plan specifically requires the desalination facility to incorporate on-site energy minimization features including numerous Project components designed to ensure that the Project will use only the minimum energy necessary. These include energy efficiency measures like the state of the art "pressure exchanger" energy recovery technology that allows recovery and reuse of 33.9% of the energy associated with desalination's reverse osmosis process, as well as high efficiency and premium efficiency motors and variable frequency drives on the intake water pumps to improve their efficiency. In addition, the project would avoid 175,000 MWh/yr of electricity consumption that would otherwise be required to deliver imported water to serve Orange County customers, and the Energy Minimization and Greenhouse Gas Reduction Plan requires Poseidon to entirely offset the project's net GHG emissions above the existing baseline for this water importation so that the project will not cause an increase in GHG emissions above the existing baseline. These energy minimization measures will reduce impacts to coastal resources that would have been caused through additional energy usage, and will minimize energy consumption consistent with Coastal Act section 30253(4) and other applicable Coastal Act and LCP policies. The features of the project's Energy Minimization and Greenhouse Gas Reduction Plan are consistent with the plan approved by the Coastal Commission as part of Poseidon's Carlsbad desalination plant's Coastal Development Permit.

- y. Policy C10.1.4 (p. IV-C-136): Require appropriate engineering and building practices for all new structures to withstand ground shaking and liquefaction such as those stated in the Uniform Building Code.

The project is consistent with this policy because it adheres to all appropriate and applicable building standards related to ground shaking and liquefaction.

The proposed desalination project is located within an unused fuel oil storage tank facility constructed in 1961 and formerly owned and operated by Southern California Edison. In addition to the proposed desalination facility site, the proposed project would also include several related off-site improvements, including tie-in pipelines between the existing Huntington Beach Generating Station condenser cooling water discharge system and the proposed desalination project, modifications to an existing pump station and up to approximately 4 miles of product water delivery pipelines within the city. The intake/discharge pipelines would be located entirely within the existing Huntington Beach Generating Station site. The majority of the product water delivery pipeline would be located within existing public streets, easements, or other rights-of-way in urban areas. As such, the proposed new development is located within existing developed areas.

The proposed use is consistent with the Coastal Element Land Use Plan designation of P (Public) for the site because it will produce potable water for other water suppliers to distribute to the public, and it is a use that is similar to governmental administrative and related facilities. Even though Poseidon will not be regulated by the Public Utilities Commission, Poseidon will sell the output of the desalination facility through wholesale contracts with retail water providers that are regulated by the state, public water agencies, and municipalities. Therefore, and as the City Planning and Building Department determined in a letter dated February 6, 2006, because the facility will be a wholesale supplier to regulated utilities, public water agencies and municipalities, and will provide much-needed water services to the public, it is properly classified as a public/semi-public use. Typical permitted uses within areas of the P (Public) designation include governmental administrative and related facilities, such as utilities, schools, public parking lots, infrastructure, religious, and similar uses. As the City Planning and Building Department has previously determined, use of the words and phrases "such as" and "similar uses" provides evidence of an intent to provide for other land uses not explicitly listed under this category; therefore, the uses listed under Public (P) are not exclusive, but are examples. As an example, the Huntington Beach Generating Station site, which is also designated as Public (P), is an industrial electrical generating station that is not specifically cited in the list of permitted uses, but is nonetheless consistent with the General Plan designation. Thus, the desalination facility is compatible and consistent with the Land Use Plan designation of P (Public). In addition, the desalination facility site is zoned as Public-Semipublic with Oil and Coastal Zone Overlays (PS-O-CZ). This designation provides for similar uses to those allowed by the City of Huntington Beach General Plan. Included under Section 204.08(R) of the City's zoning code as acceptable uses under this zoning designation are "water or wastewater treatment plants... and similar facilities of public agencies or public utilities" (City of Huntington Beach 1997). As of September 6, 2005, the Director of Planning and Building had determined pursuant to his authority under Section 204.02 of the zoning code that the desalination project is consistent with this zoning designation. Thus, the proposed use is compatible and consistent with the Coastal Element Land Use Plan and the Zoning and Subdivision Ordinance, as well as with properties immediately surrounding the subject site and meets the requirements of the Land Use Plan and the Development and Density Schedule.

The project will improve the appearance of the area by demolishing three existing unused 40-foot high fuel storage tanks and replacing them with lower profile, modern,

and more attractive structures. The proposed structures vary in height from a maximum of 35 feet for the water tank to a minimum of 12 feet high for the ammonia tank. The proposed desalination project will not impact public views to the coast. There are limited views across the Huntington Beach Generating Station site due to the height of the existing structures. However, views will be improved to the extent that the new proposed desalination project structures will have a lower profile than the existing fuel storage tanks proposed to be demolished. A 10 foot and 20 foot planter along the street frontage on Edison and Newland respectively will further improve the appearance of the project with attractive landscaping.

As conditioned, the project is required to prepare a final landscaping plan along Edison Avenue for approval by the Design Review Board that is consistent in design, colors and materials with the landscaping for Huntington Beach Generating Station for a cohesive appearance. In addition, the conditions of approval for the project require compliance with landscaping requirements for the project site, and that landscaping along the Newland and Edison lease area street frontages include the densest type and number of trees to provide the most effective screening possible, which must be maintained to the approval of the City Landscape Architect. Landscaping within the eastern portion of the site will consist of native wetlands planting for compatibility with the wetlands to the southeast.

In addition, the bottom portion of the structures will be hidden behind the existing berm along the perimeter. As noted above, the proposed structures are in substantial compliance with the Design Guidelines by employing variations in form, building details, colors, and materials that create visual interest, and the design is carried through all the structures including the architectural screen for the tanks to achieve a unified theme.

The conditions of approval also require that utility meters be screened from public view and that backflow prevention devices be prohibited in the front yard setback and be screened from view. The conditions further require that all exterior mechanical equipment be screened from view on all sides, and that rooftop mechanical equipment be setback from the exterior edges of buildings.

The Subsequent EIR analyzed the potential impacts of the project on water quality generally, as well as both ocean water quality and product water quality. Based on the analysis contained in the Subsequent EIR, no mitigation measures are required to protect or enhance ocean water quality. (See SEIR Section 4.10.) Specifically, the Subsequent EIR found that there would be no degradation of water quality and there was not a reasonable potential for acute toxicity effects to occur at or below a seawater concentration of 40 ppt. The slightly elevated salinity level of the project's seawater discharge in the co-located operating scenario achieves compliance with the project's approved NPDES Order No. R8-2006-0034 and the standards established in the Order and the water quality objectives established within the Ocean Plan. NPDES Order No. R8-2006-0034 establishes a 1,000 foot Zone of Initial Dilution (ZID) and a dilution factor of 7.5:1 or greater that must be met at the edge of the ZID.

The stand-alone operating condition would have lower concentrations of seawater constituents than identified for the co-located condition. The elevated salinity levels anticipated for the desalination project in the stand-alone operation scenario would comply with the standards and 7.5:1 dilution factor established in Order No. R8-2006-

0034 and comply with Ocean Plan standards. Similar to the co-located condition, the limited area affected by salinities higher than 40 ppt would not represent substantial ecological effects or degradation of water quality due to the absence of areas of special biological significance or the presence of threatened or endangered species.

The Subsequent EIR contains a number of mitigation measures designed to prevent the degradation of and enhance water quality in groundwater basins, wetlands, surface water and product water. These mitigation measures are contained in the Subsequent Environmental Impact Report for the project.

The Subsequent Environmental Impact Report analyzed under both co-located and stand alone operating scenarios the potential impacts to marine organisms due to impingement and entrainment and concluded that no mitigation measures were required. The Subsequent EIR noted that under the co-located operating scenario impingement and entrainment are the responsibility of the Huntington Beach Generating Station and that the proposed desalination facility does not directly take seawater from the ocean, and that withdrawal of feed water for desalination is from the Huntington Beach Generating Station cooling-water discharge. Under the stand alone operating scenario, the Subsequent EIR noted that impingement and entrainment of the proposed project will be insignificant and for these reasons, no mitigation measures are required to reduce impingement and/or entrainment impacts to marine organisms. The Subsequent EIR concluded that under either the co-located or stand-alone operating condition that the desalination project would not substantially reduce populations of affected species such that the sustainability of the affected species could not be maintained. There are no threatened or endangered species in the desalination project's source water and no areas of special biological significance. (See also findings for Policy C6.1.19.)

The desalination project is surrounded by industrial properties, a 145-foot wide flood control channel, Huntington Beach Generating Station, a wetland area to the southeast and vacant property and a mobile home park to the west. The wetland area is separated from the project by Huntington Beach Generating Station's existing unused oil tank and an existing berm and the mobile home park is separated by Newland Street and a vacant parcel. The project has been designed to not create any impacts to the wetlands or residential uses. Nonetheless, a number of mitigation measures will be required to ensure that impacts are minimized.

State and Federal agencies with regulatory authority in wetlands and other environmentally sensitive habitats have been consulted as part of the CEQA process for the project. These agencies include, among others, the US Fish and Wildlife Service, California Department of Fish and Game, and California Coastal Commission.

The project as conditioned will require compliance with the standards set forth in the most recent edition of the Uniform Building Code to assure safety of the occupants and seismic safety to the satisfaction of the Department of Planning and Building prior to issuance of a building permit.

Lastly, the project is an ocean water desalination plant that will create an alternative, local drought-proof source of potable water, and therefore reduce on a 1:1 basis the demand by the project's Orange County public water agency customers for water imported through the State Water Project. When the project is completed, it will

provide Orange County with 50 million gallons of potable water per day, accommodating the needs of Orange County regardless of weather or governmentally imposed conditions affecting water supply. By building the facility and locating it in Huntington Beach, the facility will demonstrate the opportunities offered by desalination, and will offer cities, counties, and the State of California a tangible example of how desalination can become more widely accepted throughout the state and the nation, and will encourage additional research and feasibility studies regarding ocean water desalination as an alternative source of potable water.

2. The project is consistent with the requirements of the CZ Overlay District, O Overlay District, the base zoning district, as well as other applicable provisions of the Municipal Code. The project meets or exceeds all minimum development standards including but not limited to setbacks, height, parking, and lot size/width. The project is required to comply with all Public Works, Fire, and Planning and Building Department codes and requirements. The project conforms to the City's Design Guidelines and incorporates variations in form, building details, colors, and materials that create visual interest. The project provides buffering from sensitive uses such as residential developments through landscaping, a block wall, and increased setbacks. The perimeter wall is designed in a manner to create an attractive appearance and will be consistent with the wall design approved for the portion of the HBGS property to the south for a cohesive appearance.

The project meets all the requirements of the O Overlay District. The project meets the minimum size requirements, and the project includes a reuse plan to remediate property that has been contaminated by previous oil-related use. The property is required to operate in compliance with Title 15, Uniform Fire Code, and any other applicable Federal, State, County, or local rules and regulations, and must be approved by the Fire Department. Non-permitted equipment will not be allowed to be used on the project site, and all requirements for the use of an O overlay zone have been or will be met, including dedication requirements.

The project meets all the applicable requirements for the CZ overlay district. The project preserves and improves existing visual resources and complies with maximum height limitations, off-street parking requirements, landscaping requirements, and other requirements. Due to the nature of existing utility improvements at the project location, there is currently no public access at the site; therefore, public access will not be affected by the project.

3. At the time of occupancy the proposed development can be provided with infrastructure in a manner that is consistent with the Local Coastal Program. The proposed project is an infill development, which as conditioned and with the implementation of all mitigation measures will provide all necessary infrastructure to adequately service the site and not impact adjacent development. This includes dedication and improvements to the project frontage along Edison Avenue to improve circulation in the area.

The proposed project will comply with City of Huntington Beach Fire Department requirements, including the installation of fire sprinklers and fire hydrants, and impacts of the project on the Fire Department are not expected to be significant. There are no anticipated additional impacts of the project on Police protection. The project is expected to have little or no impact on libraries. The impacts on roadway maintenance caused by the project are expected to be less than significant. The project is anticipated to have a negligible impact on parks and recreation facilities

within the City. Project impacts to existing wastewater facilities are expected to be minimal, and the project plans are anticipated to include a new sewer line or private sewer system to accommodate additional wastewater. A local storm water drainage system would be implemented as part of the site facility, and storm water would be treated on-site prior to off-site discharge, as necessary to meet applicable requirements set by the Santa Ana Regional Water Quality Control Board or the City. The project would require new facilities to support operational water uses, but these uses are not expected to create significant impacts. There are no significant impacts of the project on reclaimed water use. The project would not create any significant impacts on the disposition of solid waste. The project's power demand would be less than one percent of the demand within Orange County or Southern California, and is anticipated to be less than significant. No impacts on natural gas supply are anticipated in the implementation of the project. No significant impacts on telephone and cable service are anticipated by the project.

4. The development of the desalination project and approximately one mile of water transmission lines within the Coastal Zone conforms to the public access and public recreation policies of Chapter 3 of the California Coastal Act as they will not impede any public access to the coast and public recreation opportunities in the area. All public access to the coast and public recreation in the area will not be impeded during the long-term operation of the facility as well as during the construction process with the implementation of conditions of approval and mitigation measures.

The site does not currently provide public access or public recreation opportunities because of the nature of the historic uses at the site. The proposed project is consistent with the Public and Semipublic utility uses for which the site is designated, and is not suited for public access or recreation purposes for a number of reasons, including concerns about public safety.

The site is located landward of Pacific Coast Highway and would not provide a connection to the coast or public recreation opportunities, as it is virtually surrounded by industrial, utility or commercial uses. Nonetheless, because no public access or recreational opportunities currently exist on the site, the project will not impede existing public access to the coast or public recreation opportunities in the area.

The project will not impact any existing public parking or beach access and will not discourage or impact any existing lower cost visitor and recreational facilities. The project site is currently not accessible to the beach, thus no access will be impacted.

The proposed project will not impede any unique water-oriented activities, nor does it involve any oceanfront land suitable for recreational use. The project involves the use of private lands that are not suitable for visitor-serving commercial recreational facilities. Even if the lands were suitable for such visitor-serving uses, the project proposes a coastal-dependent industry use, which is not of a lower priority than visitor-serving uses.

5. The Final SEIR certified for the project on September 7, 2010 serves as adequate and appropriate environmental documentation for approval of CDP 10-014. The unavoidable significant adverse effects of the project as identified in Section 5.0 of the Statement of Facts and Findings (growth inducement outside of Orange County and short-term



construction related impacts in regards to air quality) have been lessened in their severity by the application of standard code requirements, conditions, the inclusion of project design features and the imposition of the mitigation measures. The remaining unavoidable significant impacts are clearly outweighed by the economic, social, and other benefits of the project, as set forth in the "Statement of Overriding Considerations" included as Section 7.0 of the Statement of Facts and Findings. The City Council adopts the recitation of overriding considerations which justify approval of the project notwithstanding certain unavoidable significant environmental effects which cannot feasibly be substantially mitigated as set forth in the Statement of Overriding Considerations.

**CONDITIONS OF APPROVAL – TENTATIVE PARCEL MAP NO. 10-130**

1. The tentative parcel map received and dated August 11, 2010 shall be the conceptually approved layout with the following modifications:
  - a. Remove Note G on Newland Street because the dedication and street widening on Newland Street has already occurred and there is no need for additional dedication. (PW)
  - b. Horizontal control (i.e. bearing and distance) should be added for the hammerhead off of Edison Street. (PW)
  - c. Remove the word "Emergency" from Note J and replace it with the word "Public" so that Note J would state "Proposed Public Access Easement." (PW)

**CONDITIONS OF APPROVAL – COASTAL DEVELOPMENT PERMIT NO. 10-014:**

1. The site plans, floor plans, elevations, and landscaping plan received and dated August 12, 2010 shall be the conceptually approved layout with the following modifications:
  - a. The landscape area on the east side of the project site on Parcel 3 shall include the removal of all Myoporum, and shall be planted with a palette of plants indigenous to the Southern California coastal community.
  - b. Provide a patio along the front entrance of the administration building. (DRB)
  - c. Provide landscape planters around the administration building. (DRB)
  - d. Provide screening for the solids loading area and filter substation compatible with the project. (DRB)
  - e. Provide screening to the top of the chemical storage, carbon dioxide, and flush tanks. (DRB)
  - f. The landscaping plan shall reflect plant materials that are more mature than the minimum code requirements subject to the approval of the City Landscape Architect. (DRB)
  - g. The applicant shall install landscaping on Parcel 2 along Newland and Edison to match the project for a consistent appearance.

- h. The landscaping and wall plan shall be consistent in design, colors, and materials with the landscaping and wall plan for AES for a cohesive appearance.
  - i. The landscaping along the Newland and Edison lease area street frontages shall include the densest type and number of trees to provide the most effective screening possible and shall be maintained to the approval of the City Landscape Architect.
  - j. A perimeter block wall shall be constructed along the City Beach Operations Maintenance facility/Poseidon boundary, per Public Works Department requirements. (PW)
  - k. Buildings of the subject project may not cross property lines. Lot lines shall be adjusted at the proposed treatment facility accordingly. (PW)
  - l. Revise 36"-42" City Pipeline Stub to 18"-36" City Pipeline Stub. (PW)
  - m. Tree species planted along Edison Street shall not canopy over the street to avoid blocking large maintenance vehicles accessing the City Beach Operations Maintenance facility. (CS)
2. Prior to issuance of demolition permits, the following shall be completed: For the demolition of the three (3) 200 foot diameter fuel oil tanks, a work plan must be submitted and approved by the Fire Department prior to commencement of work. (FD)
3. Prior to issuance of grading permits, the following shall be completed:
- a. The applicant shall submit written proof of final project approval by each applicable regulating agency including but not limited to the California Coastal Commission, Santa Ana Regional Water Quality Control Board, South Coast Air Quality Management District and all applicable water agencies and cities.
  - b. The required Precise Grading Plan shall include the following: (PW)
    - 1) Extension of the existing 8-inch diameter City sewer main in Edison Avenue easterly to the terminus of said street.
    - 2) Connection to the existing 8-inch sewer main along the adjacent property's northerly property line (also southerly of the existing Orange County Flood Control District's right-of-way) shall be prohibited.
  - c. Prior to issuance of any permit, the applicant will enter into a Franchise agreement approved and executed by the City for the generation and transport of product water from the site, and through and across the city's streets, rights-of-way or properties. (PW) (MC 3.44)
  - d. A separate (new) irrigation water service and meter installed per Water Division Standards, and sized to meet the minimum requirements set by the landscape irrigation demand and the Water Efficient Landscape Requirements (MC 14.52) the minimum size shall be 1". (PW)

- e. The proposed 30" tank overflow line shall be prohibited from surface discharging directly into the public right-of-way. (PW)
- f. Areas for containment shall be provided to mitigate possible spillage of any materials affecting storm water quality that may be stored on-site, and to protect the adjacent wetlands to the maximum extent feasible. (PW)

4. Prior to submittal for building permits, the following shall be completed:

- a. Zoning entitlement conditions of approval shall be printed verbatim on one of the first three pages of all the working drawing sets used for issuance of building permits (architectural, structural, electrical, mechanical and plumbing) and shall be referenced in the sheet index. The minimum font size utilized for printed text shall be 12 point.
- b. A Water Purchase Agreement shall be executed between the applicant/operator of the seawater desalination project and the City of Huntington Beach and shall incorporate the following: (PW)
  - 1) The City will have the option (the "Option") to enter into a water purchase agreement ("Water Purchase Agreement") to purchase water from the Project on terms essentially the same as all of the other water purchase agreements for the Project; provided, however that the City's price for up to 3,360 acre-feet per year (3 million gallons per day or 4.6 cubic feet per second) of the water purchased from the Project will be equal to the combination of (1) a 5% discount on the purchase price of water supplied by MWD via the Municipal Water District of Orange County (MWDOC) and (2) any subsidy received by the City from the Metropolitan Water District of Southern California or any other third party for the purchase of water from the Project such as, but not limited to, MWDOC; and provided further that the City's price will not exceed the purchase price for Project water in the other water purchase agreements for the Project.
  - 2) The City will have the first right to purchase up to an additional 4,000,000 gallons per day (6.1 CFS) of additional water from the Project during a declared water emergency at the same costs as above for not to exceed seven days in any 30 day period and not to exceed 28,000,000 gallons in any one emergency event.. The definition of a declared water emergency is a 50% or greater loss of overall City water supply (not including droughts) or connected facilities such as distribution system, booster stations, reservoirs, wells and imported connections causing a reduction of at least 50% of the City's water supply.
- c. The applicant/operator of the seawater desalination project will enter into an Amended and Restated Owner Participation Agreement (OPA) approved and executed by the Redevelopment Agency of the City of Huntington Beach. (EDD)
- d. The applicant shall conduct and submit to the Planning and Building Department an additional noise study at the project design stage and include sound level sampling at approximately 3 a.m. The applicant shall attenuate project generated noise with the intent being to avoid a perceptible increase in noise at the nearest residential property, but allowing up to a 5 dBA increase above the nighttime ambient noise levels at the nearest residential property line based on noise levels determined in the design level noise study.

5. The structures cannot be occupied, the final building permits cannot be approved, utilities cannot be released, the use cannot commence, and the Certificate of Occupancy cannot be issued until the following has been completed: The applicant shall demonstrate that all measures required by these conditions to protect the nearby wetlands have been implemented.
6. During demolition, remediation, grading, site development, and/or construction, the following shall be adhered to:
  - a. Construction equipment shall be maintained in peak operating condition to reduce emissions.
  - b. Use low sulfur (0.5%) diesel fuel by weight in all diesel equipment.
  - c. Shut off engines when not in use.
  - d. Attempt to phase and schedule activities to avoid high ozone days first stage smog alerts.
  - e. Discontinue operation during second stage smog alerts.
  - f. Ensure clearly visible signs are posted on the perimeter of the site identifying the name and phone number of a field supervisor to contact for information regarding the development and any construction/ grading activity.
  - g. Discovery of additional contamination/pipelines, etc. must be reported to the Fire Department immediately and the approved work plan modified accordingly. (FD)
7. The applicant shall completely remove the storage tanks from the site within 12 months from the date of approval of City building permits and agreements.
8. No parking shall be permitted on the south side of Edison Ave. (PW)
9. With the development of the proposed Poseidon Seawater Desalination Project Facility, the applicant/operator of the project will deliver potable water to the City from a location within the project site, specifically the proposed Tank Storage site. The applicant/operator of the project shall provide a water pipeline from the tank storage site, a bypass water pipeline and located within the booster pump station, two pump cans including base plates, baffles, steel discharge heads, and suction manifolds per City requirements and specification. (PW)
10. The applicant shall keep the facility under video surveillance 24 hours per day every day. Videos should be saved for at least 30 days to provide Police with the recording. (PD)
11. Post clear signage describing the acceptable behavior allowed and uses of the facility. Signs should also make it clear that there is 24/7 video surveillance. (PD)
12. The administration building should be clearly marked to help visitors. (PD)

13. The entire facility should be lighted throughout all hours of darkness, but must conform to the lighting requirements of Subsequent Environmental Impact Report No. 10-001.(PD)
14. The project shall comply with the approved Mitigation Monitoring and Reporting Program for Subsequent Environmental Impact Report No. 10-001.
15. The Planning and Building Department Director ensures that all conditions of approval herein are complied with. The Planning and Building Department Director shall be notified in writing if any changes to the site plan, elevations and floor plans are proposed as a result of the plan check process. Building permits shall not be issued until the Planning and Building Department Director has reviewed and approved the proposed changes for conformance with the intent of the City Council's action and the conditions herein. If the proposed changes are of a substantial nature, an amendment to the original entitlement reviewed by the City Council may be required pursuant to the Huntington Beach Zoning and Subdivision Ordinance.
16. The applicant and applicant's representatives shall be responsible for ensuring the accuracy of all plans and information submitted to the City for review and approval.
17. The applicant/property owner and each successor in interest to the property which is the subject of this project shall defend, indemnify and hold harmless the City of Huntington Beach and its agents, officers, and employees from any claim, action or proceedings, liability cost, including attorney's fees and costs against the City or its agents, officers or employees, to attack, set aside, void or annul any approval of the City, City Council, Planning Commission, or Design Review Board concerning this project. The City shall promptly notify the applicant of any claim, action or proceeding and should cooperate fully in the defense thereof.
18. The project shall comply with the requirements of the Energy Minimization and Greenhouse Gas Reduction Plan attached as Appendix W to the Subsequent Environmental Impact Report.
19. Tentative Parcel Map No. 10-130 and Coastal Development Permit No. 10-014 shall become null and void unless exercised within two years of the date of final approval by the City Council, or within two years of the date of final Coastal Development Permit approval by the Coastal Commission if the Coastal Development Permit is appealed, or such extension of time as may be granted by the Director pursuant to a written request submitted to the Planning and Building Department a minimum 30 days prior to the expiration date.

## **PUBLIC HEARING/ADMINISTRATIVE ITEMS**

- 6-1. Approve Coastal Development Permit (CDP) No. 10-014 and Tentative Parcel Map (TPM) No. 10-130 for the Poseidon Seawater Desalination Project**  
**TPM Continued from September 7, 2010**

**Recommended Action:**

A) Approve Coastal Development Permit No. 10-014 and Tentative Parcel Map No. 10-130 to permit the Seawater Desalination Project with staff recommended findings and conditions of approval; and,

B) Rescind Coastal Development Permit No. 02-05; and,

C) Ratify City Council's approval at its September 7, 2010 meeting of Entitlement Plan Amendment No. 10-001 to amend Conditional Use Permit No. 02-04; the Exchange Agreement and Escrow Instructions between the City of Huntington Beach and Poseidon Resources (Surfside) LLC for properties located south of Edison Avenue and east of Newland Street; and the Pipeline Franchise Agreement with Poseidon Resources (Surfside) LLC to construct, own and operate a new water pipeline in the public right-of-way.

***Approved 5-0-2 (Coerper, Hardy absent)***

- 6-2. Approve the Amended and Restated Owner Participation Agreement by and between the Redevelopment Agency of the City of Huntington Beach and Poseidon Resources (Surfside) LLC**  
**Continued from September 7, 2010**

**Redevelopment Agency Recommended Action:**

A) Waive the Resolution No. 214 requirement for thirty (30) day review of the Owner Participation Agreement; and,

B) Approve the Amended and Restated Owner Participation Agreement by and between the Redevelopment Agency of the City of Huntington Beach and Poseidon Resources (Surfside) LLC; and,

C) The City Council finds that the Final SEIR serves as adequate and appropriate environmental documentation for approval of the Amended and Restated Owner Participation Agreement. The City Council finds that the unavoidable significant adverse effects of the Project as identified in Section 5.0 of the Statement of Facts and Findings (growth inducement outside of Orange County and short-term construction related impacts in regards to air quality) have been lessened in their severity by the application of standard conditions, the inclusion of Project design features and the imposition of the mitigation measures. The City Council finds that the remaining unavoidable significant impacts are clearly outweighed by the economic, social, and other benefits of the Project, as set forth in the "Statement of Overriding Considerations" included as Section 7.0 of the Statement of Facts and Findings. The City Council adopts the recitation of overriding considerations which justify approval

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# APPENDIX D

**CALIFORNIA COASTAL COMMISSION**

45 FREMONT, SUITE 2000  
SAN FRANCISCO, CA 94105-2219  
VOICE AND TDD (415) 904-5200  
FAX (415) 904-5400

**W9a**

Filed: 10/05/10  
49<sup>th</sup> Day: 11/22/10  
Staff: TL-SF  
Staff Report: 11/4/10  
Hearing Date: 11/17/10  
Commission Action: Substantial  
Issue Found

**FINAL ADOPTED FINDINGS –  
FINDING OF SUBSTANTIAL ISSUE**

**Local Government:** City of Huntington Beach

**Decision:** Approval with Conditions

**Appeal No.:** A-5-HNB-10-225

**Applicant:** Poseidon Resources / AES Huntington Beach

**Project Description:** Construction and operation of a desalination facility.

**Project Location:** On the site of the AES Power Plant, 21730 Newland Avenue,  
Huntington Beach, Orange County

**Appellants:** Orange County Coastkeeper, Surfrider Foundation, Residents For  
Responsible Desalination, Commissioners Wan and Mirkarimi

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**SUBSTANTIVE FILE DOCUMENTS:**

- Certified City of Huntington Beach Local Coastal Program.
- City of Huntington Beach Coastal Development Permit (CDP) File No. 10-014.
- Coastal Commission Appeal File No. A-5-HNB-06-101.
- Coastal Commission Appeal File No. A-5-HNB-10-225.
- Appeal Applications from Orange County Coastkeeper, Surfrider Foundation, and Residents For Responsible Desalination (collectively the Environmental Group Appellants), and Commissioners Wan and Mirkarimi.

**TABLE OF CONTENTS:**

I. Appellant Contentions .....	2
II. Local Government Action.....	2
III. Appeal Procedures .....	3
IV. Motion & Resolution .....	3
V. Findings and Declarations.....	4
1. Project Description.....	4
2. Permit Jurisdiction .....	4
3. Permit History .....	5
4. Appellants' Contentions & Standard of Review.....	5
5. Appeal Issues Raising Substantial Issue .....	5
5A) Appeal Issue: Marine Biology and Water Quality.....	5
5B) Appeal Issue: Protection of Wetlands & Environmentally Sensitive Habitat Areas	10
5C) Appeal Issue: Land Use .....	13
5D) Appeal Issue: Energy Use and Development.....	14
5E) Appeal Issue: Adequate Public Services.....	15
5F) Appeal Issue: Effects on Public Recreation.....	18
5G) Appeal Issue: Adequate Protection Against Seismic Events and Liquefaction.....	19
5H) Appeal Issue: Mitigation to the Maximum Extent Feasible .....	19
5I) Appeal Issue: Coastal Dependency.....	20
6. Appeal Issues Not Raising Substantial Issue .....	21
6A) Appeal Issue: Water Conservation.....	21

**I. APPELLANT CONTENTIONS**

Appellants contend that the project does not conform to several provisions of the City's LCP related to protection of marine life and water quality, protection of wetlands and environmentally sensitive habitat areas, land use, adequate public services, energy use and development, public recreation, water conservation, protection against seismic events and liquefaction, growth-inducement, and the requirement for mitigation to the maximum extent feasible.

**II. LOCAL GOVERNMENT ACTION**

The coastal development permit was approved by the City of Huntington Beach City Council on September 20, 2010, concurrent with approval of Tentative Parcel Map #10-013. Previously, on September 7, 2010, the City certified a Final Supplemental Environmental Impact Report for the project. Concurrent with the City's approval of this CDP, it rescinded a CDP it had previously issued to the applicant for a similar project in February 2006.

### III. APPEAL PROCEDURES

After certification of a LCP, the Coastal Act provides for limited appeals to the Coastal Commission of certain local government actions on coastal development permits. Projects within cities and counties may be appealed if they are located within the appealable areas as defined by Section 30603(a) of the Coastal Act. The grounds for appeal are limited to the assertion that "development does not conform to the certified local coastal program." Where the project is located between the first public road and the sea or within 300 feet of the mean high tide line, the grounds of appeal are limited to those contained in Section 30603(b) of the Coastal Act. Those grounds are that the development does not conform to the standards set forth in the certified local coastal program or the access policies set forth in the Coastal Act.

Section 30625(b) of the Coastal Act requires the Commission to hear an appeal unless it determines that no substantial issue is raised by the appeal. If the staff recommends "substantial issue" and no Commissioner objects, the Commission will proceed to a de novo hearing on the merits of the project at the same meeting if the staff has prepared a recommendation on said merits, or at a subsequent meeting if there is no such recommendation.

If the staff recommends "no substantial issue" or the Commission decides to hear arguments and vote on the substantial issue question, proponents and opponents will have three minutes per side to address whether the appeal raises a substantial issue. It takes a majority of Commissioners present to find that no substantial issue is raised. If substantial issue is found, the Commission will proceed to a full public hearing on the merits of the project at either the same or a subsequent meeting as described above. If the Commission conducts a de novo hearing on the permit application, the applicable test for the Commission to consider is whether the proposed development is in conformity with the certified LCP. In addition, for projects located between the sea and the first public road paralleling the sea, Section 30604(c) of the Coastal Act requires a finding that the development conforms to the public access and public recreation policies of Chapter 3.

The only persons qualified to testify before the Commission at the "substantial issue" stage of the appeal process are the applicant, persons who opposed the application before the local government (or their representatives), and the local government. Testimony from other persons must be submitted in writing. At the time of the *de novo* portion of the hearing, any person may testify.

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### IV. RESOLUTION

#### Resolution to Find Substantial Issue:

*The Commission finds that Appeal No. A-5-HNB-10-225 presents a substantial issue with respect to the grounds on which the appeal has been filed under section 30603 of the Coastal Act regarding consistency with the certified local coastal plan and/or the public access and recreation policies of the Coastal Act.*

## **V. FINDINGS AND DECLARATIONS**

The Commission finds and declares as follows:

### **1. PROJECT DESCRIPTION**

The development approved by the City is a desalination facility to be constructed and operated by Poseidon Resources within the AES Power Plant site in Huntington Beach. The project also includes a water delivery pipeline that will be constructed along a route yet to be determined, but that is estimated to range from about eight to 10 miles long. The pipeline would connect the facility to the regional water distribution system. The purpose of the project is to produce from seawater approximately 50 million gallons per day (MGD) of potable water for use within various parts of Orange County.

The approved development includes several buildings and structures that will house pre-treatment facilities, desalination equipment, a product water storage tank, administration offices, and other supporting structures and equipment. These structures would be located in portions of the northern part of the power plant site. Part of the proposed facility footprint includes fuel oil storage tanks formerly used by the power plant. Those tanks would be removed as part of the project. The project also includes pipelines connecting the power plant cooling system with the pre-treatment part of the facility.

To produce potable water, Poseidon would withdraw approximately 100 MGD of seawater from the once-through cooling system currently used by the power plant.<sup>1</sup> The cooling system's 14-foot diameter intake structure extends under the beach and seafloor to approximately 1700 feet offshore where it emerges into the water column, and a similar discharge structure extends under the beach and seafloor to about 1500 feet offshore where it emerges into the water column. With the 100 MGD pulled in by the desalination facility, it would produce 50 MGD of potable water and about 50 MGD of a high-salinity effluent. That effluent, along with up to 6.5 MGD of backwash water and cleaning fluids, would be routed to the outfall and mixed with the power plant cooling water discharge to create a combined discharge with salinities ranging up to more than 20% over ambient seawater salinity.

### **2. PERMIT JURISDICTION**

Most of the land-based portions of the project are located within the Coastal Zone in the City of Huntington Beach and subject to the City's certified Local Coastal Plan (LCP). The project is also within the appeal jurisdiction of the Coastal Commission.<sup>2</sup> Additionally, a portion of the project is within the Commission's retained jurisdiction – the facility's intake and outfall are within coastal waters and the project involves both a "change in intensity of use" of those waters

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<sup>1</sup> Poseidon's current NPDES permit, which expires in August 2011, allows it to operate at its design capacity only when the power plant cooling system is using at least 126.7 MGD. Power plant operations have varied from very low intake flows when it is not generating electricity to up to 507 MGD. The power plant cooling system is scheduled to be shut down on or before 2020 and replaced with a system that does not use seawater.

<sup>2</sup> Pursuant to Coastal Act Section 30603, the Commission's appeal jurisdiction includes developments approved by a local government that are located within 100 feet of any wetland, estuary, or stream, within 300 feet of the inland extent of the mean high tide line of the sea where there is no beach, or on tidelands or public trust lands.

and a discharge to those waters – so the project will require a permit directly from the Commission.

### **3. PERMIT HISTORY**

In February 2006, the City issued CDP #02-05 to Poseidon for construction and operation of a desalination facility similar to the current project, but at a different location within the power plant site. That CDP was appealed to the Commission, and on April 12, 2006, the Commission found that the appeal raised Substantial Issue with consistency to the City's Local Coastal Program.<sup>3</sup> In May 2006, Poseidon submitted a CDP application to Commission staff for those portions of the project within the Commission's retained jurisdiction; however, that application remains incomplete.

In early 2010, the City started review of a Supplemental Environmental Impact Report to address modifications to the original proposed project. In September 2010, the City certified the Supplemental EIR, rescinded its previously-issued CDP, and issued a new CDP. On October 4 and 5, 2010, Commission staff received timely appeals from the Environmental Group Appellants and from Commissioners Wan and Mirkarimi.

### **4. APPELLANTS' CONTENTIONS & STANDARD OF REVIEW**

All appellants contend that approval of the project by the City is inconsistent with policies of the City's certified LCP related to marine resources and water quality, wetlands and environmentally sensitive habitat areas, land use, public services, energy use and development, and the LCP requirement that adverse impacts be mitigated to the maximum extent feasible. Environmental Group Appellants additionally contend the City's approval is inconsistent with LCP policies governing public recreation, growth-inducement, and water conservation. Appellants Wan and Mirkarimi additionally contend the City's approval is inconsistent with LCP policies related to protection against seismic and liquefaction events. The standard of review for this appeal is consistency with the certified LCP of the City of Huntington Beach.

### **5. APPEAL ISSUES RAISING SUBSTANTIAL ISSUE**

#### ***5A) Appeal Issue: Marine Biology and Water Quality***

LCP Policy C 6.1.1 states:

*"Require that new development include mitigation measures to enhance water quality, if feasible and at a minimum, prevent the degradation of water quality of groundwater basins, wetlands, and surface water."*

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<sup>3</sup> In its April 2006 decision, the Commission found that substantial issue existed with respect to several of the LCP policies contested in this current appeal, including LCP policies related to protection of marine life and water quality (LCP Policies C6.1.1, C6.1.2, C6.1.3, C6.1.4, and C6.1.19), protection of environmentally sensitive habitat areas (LCP Policy C7.1.3), energy use and development (LCP Policy C8), and adequate public services (C1.2.3).

LCP Policy C 6.1.2 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."*

LCP Policy C 6.1.3 states:

*"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."*

LCP Policy C 6.1.4 states:

*"The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain organisms and for the protection of human health shall be maintained and, where feasible, restored."*

LCP Policy C 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."*

These LCP provisions apply to the approved project due to its use of seawater and its new pumping facilities.<sup>4</sup> The provisions generally require that marine resources and water quality be maintained, enhanced, and where feasible,<sup>5</sup> restored, and that maximum feasible mitigation measures be required to minimize entrainment. The City's findings state, for a number of reasons, that the project is consistent with the above policies. Appellants contend, for reasons described below, that the project is inconsistent with those policies. The Commission's Findings regarding overall consistency with the above policies are provided below, along with Findings on specific policies and appeal contentions.

For all the above policies, it appears that the City used several criteria or standards of review that were not adequate for defining the significance or severity of the project's impacts for purposes of LCP conformity. In several instances, it also analyzed project impacts in ways that were not sufficient to evaluate the project's conformity to these policies. Examples are provided below.

- **Use of Incorrect Review Standards:** In several instances, the City's nonconformity with the above LCP policies appears to be due to the City's reliance on standards and determinations of significance selected for use in the EIR rather than those required by the LCP. The focus of the EIR was to determine whether the project causes significant impacts; whereas many

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<sup>4</sup> The City's General Plan Coastal Element includes waters of the Pacific Ocean in its definition of "surface waters."

<sup>5</sup> "Feasible" is defined in the LCP (and the Coastal Act) as "Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."



provisions of the LCP require that any impacts be identified and then mitigated, where feasible. Some of the criteria the EIR used to define a “significant impact” resulted in determinations of significance that fell far short of identifying the kinds of impacts for which the LCP requires avoidance, additional analysis, mitigation, or other measures.

The City acknowledges in the EIR that the project’s conformity for purposes of the Coastal Act requires use of a more rigorous standard. The EIR’s Response to Comments states that the EIR review was meant to determine whether the project would conflict with applicable plans and policies, and then states:

*“[d]etermining whether a conflict may arise that would preclude implementation of a plan or policy is entirely different from the more extensive process that may be involved in making a determination of “conformance” or “consistency” with a particular law, policy or other regulatory program. While it is understood that the Coastal Commission may apply a more rigorous standard in determining conformance of the project with the Coastal Act, such a standard is not required under CEQA.”*

Even with this acknowledgement, the City used the EIR’s less-than-adequate standards to determine LCP conformity. For example, the City’s findings for LCP Policy 6.1.2 rely on the EIR’s conclusions that the project would cause less than significant entrainment impacts; however, the EIR defined a significant entrainment impact, in part, as whether the project would affect a species’ ability to sustain its population, which is a less protective standard than the LCP Policy’s requirement that marine resources be “maintained, enhanced, and where feasible, restored”. Similarly, regarding the effects of the project’s chemical and saline discharges on marine life and coastal waters, LCP Policy C6.1.1 requires that the project “prevent the degradation” of water quality, whereas the EIR standards referenced in the CDP determined whether there were project impacts based on less stringent criteria, such as whether marine organisms experienced “substantial ecological losses of source populations”. The City’s findings on LCP Policy 6.1.3 state that the project’s high salinity effluent will not affect areas that support sensitive species; however, the standard of review for that LCP policy is that the project will maintain healthy populations of all marine species.

In its findings for LCP Policy 6.1.4, the CDP merely states that the project is consistent with this policy because it would not degrade water quality or adversely affect marine life as described in the CDP’s findings on LCP Policies 6.1.1 and 6.1.3. As noted elsewhere in these Findings, however, the CDP’s conclusions about those policies are not adequate for ensuring LCP conformity. Further, the City’s findings do not address the “feasible restoration” aspect of LCP Policy 6.1.4’s standard of review. Regarding LCP Policy C6.1.19,<sup>6</sup> the CDP states that neither the project’s entrainment nor its high-salinity effluent will negatively influence affected species’ ability to sustain their populations, which is the incorrect standard of review for a policy requiring that damage to marine organisms be minimized. Overall, the standards of review and levels of significance the City used in the EIR cannot be relied upon to determine conformity of the project to these LCP policies.

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<sup>6</sup> The project is subject to LCP Policy C6.1.19 because it includes new pumps to bring seawater into the desalination facility and may include new pumps to replace existing pumps within the power plant.

- **Use of Incomplete/Inaccurate Analyses:** In several instances, the City's CDP findings relied on EIR analyses that were not adequate to determine the project's conformity to these LCP policies. For several of the policies, the City's findings state that the project does not require mitigation measures because the EIR identified the project's impacts as less than significant. However, because the cited EIR analyses were based on different, and generally less protective, standards of review than required under the LCP, they are not adequate for determining LCP conformity.

These include insufficient analyses of necessary and feasible mitigation measures required pursuant to LCP Policies C6.1.2, 6.1.4, and 6.1.19. For example, the CDP implies that the project intake does not require mitigation measures under LCP Policy 6.1.2 because it is not located within an Area of Special Biological Significance; however, the CDP does not acknowledge, as it should, that the facility's entrainment affects organisms from not just the immediate area, but from coastal waters up to several dozen miles away with areas of sensitive marine habitats. Similarly, for LCP Policy C6.1.19, which requires maximum feasible mitigation measures in accordance with state and federal law, the City's findings state that the project is not anticipated to conflict with applicable provisions of state Water Code Section 13142.5 regarding impingement, but the findings do not address that section's full requirements regarding the project's entrainment impacts.<sup>7</sup> For LCP Policy C6.1.4, the City refers to its findings for LCP Policies C6.1.1 and 6.1.3, which, as described elsewhere in these Commission Findings, are not adequate to ensure conformity to those policies. Additionally, several of the City's analyses resulted in what are described as mitigation measures but are more appropriately defined as minor and incidental benefits that are caused by, and are incidental to, the project's adverse impacts. Regarding LCP Policy 6.1.1, for example, the CDP states that the EIR includes a number of mitigation measures meant to improve water quality and prevent water quality degradation; however, the measures cited are those resulting from substantial adverse project-related impacts. For instance, the CDP notes that the project will be "removing bacteria from source water", which is solely an incidental effect of the significant adverse entrainment impacts the project will cause by removing seawater containing fish eggs, larvae, plankton, and other important coastal resources. The CDP also notes that the project will be "reducing thermal footprint of the discharge from the power plant during the co-located operating condition"; however, this is similarly an incidental effect of the project's introduction of 50 MGD of highly saline effluent into the power plant outfall.

For both of the above examples, the measures the City claimed were sufficient for LCP adequacy were not supported by adequate analyses and the resulting findings were used either to require inadequate mitigation or to support the inclusion of incidental effects as adequate mitigation. As a result, neither the City's CDP nor the project EIR on which the City relied for its CDP findings identified or properly evaluated many of the project's expected adverse impacts or the potentially feasible mitigation measures that could be required of the project to avoid or minimize these impacts. The City's approved CDP therefore does not conform to the above LCP policies.

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<sup>7</sup> Water Code Section 13142.5(b) states: "For each new or expanded coastal powerplant or other industrial installation using seawater for cooling, heating, or industrial processing, the best available site, design, technology, and mitigation measures feasible shall be used to minimize the intake and mortality of all forms of marine life."

Appellants also contend that the City's approval does not adequately take into account the scheduled phase-out of the power plant's once-through cooling system, which results in the City inadequately identifying impacts and necessary mitigation measures. The previous CDP issued by the City in February 2006 for the earlier version of this project presumed that the power plant cooling system would continue to operate and that the desalination facility would rely solely on the power plant's cooling water discharge. This scenario provided the basis of the City's previous findings that the desalination facility would not cause marine life impacts beyond those caused by the power plant and would not require marine life mitigation measures beyond those required of the power plant.<sup>8</sup> In contrast, the current CDP acknowledges that the power plant is expected to phase out its cooling system, which would result in stand-alone desalination facility operations. However, the City's findings continue to rely in part on the project's 2006 NPDES permit, which anticipates that the facility will operate in conjunction with the power plant when the power plant is pumping at least 126.7 MGD through its cooling system.<sup>9</sup> Under the recently modified expectation of stand-alone operation, the desalination facility would operate the existing intake and discharge for several additional decades beyond the power plant's expected use of that cooling system and would pull in and discharge a higher minimum amount of seawater than anticipated in the co-location scenario described in the NPDES permit – i.e., the stand-alone facility would take in a minimum of 152 MGD instead of 126.7 MGD (about a 20% increase) and would discharge about 102 MGD instead of 76.7 MGD (about a 33% increase). The City's analyses do not adequately address the differences between the previous scenario on which the soon-to-expire NPDES permit relies and Poseidon's currently anticipated stand-alone operations, and they do not adequately characterize the adverse entrainment, impingement, and salinity impacts caused by this increased volume and duration.

In sum, the project will clearly cause adverse impacts to marine resources, water quality, and other coastal resources in excess of those that would allow consistency with the above LCP policies. The City's approval did not adequately identify the full range of impacts, in part due to using incorrect standards of review, inaccurate determinations of significance, and incomplete analyses of feasibility and needed mitigation measures. As a result, the City did not adequately evaluate the project's impacts to coastal resources and did not identify necessary mitigation measures that would avoid or minimize those impacts. The City's approval is therefore not sufficient to determine whether the project conforms to the above LCP provisions. Based on the record provided by the City and the information provided by the appellants, the Commission

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<sup>8</sup> The City's February 27, 2006 CDP, at page 11 of *Agenda Item D1A, Suggested Findings for Approval – Coastal Development Permit 02-05*, states:

*"The Recirculated Environmental Impact Report analyzed the potential impacts to marine organisms due to entrainment and concluded that no mitigation measures were required. The Recirculated EIR noted that entrainment is currently permitted for the once-through cooling water system of the HBGS, and that the proposed desalination facility does not directly take seawater from the ocean, and that withdrawal of feedwater for desalination is from the HBGS cooling-water discharge and not subject to intake regulation under the Federal Clean Water Act (316b). In addition, the proposed project will not alter in any way existing HBGS cooling water intake operations. For those reasons, no mitigation measures are required to reduce entrainment impacts to marine organisms."*

<sup>9</sup> The current NPDES permit expires in August 2011. It requires the project to reduce its pumping when the power plant pumps less than 126.7 MGD.

finds that substantial issue exists with respect to the project's consistency with the City's certified LCP.<sup>10</sup>

**5B) Appeal Issue: Protection of Wetlands & Environmentally Sensitive Habitat Areas**

LCP Policy C 6.1.4 states:

*"The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain organisms and for the protection of human health shall be maintained and, where feasible, restored."*

LCP Policy C6.1.20 states:

*"Limit diking dredging, and filling of coastal waters, wetlands, and estuaries to the specific activities outlined in Policy 30233 and 30607.1 of the Coastal Act and to those activities required for the restoration, maintenance, and/or repair of the Municipal Pier and marina docks. Conduct any diking dredging and filling activities in a manner consistent with Section 30233 and 30607.1 of the Coastal Act."*

LCP Policy C7.1.3 states:

*"Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas."*

LCP Policy C7.1.4 states:

*"Require that new development contiguous to wetlands or environmentally sensitive habitat areas include buffer zones. Buffer zones shall be a minimum of one hundred feet setback from the landward edge of the wetland, with the exception of the following:*

*A lesser buffer may be permitted if existing development or site configuration precludes a 100 feet buffer, or conversely, a greater buffer zone may be required if substantial development or significantly increased human impacts are anticipated. In either case, the following factors shall be considered when determining whether a lesser or wider buffer zone is warranted. Reduced buffer zone areas shall be reviewed by the Department of Fish and Game prior to implementation.*

- a) Biological significance of adjacent lands: The buffer should be sufficiently wide to protect the functional relationship between the wetland and adjacent upland.*
- b) Sensitivity of species to disturbance: The buffer should be sufficiently wide to ensure that the most sensitive species will not be disturbed significantly by permitted development, based on habitat requirements of both resident and migratory species and the short and long term adaptability of various species to human disturbance.*

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<sup>10</sup> In its 2006 Substantial Issue Findings for the previous version of this project, the Commission found that substantial issue existed with respect to the project's consistency with LCP Policies C6.1.1, C6.1.2, C6.1.3, C6.1.4, and 6.1.19.

- c) *Susceptibility of parcel to erosion: The buffer should be sufficiently wide to allow for interception of any additional material eroded as a result of the proposed development based on soil and vegetative characteristics, slope and runoff characteristics, and impervious surface coverage.*
- d) *Use existing cultural features to locate buffer zones: The buffer zones should be contiguous with the environmentally sensitive habitat areas and make use of existing features such as roads, dikes, irrigation canals, and flood control channels where feasible."*

LCP Policy C.7.1.5 states, in relevant part:

*"Notify County, State and Federal agencies having regulatory authority in wetlands and other environmentally sensitive habitats when development projects in and adjacent to such areas are submitted to the City."*

The above-referenced LCP policies require protection of wetlands and environmentally sensitive habitat areas and limit the kinds of development that may be approved in or near those areas. The City's findings do not evaluate the project's conformity to wetland protection components of LCP Policies C6.1.4 and C6.1.20. For LCP Policies C7.1.3 and C7.1.4, the City states that the project has been located to avoid significant impacts to the nearby Magnolia Marsh through setbacks and buffers, berms, grading, redirection of stormwater, and other measures. For LCP Policy C7.1.5, the City states that the project does not conflict with this policy because it involves no development in wetlands.

Appellants contend that the City's approval is inconsistent with the above policies for three main reasons – first, that the City did not properly delineate wetlands present within the project footprint and therefore did not adequately avoid and mitigate for wetland impacts; second, that the City's noise studies were inadequate to identify possible impacts to wetland-dependent wildlife species; and third, that the lack of an identified pipeline route makes it impossible to know whether the potential river crossing or the locations of pipelines and pump stations might adversely affect wetlands in a manner inconsistent with the above LCP policies.

Regarding the first appeal issue – the potential presence of wetlands within the project footprint – the project EIR evaluated site wetlands in a manner inconsistent with the Commission's wetland delineation methods.<sup>11</sup> As a result of the City's reliance on the EIR, the CDP findings do not properly identify the project's potential impacts to wetlands and do not adequately address

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<sup>11</sup> The City's definition of wetlands is similar to that of the Coastal Commission. The City's General Plan Coastal Element defines wetlands as: "Land which may be covered periodically or permanently with shallow water and includes saltwater marshes, freshwater marshes, open or closed brackish water marshes, mudflats, and fens. Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following attributes:

1. At least periodically, the land supports predominantly hydrophytes; or
2. The substrate is predominantly undrained hydric soil; or
3. The substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.

the project's conformity to these LCP policies. Further, and contrary to Commission staff guidance, observations during a Commission staff site visit, and previous Commission determinations regarding similar wetland issues nearby, the EIR does not adequately examine site hydrology and improperly asserts that wetland vegetation at the site is not acting as wetland vegetation.<sup>12</sup> Because the EIR erroneously concludes that there are no wetland areas that would be affected by the project, the CDP apparently omits the necessary findings regarding those areas and the findings needed to determine the project's conformity to the above policies. At the very least, additional evaluation is necessary to make a conclusive wetland determination at the site and to properly assess the project's conformity to the LCP wetland protection policies.

Regarding the second appeal issue about the impacts of project-related noise on nearby wetlands, the City heard testimony at its September 7, 2010 CEQA hearing that the project's noise studies misidentified the baseline noise levels in the project area and underestimated the effects on nearby residences of project-related noise from several types of pumps, construction equipment, and other machinery. At that hearing, Poseidon offered to conduct further studies after the facility started operating and to mitigate for any noise impacts that were at decibel levels above those allowed for residences. This proposed modification, however, does not address likely or potential noise effects on sensitive species in nearby wetland areas that are in some cases closer to the project site than the nearest residences. Some of the EIR's apparently underestimated noise levels at the nearby residences are at or above City noise standards, which suggests that nearby wetland species could experience noise at even higher levels. The EIR identified species known to exist in the wetlands include the endangered Belding's Savannah Sparrow and California least tern, several raptors (Cooper's hawk, Sharp-shinned hawk, Northern harrier, etc.), and other birds. However, the EIR did not identify noise standards for wetlands or environmentally sensitive habitat areas and did not identify those nearby areas as sensitive noise receptors. As a result, the EIR did not evaluate potential noise impacts on species in nearby wetland or environmentally sensitive habitat areas. Because these expected noise levels are likely to disturb or adversely affect various species – e.g., breeding and nesting birds – or may require additional buffering or mitigation measures, the City's findings do not ensure conformity to the above LCP policies.

Regarding the third appeal issue about the potential for additional wetland impacts due to subsequent selection of pipeline routes and pump station locations, neither the CDP nor EIR adequately address this issue for purposes of LCP conformity. Because the CDP relies on the inadequate EIR approach to wetland delineation, it is not apparent whether there are additional wetlands that may be affected in or near the possible pipeline routes, and therefore no certainty as to potential impacts or necessary mitigation measures.

Therefore, based on the record provided by the City and the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project's consistency with the above policies of the City's certified LCP.<sup>13</sup>

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<sup>12</sup> The EIR's conclusions contradict site characteristics identified by the Commission's ecologist, Dr. Jonna Engel, on a site visit in the spring of 2009 during which she identified evidence of wetland vegetation and hydrology.

<sup>13</sup> Note: In its 2006 Substantial Issue Findings for the previous version of this project, the Commission found that substantial issue existed with respect to the project's consistency with LCP Policy C7.1.3.

**5C) Appeal Issue: Land Use**

LCP Policy C1.2.1 states:

*“Accommodate existing uses and new development in accordance with the Coastal Element Land Use Plan and the Development and Density Schedule Table C-1.”*

The City’s findings state that “[t]he project is consistent with this policy because it is consistent with the Coastal Element Land Use Plan and Density Schedule.” The Land Use Plan designates the project site as “Public”, and the City states that the project falls within this designation because the project is similar to a utility, which is allowed under this designation.<sup>14</sup> Appellants contend that the City’s CDP findings regarding this policy are insufficient to determine conformity to the LCP, since the findings merely assert that the project is consistent with the policy. Appellants also contend that the City’s approval does not conform to this LCP policy because the project is not an allowable type of development under the Land Use Plan’s site designation. Appellants further contend that allowing an industrial and non-public, non-utility use such as this project at this site would require an amendment to the City’s LCP.

**Note:** See related appeal issues on land use designation below in Section 5D – Energy Use and Development.

The City’s application of this policy is inconsistent with the LCP in at least two ways:

- First, the City partially supports its conclusion that the project is similar to a utility by referencing the City’s zoning code that allows “water or wastewater treatment plants...and similar facilities of public agencies or public utilities.”<sup>15</sup> However, this zoning code appears to allow only water treatment plants of public agencies or public utilities, which does not include the proposed project. The project is not public, as it is owned by a private entity. The City acknowledges that the project is not subject to oversight or regulation by the state Public Utilities Commission (PUC), so it is not a utility for purposes of state law, and neither the CDP nor the EIR cite the PUC as a permitting or regulating agency.<sup>16</sup>
- Second, in some instances, the City’s review identifies the project as something other than a utility, including an “industrial use”, which is not allowed under the Land Use Plan’s site designation.<sup>17</sup> The City notes that the project will be subject to a “commercial/industrial” capital fee tax and the EIR incorporates the project’s NPDES permit, which describes the project as an “industrial” facility conducting “industrial” activities and allowing the use of affected ocean waters for “industrial service supply” (that permit also specifically exempts those waters from municipal and domestic supply). The U.S. EPA additionally categorizes the

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<sup>14</sup> Pursuant to the City’s Zoning Code at Chapter 214, uses allowed under the Public and Semipublic classification are: Cemetery, Cultural Institutions, General Day Care, Government Offices, Hospitals, Maintenance & Service Facilities, Park & Recreation Facilities, Public Safety Facilities, Religious Assembly, General Residential Care, Public or Private Schools, Major Utilities, and Minor Utilities.

<sup>15</sup> Referenced in the City’s findings for LCP Policy C10.1.4.

<sup>16</sup> At the time of the City’s adoption of the relevant policy, the power plant site was owned by Southern California Edison, which was regulated as a utility by the state Public Utilities Commission.

<sup>17</sup> The City’s Zoning Code at Section 214.06 prohibits uses that are not listed within the designation.



facility for NPDES purposes as an industry.<sup>18</sup> The City also notes that the project is subject to state Water Code Section 13142.5, which applies to industrial facilities. Further, Poseidon categorizes itself as something other than a “utility” – for example, in its City business license as a “government administrator of general economic programs” (through SIC Code 9611), and as a “manufacturing/industrial” entity rather than a “utility” in its declarations to the California Secretary of State.<sup>19</sup> Finally, the City and Poseidon have apparently disagreed as to whether the project is subject to certain City taxes or is exempt because Poseidon is a “water corporation,” not a utility.

It is therefore not clear from the City’s record whether the project is a utility, a non-allowed industrial use, or some other use. At the very least, additional evaluation is necessary to address these inconsistencies and to conclusively determine whether the project conforms to this LCP policy or whether the proposal may require an amendment to the land use designation. Therefore, based on the record provided by the City and the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project’s consistency with LCP Policy C1.2.1 (see also the discussion of the site designation for energy facility expansion in Appeal Issue 5D – Energy Use and Development).<sup>20</sup>

#### ***5D) Appeal Issue: Energy Use and Development***

LCP Policy C8 state:

*“Accommodate energy facilities with the intent to promote beneficial effects while mitigating any potential adverse effects.”*

LCP Policy C8.2.2 states:

*“Require the mitigation of adverse impacts from new technologies employed in electricity generation to the maximum extent feasible.”*

LCP Policy C8.2.4 states:

*“Accommodate coastal dependent energy facilities with the Coastal Zone consistent with Sections 30260 through 30264 of the Coastal Act.”*

LCP Policy C8.3.1 states:

*“Promote the use of solar energy and encourage energy conservation.”*

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<sup>18</sup> The EPA Facilities Registry System identifies the project as “SIC Code 4941: Industrial Group – Water Supply (link accessed 10/29/10) [http://iaspub.epa.gov/enviro/fri\\_query\\_dtl\\_disp\\_program\\_facility?p\\_registry\\_id=110027244480](http://iaspub.epa.gov/enviro/fri_query_dtl_disp_program_facility?p_registry_id=110027244480)

<sup>19</sup> See Poseidon’s filings pursuant to Government Code 86104 at <http://cal-access.sos.ca.gov/Lobbying/Employers>.

<sup>20</sup> Note: In its 2006 Substantial Issue Findings for the previous version of this project, the Commission found that a substantial issue exists with respect to the project’s consistency with the LCP land use policies.

The CDP findings for LCP Policy C8 state that the project is configured to accommodate both the existing power plant and its potential future plans to expand or switch to a different cooling system. The City did not evaluate the project for consistency with LCP Policy C8.2.2. For LCP Policy C8.2.4, the City states that the project is not an energy project, but that it has been configured to accommodate an existing energy facility and is therefore consistent with the policy. The City states that the project is consistent with LCP Policy C8.3.1 because the project will reduce energy used to pump water into Orange County (see also Appeal Issue 5E below). Appellants contend that the City's approval is inconsistent with the above policies for several reasons, including inadequate or inaccurate review to determine consistency with these policies and designation under both City and Coastal Commission policies of the entire power plant site as being available for power plant expansion. For LCP Policy C8.3.1, appellants contend that the City's conclusions about net energy use resulting from the project are based on an erroneous analysis and that the project EIR is internally inconsistent regarding this analysis.

The City's findings and the supporting EIR do not provide an adequate assessment for determining conformance to these policies. LCP Policy C8.2.4 incorporates by reference Coastal Act policies that designate the entire power plant site, including the area the City slated for the desalination facility, as being available for power plant expansion. The LCP's Coastal Element (at page IV-C-75) additionally states that vacant land adjacent to the power plant provides an opportunity for its potential expansion. The City's findings state only that the project was configured to accommodate the existing plant, with inadequate recognition of potential future expansion. Siting the desalination facility adjacent to the power plant may affect the ability of the plant to expand or to make the upcoming required changes to its cooling system; however, the City's review does not adequately describe how much of the area of the site may be needed for expansion, a new system, or both. Further, because the City did not evaluate the project's potential conflict with LCP Policy C8.2.2, it did not adequately address the project's likely non-conformity with this policy's requirement to address the expected new cooling technology needed at the power plant. Reducing the area available on the site will constrain the plant's options for either expansion or new and less environmentally harmful cooling technology, and therefore is not consistent with the first three policies above.<sup>21</sup> Regarding LCP Policy C8.3.1, and as described in Appeal Issue 5E below, because the City conducted an inaccurate analysis of the project's expected energy use, it downplays the project's likely substantial effects on local energy supplies and is not supportive of energy conservation.

Therefore, and based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project's consistency with the City's certified LCP.

#### ***5E) Appeal Issue: Adequate Public Services***

LCP Policy C1.1.1 states:

*"With the exception of hazardous industrial development, new development shall be encouraged to be located within, contiguous or in close proximity to, existing developed*

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<sup>21</sup> The Commission previously identified areas inland of the existing power plant as suitable for expansion in its 1978 consideration of a proposal by Southern California Edison to construct additional combined-cycle power units at Huntington Beach.

*areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services, and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.”*

LCP Policy C1.2.3 states:

*“Prior to the issuance of development entitlement, the City shall make the finding that adequate services (i.e., water, sewer, roads, etc.) can be provided to serve the proposed development, consistent with the policies contained in the Coastal Element, at the time of occupancy.”*

These LCP provisions require in general that new development be sited in areas able to accommodate it or in areas with adequate public services, and that the development not result in significant adverse effects. The City’s CDP findings state that the project is consistent with LCP Policy C1.1.1 because it is to be located in close proximity to the Huntington Beach Generating Station and that it is consistent with LCP Policy C1.2.3 because there are adequate services available. Appellants contend that the City’s findings are inadequate to support the project’s consistency with the requirements of these LCP policies to avoid potential adverse effects and to ensure the availability of needed public services.

Regarding LCP Policy C1.1.1, which requires that projects avoid significant adverse impacts, the City’s approval does not adequately acknowledge or evaluate the expected adverse impacts resulting from the project extending the life of the intake and discharge used by the power plant cooling system. The project would extend and expand the system’s impacts to marine life and water quality due to its planned continual use (24 hours per day, 365 days per year) for several additional decades, which represents a significant increase over the power plant system’s current relatively intermittent operations and its currently scheduled retirement on or before 2020 (see also the discussion of the project’s marine life and water quality impacts in Appeal Issue 5A above).

Regarding the policies’ requirements related to adequate public services, the City’s findings essentially state that the project will be consistent with these policies because adequate services can be provided. Those findings refer to Section 4.6 – Public Services and Utilities – of the project EIR; however, neither the assertion in the City’s findings nor the EIR analyses show that the City’s approval is consistent with these policies, particularly as they relate to the facility’s expected electricity use. The EIR states that the facility’s continual use of from 30 to 35 megawatts of electricity (or about 306,680 megawatt hours per year, which is equal to that used by about a quarter-million households) will result in a net reduction of electricity because the project will eliminate the electricity used by the State Water Project (SWP) to import water into Orange County – that is, because the project will provide 56,000 acre-feet of water annually for Orange County, the SWP will reduce its pumping and its electricity demand.

For several reasons, however, the City’s analysis and conclusion are incorrect and understate the project’s impact on local electricity supplies.<sup>22</sup> First, no element of the project ensures reduced SWP water imports into Southern California or Orange County, so there is no basis for the City’s

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<sup>22</sup> Note: The City’s analysis for these policies is also inconsistent with its findings regarding the project’s growth-inducing impacts. See Appeal Issue 5H below.

assumption of reduced electricity use, either locally or at the state level. As the Coastal Commission determined earlier this year regarding Poseidon's similar assertions for its Carlsbad project,<sup>23</sup> the project does not ensure a one-for-one reduction of water imports to Southern California and would therefore not necessarily reduce electricity use.

Further, even if the SWP were to reduce its electrical use due to the project, the project itself would continue to demand 30 to 35 megawatts of electricity. The EIR bases its review on the project obtaining electricity from either the adjacent power plant or from the grid; however, neither the EIR nor the CDP assess how the desalination facility's local demand on electricity from the power plant would affect coastal resources and how or whether such use would conform to the requirement of LCP Policy C.1.2.3 to be consistent with the City's Coastal Element policies. For example, if the power plant produces more electricity than it would otherwise to provide power to the adjacent desalination facility, it would result in more entrainment than it would otherwise, at least until the power plant's current cooling system is retired. However, neither the City's CDP nor EIR identifies measures to avoid or mitigate this impact, and the resulting increased operations of the power plant may not be consistent with the marine biology provisions of the City's Coastal Element.

Appellants additionally contend that the City's approval does not conform to LCP Policy C1.2.3 because the City did not identify a selected pipeline route for the project, and it is therefore not possible to determine whether pipeline-related impacts and needed mitigation for those impacts will conform to that policy. Depending on the yet-to-be selected route, the project could cause additional adverse effects due to a potential river crossing or due to the likelihood of liquefaction along some areas of the route. Either of those elements could require more substantial excavations or construction methods than contemplated by the City, and those methods could result in more significant harm or disruption to public services than was addressed in the City's review. For example, evidence provided to the City during its review suggests that pipeline placement along roadways in areas with high liquefaction potential could require much more extensive excavations (in both width and depth) than the City evaluated, which could lead to major public access disruptions and could render all or some of the routes infeasible. It is not apparent from the record that the City adequately considered this information (see also Appeal Issue 5G below).

Therefore, based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project's consistency with the above policies of the City's certified LCP.<sup>24</sup>

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<sup>23</sup> See the Commission's "Final Adopted Findings for R2-E-06-13 – Request For Revocation on Poseidon's Carlsbad Desalination Facility", February 2010. The Commission found for the Carlsbad project, which uses the same proposed approach as this Huntington Beach proposal for energy and greenhouse gas reduction, that, at best, the region's main water importer – the Metropolitan Water District of Southern California – might occasionally forego marginal transfers or purchases of imported water if it deems Poseidon's supply more suitable. Additionally, many of those transfers or purchases are not necessarily foregone, but are instead stored for later transport to Southern California, which would require the use of electricity that the CDP incorrectly presumes would not be needed.

<sup>24</sup> Note: In its 2006 Substantial Issue Findings for the previous version of this project, the Commission found that substantial issue existed with respect to the project's consistency with LCP policy C1.2.3.

**5F) Appeal Issue: Effects on Public Recreation**

LCP Policy C3.1 states:

*"Preserve, protect, and enhance, where feasible, existing public recreation sites in the Coastal Zone."*

The City's findings state that the project is consistent with this policy because it will have a negligible impact on parks and recreational facilities. With regard to the project's effects on fishing due to its intake of seawater and its discharge of high-salinity effluent, the CDP states that fish with high commercial or recreational value are uncommon in the source water and that nearby areas do not support sensitive species. Applicants contend that the project's continuance of the system used by the power plant to draw in and discharge seawater causes adverse effects that run counter to this policy's requirement to protect existing recreational fishing opportunities.

Regarding the intake, and as noted by the appellants, the City's findings are inconsistent with conclusions of numerous state and federal agencies about the adverse effects of open water intakes on marine life. The findings are also inconsistent with the entrainment study done at this power plant showing its effects on commercially- and recreationally-important species, such as halibut, crab, and others. The most recent entrainment study for the power plant showed that the intake drew in and killed organisms originating along the Southern California shoreline from up to several dozen miles away, which is a much larger source water area than considered in the City's findings.

Regarding the discharge, concerns raised during the City's review include the potential that the project's high-salinity effluent will adversely affect marine life. The effluent's salinity concentration is expected to be about 40 parts per thousand, which is about 20 percent higher than ambient seawater salinity and about 10 percent higher than naturally-occurring variability. Discharge modeling shows that the project will create areas of higher than natural salinity covering from about five to several dozen acres of nearshore benthic habitat, and affecting similarly-sized areas of the nearshore water column. The City's findings state that this would not represent substantial ecological effects or water quality degradation because those immediate areas do not include special biological areas or endangered or threatened species and because many of the species present in the nearby waters are also present in higher-salinity waters elsewhere – e.g., in the Gulf of California. However, this conclusion does not address the likelihood that local organisms not acclimated to higher salinities may avoid areas within the effluent plume, resulting in loss of foraging habitat as well as loss of recreational fishing opportunities within that area. The findings also state that any species exposed to elevated salinities would have low exposure times and that the areas represent insubstantial foraging areas; however, the City has not cited *in situ* tests or monitoring results to support such findings.

Therefore, and based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project's consistency with the City's certified LCP.

**5G) Appeal Issue: Adequate Protection Against Seismic Events and Liquefaction**

LCP Policy C10.1.4 states:

*“Require appropriate engineering and building practices for all new structures to withstand ground shaking and liquefaction such as those stated in the Uniform Building Code.”*

The City’s findings state that its approval provides consistency with this policy because it requires the project to meet all appropriate and adequate building standards related to ground shaking and liquefaction and because it will be consistent with applicable provisions of the Uniform Building Code. Appellants contend that the City’s findings are inadequate because the project does not yet include an identified pipeline route, and the City can therefore not yet determine what measures are needed to withstand potential liquefaction. Appellants further contend that the City did not adequately address testimony provided at its September 7, 2010 CEQA hearing documenting that the City’s approval would not sufficiently avoid liquefaction impacts.

The EIR review is based on pipelines being located largely within existing public streets, easements, or other rights-of-way and states that the alignments will not disturb native vegetation or adversely affect sensitive resources. It identifies anticipated traffic effects as being limited to no more than two traffic lanes during construction, and further states that a project-specific geotechnical evaluation will be needed before pipelines are placed. At the same time, the City has identified the project site and the entire area surrounding the power plant site, including portions of likely pipeline routes, as having high liquefaction potential.<sup>25</sup> Testimony provided to the City suggests that soil and subsurface characteristics within potential pipeline routes may require trenching that is much more extensive (in both width and depth) than evaluated in the EIR and may require a type of fill that is incompatible with roadways. Both the additional trenching and alternative fill could result in significant disruptions to traffic and coastal access, as well as substantially increase the project’s construction-related and air quality impacts. It does not appear that the City evaluated these concerns sufficiently to ensure conformity to this LCP policy, and, in fact, put off until some future date the geotechnical analysis needed to identify and mitigate potential impacts. Therefore, based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project’s consistency with the City’s certified LCP.

**5H) Appeal Issue: Mitigation to the Maximum Extent Feasible**

LCP Policy C1.1 states:

*“Ensure that adverse impacts associated with coastal zone development are mitigated or minimized to the greatest extent feasible.”*

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<sup>25</sup> See the “Liquefaction Potential” Map at page IV-C-93 of the City’s General Plan Coastal Element.

The City's findings for this LCP Policy state that all the project's potential adverse impacts have either been mitigated or have been minimized to the greatest extent feasible.<sup>26</sup> As described in the appeal issues above, appellants contend that the City failed to address or adequately mitigate many of the project's potential or likely impacts, resulting in non-conformity with the above-referenced policies as well as with LCP Policy C1.1.

In addition, appellants contend that the City's findings are contradictory with regards to the project's anticipated growth-inducement, and that these contradictory findings prevent conformity to this policy. The City evaluates the project both as not being growth-inducing – for example, in its analyses of the project's electrical use and greenhouse gas emissions – and as being growth-inducing – in the EIR's discussion of growth-inducement and the associated Statement of Overriding Considerations. The City's analyses inconsistently determined both that the project would provide "replacement water" – that is, it would only replace an existing source of water – as well as "new water" – that is, it would result in new water being brought into the area, resulting in potential additional growth. As a result of this inconsistency, it is not clear that the City's review evaluated all potential mitigation measures that may be needed to address the project's impacts. Therefore, based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project's consistency with the City's certified LCP.

#### **5D) Appeal Issue: Coastal Dependency**

LCP Policy C1.1.2 states:

*"Coastal dependent developments shall have priority over other developments on or near the shoreline. Coastal-related developments should be accommodated within reasonable proximity of the coastal-dependent uses they support."*

The City's findings state that the project is a coastal-dependent development because it needs to be sited on or adjacent to the ocean in order to function at all. The City states the project is similar to other coastal-dependent developments, such as electrical generating facilities, refineries, and offshore oil and gas production. Appellants contend that the City is incorrect in categorizing the project as coastal-dependent since it does not need to be "on or adjacent to the sea in order to function at all."<sup>27</sup>

While the current proposed project would rely in part on existing coastal-dependent infrastructure – i.e., the intake and discharge of the power plant – the desalination facility itself would be located about a quarter-mile from the ocean, not "on or adjacent" to the ocean. Further, as evidenced by many desalination facilities that are similarly set back from the shoreline and by many inland desalters that draw brackish water from inland aquifers, desalination facilities do not necessarily require a location "on or adjacent" to the ocean. The City's findings do not make it clear that this particular project is coastal dependent. Therefore,

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<sup>26</sup> The findings also note, however, that the City adopted a Statement of Overriding Considerations to address adverse impacts related to growth-inducement and construction that have not been mitigated to a level of insignificance.

<sup>27</sup> The City's Coastal Element defines "coastal dependent" as "any development or use which requires a site on, or adjacent to, the sea to be able to function at all."



based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project's consistency with the City's certified LCP.

**6. APPEAL ISSUES NOT RAISING SUBSTANTIAL ISSUE**

**6A) Appeal Issue: Water Conservation**

LCP Policy C6.1.12 states:

*"Periodically review the City's policies on water conservation, including the Water Conservation Ordinance, to ensure the use of state of the art conservation measures for new development and redevelopment, and retrofitting of existing development, where feasible and appropriate, to implement these measures."*

The City states that the project is consistent with this policy in that it must comply with applicable provisions of the City's Water Conservation Ordinance. Appellants contend the City's approval is inconclusive regarding consistency with this policy.

The policy primarily provides direction to the City to ensure it updates elements of City requirements related to water conservation. The City's Water Conservation Ordinance is one of those elements, and includes conservation provisions applicable to new and existing development, such as limits on water use, timing of landscape watering, limits on new development during severe declared water shortages, and other similar measures. Because the policy provides guidance to the City rather than to particular new projects, the City's approval does not result in an inconsistency with this policy. Further, as noted in the City's findings, the approved project will be subject to applicable provisions of the Water Conservation Ordinance. Therefore, based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that *no* substantial issue exists with respect to the project's consistency with LCP Policy C6.1.12.

# APPENDIX E

# **EXHIBIT A**

## **MITIGATION, MONITORING, AND REPORTING PROGRAM**

### **1.1 INTRODUCTION**

As the lead agency under CEQA, the City of Huntington Beach (City) is required to adopt a program for reporting or monitoring regarding the implementation of mitigation measures to ensure that the adopted mitigation measures are implemented as defined in the Subsequent Environmental Impact Report (SEIR) and listed in Table 1-1. This lead agency responsibility originates in Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 (Mitigation Monitoring or Reporting).

### **1.2 MONITORING AUTHORITY**

The purpose of a Mitigation Monitoring and Reporting Program (MMRP) is to ensure that measures adopted to mitigate or avoid significant impacts are implemented. An MMRP can be a working guide to facilitate not only the implementation of mitigation measures by the project proponent, but also the monitoring, compliance, and reporting activities of the City and any monitors it may designate.

The City may delegate duties and responsibilities for monitoring to other environmental monitors or consultants as deemed necessary, and some monitoring responsibilities may be assumed by responsible agencies, such as affected jurisdictions and cities. The number of construction monitors assigned to the project will depend on the number of concurrent construction activities and their locations. The City or its designee(s), however, will ensure that each person delegated any duties or responsibilities is qualified to monitor compliance.

It is the responsibility of the environmental monitor assigned to ensure that appropriate agency reviews and approvals are obtained. The City or its designee will also ensure that any deviation from the procedures identified under the monitoring program is approved by the City. Any deviation and its correction shall be reported immediately to the City or its designee by the environmental monitor assigned.

### 1.3 ENFORCEMENT RESPONSIBILITY

The City is responsible for enforcing the procedures adopted for monitoring through the environmental monitor assigned to each construction area. Any assigned environmental monitor shall note problems with monitoring, notify appropriate agencies or individuals about any problems, and report the problems to the City or its designee.

### 1.4 MITIGATION COMPLIANCE RESPONSIBILITY

The applicant is responsible for successfully implementing all the mitigation measures in the MMRP, and is responsible for assuring that these requirements are met by all of its construction contractors and field personnel. Standards for successful mitigation are implicit in many mitigation measures that include such requirements as obtaining permits or avoiding a specific impact entirely. Other mitigation measures include detailed success criteria. Additional mitigation success thresholds will be established by applicable agencies with jurisdiction through the permit process and through the review and approval of specific plans for the implementation of mitigation measures.

### 1.5 GENERAL MONITORING PROCEDURES

**Environmental Monitors.** Many of the monitoring procedures will be conducted during the construction phase of the project. The City and the environmental monitor(s) are responsible for integrating the mitigation monitoring procedures into the construction process in coordination with the applicant. The environmental monitor is responsible for ensuring that all procedures specified in the monitoring program are followed.

**Construction Personnel.** A key feature contributing to the success of mitigation monitoring will be obtaining the full cooperation of construction personnel and supervisors. Many of the mitigation measures require action on the part of the construction supervisors or crews for successful implementation. To ensure success, the following actions, detailed in specific mitigation measures, will be taken:

- Procedures to be followed by construction companies hired to do the work will be written into contracts between the applicant and any construction contractors. Procedures to be followed by construction crews will be written into a separate document that all construction personnel will be asked to sign, denoting agreement.

- One or more pre-construction meetings will be held to inform and train construction personnel about the requirements of the monitoring program.

**General Reporting Procedures.** Site visits and specified monitoring procedures performed by other individuals will be reported to the environmental monitor assigned. A checklist will be developed and maintained by the environmental monitor to track all procedures required for each mitigation measure and to ensure that the timing specified for the procedures is adhered to. The environmental monitor will note any problems that may occur and take appropriate action to rectify the problems.

## **1.6 MITIGATION MONITORING AND REPORTING TABLE**

Table 1-1 lists the full text of mitigation measures identified for each environmental discipline plus documentation, monitoring activity, timing of implementation, and responsible monitor.

**Table 1-1, Mitigation Monitoring and Reporting Program**

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<b>OPERATIONAL IMPACTS</b>						
<b>GEOLOGY, SOILS, AND SEISMICITY</b>						
<b>GEO-1</b> A subsurface fault investigation shall be performed in accordance with California Geological Survey Note 49 to assess the nature and extent of possible surface-fault rupture across the southern portion of the site. If evidence for potential fault-surface rupture is found, an appropriate "setback" for structures from the zone of surface faulting will be required.	Subsurface fault investigation	Review of subsurface fault investigation/survey  Confirmation appropriate "setback" is implemented, if necessary	Prior to construction	City Public Works Dept.		
<b>GEO-2</b> The potential for lateral spread shall be investigated as part of the site-specific geotechnical investigation for the project. The geotechnical report shall identify that geotechnical observation, laboratory testing, or both be completed during grading to identify areas of highly expansive soils and to determine the actual expansion potential of finish-grade soils. Compressible soils in areas that have the potential for lateral spread will require removal and recompaction in areas of proposed improvements or future fill per the specifications of a California-licensed engineer.	Geotechnical investigation and report identifying areas of highly expansive soils and to determine the actual expansion potential of finish-grade soils	Review geotechnical investigation results/report.  Confirmation that necessary measures are taken during grading	Prior to construction	City Public Works Dept.		
<b>GEO-3</b> A certified engineer shall ensure that all structures associated with the proposed	Building plans	Review and approve	Prior to issuance of	City Planning and Building		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
desalination facility have been designed to withstand the "design-level" earthquake, as set forth in the latest edition of the Uniform Building Code, prior to the issuance of grading permits. In addition, the project must follow the site specific geotechnical report and the professional engineer's recommendations.		building plans	grading permits	Dept. and applicant/ designated certified engineer		
<b>GEO-4</b> A California-licensed Civil Engineer (Geotechnical) shall prepare and submit to the City a detailed soils and geotechnical analysis with the first submittal of the grading plan. This analysis shall include soil sampling and laboratory testing of materials to provide detailed recommendations for grading, chemical and fill properties, liquefaction and landscaping. The grading plan for the proposed project shall contain the recommendations of the final soils and geotechnical report. The recommendations shall be implemented in the design of the project, including but not limited to the measures associated with site preparation, fill placement, temporary shoring and permanent dewatering, groundwater seismic design features, excavation stability, foundations, soil stabilization, establishment of deep foundations, concrete slabs and pavements, surface drainage, cement type and corrosion measures, erosion control,	Soils and geotechnical analysis	Review a soils and geotechnical analysis with grading plan	First submittal of the grading plan	City Public Works Dept. and designated California-licensed Civil Engineer (Geotechnical)		



Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
shoring and internal bracing, and plan review. <b>GEO-5</b> The use of Type V cement shall be used for concrete, and special coatings or other measures should be used to protect metal pipes against the effects of corrosion.	Contract specifications	Review of contract specifications to ensure use of Type V cement and other measures to protect metal pipes against corrosion	Prior to and during construction	City Public Works Dept. and applicant/designated construction contractors		
<b>GEO-6</b> Depending upon the construction methods dewatering may be required in order to safely excavate the sites of the proposed below groundwater facilities, and may require some form of lateral support. Groundwater pumped from the dewatering wells will need to meet National Pollutant Discharge Elimination System permit requirements before it is discharged (refer to Section 4.9, Construction-Related Impacts). In order to prevent the buried tanks (and certain pipelines) from "floating" when water levels in the tanks/pipelines are drawn down, it will be necessary to either "anchor" them down, add additional weight to the tanks/pipelines themselves, and/or add sufficient soil surcharge across the top of the tank/pipelines.	Construction plans	Review construction plans to ensure buried tanks are anchored or other method is used to prevent floating	Prior to/during construction	City Public Works Dept. and designated construction contractors		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<b>GEO-7</b> Compressible soils in areas that have the potential for lateral spread will require removal and recompaction or future fill per the specifications of a California-licensed engineer. This process will require dewatering and support of walls of excavation or use of deep foundations such as stone columns or piles and grade beams to support proposed structures.	Construction plans	Review construction plans to ensure lateral spread in areas with compressible soils is prevented	Prior to/during construction	City Planning and Building Dept. and designated California-licensed engineer		
<b>GEO-8</b> The proposed project shall incorporate recommended measures of the final soils and geotechnical/seismic analysis to stabilize structures from on-site soils known to be prone to liquefaction. Typical methods include, but are not limited to: <ul style="list-style-type: none"> <li>• Over-excavation and recompaction of soils</li> <li>• In situ soil densification, such as vibro-flotation or vibro-replacement (i.e., stone columns)</li> <li>• Injection grouting</li> <li>• Deep soil mixing.</li> </ul>	Construction plans	Review final soils and geotechnical/seismic analysis and construction plans to ensure structures from on-site soils known to be prone to liquefaction are stabilized	Concurrent with submittal of first grading plan	City Planning and Building Dept. and applicant/designated construction contractors		
<b>GEO-9</b> A California-licensed Civil Engineer (Geotechnical) shall prepare and submit to the City a detailed soils and geotechnical analysis with the first submittal of the grading plan. This	Soils and geotechnical analysis	Review soils and geotechnical analysis,	Concurrent with submittal of first grading plan	City Public Works Dept. and designated California-		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
analysis shall include soil sampling and laboratory testing of materials to provide detailed recommendations for grading, chemical and fill properties, liquefaction and landscaping. The grading plan prepared for the proposed project shall contain the recommendations of the final soils and geotechnical report. These recommendations shall be implemented in the design of the project including but not limited to measures associated with site preparation, fill placement, temporary shoring, and permanent dewatering, groundwater seismic design features, excavation stability, foundations, soil stabilization, establishment of deep foundations, concrete slabs and pavements, surface drainage, cement types and corrosion measures, erosion control, shoring and internal bracing and plan review.		including soil sampling and laboratory testing		licensed Civil Engineer (Geotechnical)		
<b>HYDROLOGY, DRAINAGE, AND STORMWATER RUNOFF</b>						
<b>HWQ-1</b> The City of Huntington Beach shall require that prior to the issuance of grading permits the applicant's Licensed Civil Engineer prepare a hydrology and hydraulic study to identify the effects of potential stormwater runoff from the project on the existing storm drain flows for the 10-, 25-, and 100-year design storm events. The study shall identify existing runoff	Hydrology and hydraulic study	Review hydrology and hydraulic study identifying the effects of potential stormwater runoff from the	Prior to the issuance of grading permits	City Public Works Dept. and applicant's Licensed Civil Engineer		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
and proposed runoff, in addition to existing storm drain system capacity at the site discharge location to the nearest down-gradient main junction. The applicant shall design site drainage and document that the proposed project would not increase peak storm event flows over existing conditions for the design storm events.		project on the existing storm drain flows for the 10-, 25-, and 100-year design storm events				
<b>HWQ-2</b> Prior to the issuance of building permits (not including demolition permits), an appropriate on-site drainage system that integrates permanent stormwater quality features shall be installed for the project.	Construction plans	Review construction plans and ensure on-site drainage system that integrates permanent stormwater quality features is installed	Prior to the issuance of building permits (not including demolition permits)	City Public Works Dept. and applicant/ designated contractors		
<b>HWQ-3</b> Prior to issuance of grading permits, the applicant shall submit to the City for approval a plan outlining the specific planning measures to be taken to minimize or reduce risks to property and human safety from tsunami during operation. Planning measures could include, but not be limited to, the following: (a) Provision of tsunami safety information to all facility personnel, in addition to posting signage on site;	Plan to minimize risks of tsunami	Review plan to minimize or reduce risks to property and human safety from tsunami during operation	Prior to issuance of grading permits	City Fire Dept. and applicant		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
(b) identification of the method for transmission of tsunami watch and warnings to facility personnel and persons on the site in the event a watch or warning is issued; and (c) identification of an evacuation site for persons on site in the event of a tsunami warning.						
<b>NOISE</b>						
<b>NOI-1</b> All pumps located outdoors (i.e., seawater intake pumps, filter effluent transfer pumps, and stand-alone pumps) shall be located within enclosed structures with adequate setback and screening, as necessary, to achieve acceptable noise levels at the property lines of nearby residences in accordance with the City of Huntington Beach's Noise Ordinance. Once the stationary noise sources have been installed, noise levels shall be monitored to ensure compliance with the City's Noise Ordinance. If stationary noise sources exceed levels specified in the City's Noise Ordinance, an acoustical engineer shall be retained by the project applicant to install additional noise attenuation measures in order to meet the applicable noise standard.	Building plans	Review building plans and ensure outdoor pumps are installed within enclosed structures  Monitor after installation to ensure compliance with Noise Ordinance	During installation of outdoor pumps and during operation	City Planning and Building Dept. and applicant		
<b>Public Services and Utilities</b>						
<b>PSU-1</b> The applicant shall coordinate with the City of Huntington Beach's recycling	Construction and operation plans	Review construction	Prior to construction	City recycling representative		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
representative to ensure that the proposed project is in compliance with the City's waste reduction and recycling program.		and operation plans to ensure compliance with waste reduction and recycling program		and applicant		
<b>PSU-2</b> Prior to the issuance of a grading permit, the applicant shall prepare a waste reduction plan for the generation of construction and operational waste from the proposed project. This plan will be submitted to the recycling coordinator from the City of Huntington Beach, who will ensure that Assembly Bill 939 requirements are properly addressed.	Waste reduction plan	Review and approve waste reduction plan to ensure Assembly Bill 939 requirements are properly addressed	Prior to the issuance of a grading permit	City recycling coordinator and applicant		
<b>Aesthetics/Light and Glare</b>						
<b>ALG-1</b> The applicant shall submit full design details pursuant to City of Huntington Beach requirements for design review submittals that will specify architectural treatments that minimize visual impacts. The design shall specify the following: <ul style="list-style-type: none"> <li>For areas visible from adjacent, existing, or proposed residential areas, exterior mechanical equipment shall be screened from view on all sides, and rooftop mechanical</li> </ul>	Design plan that specifies architectural treatments that minimize visual impacts	Review design plan and ensure architectural treatments minimize visual impacts	Prior to construction	City Planning and Building Dept. and applicant		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>equipment shall be set back 15 feet from the exterior edges of the building.</p> <ul style="list-style-type: none"> <li>Equipment to be screened includes, but is not limited to, heating, air conditioning, refrigeration equipment, plumbing lines, duct-work, and transformers.</li> <li>Said screening shall be architecturally compatible with the building in terms of materials and colors.</li> <li>If screening is not designed specifically into the building, a rooftop mechanical equipment plan showing screening must be submitted for review and approval with the application for building permit(s).</li> </ul>						
<p><b>ALG-2</b> The applicant shall submit a lighting plan to be reviewed and approved by the City. The plan shall:</p> <ul style="list-style-type: none"> <li>Specify that light intensity for outdoor lighting shall be limited to that necessary for adequate security and safety.</li> <li>Demonstrate that outside lighting shall</li> </ul>	Lighting plan	Review lighting plan	Prior to construction	City Planning and Building Dept. and applicant		



Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
be directed to prevent spillage onto adjacent properties.						
<b>PRODUCT WATER QUALITY</b>						
<b>PW-1</b> Prior to project operations, the applicant shall obtain all required drinking water permits from the California Department of Health Services. These permits are anticipated to consist of the following: <ul style="list-style-type: none"> <li>• A Wholesale Drinking Water Permit (on August 10, 2002, the California Department of Health Services issued a conceptual approval letter for the Seawater Desalination Project at Huntington Beach)</li> <li>• An Administrative Change to Retail Agencies' Drinking Water Permit (to include desalinated water from the proposed project as an approved source of supply for the California Department of Health Services).</li> </ul>	Drinking water permits	Review required drinking water permits	Prior to operation	City Planning and Building Dept. and applicant		
<b>PW-2</b> During final design of the proposed project, the applicant shall incorporate the following six provisions to protect water quality in the event of "non-routine" operations (defined as operations such as seawater emergency intake pump shutdowns and failures, electricity equipment malfunctions, excessively high	Design plans	Review design plans and ensure provisions are incorporated to protect water quality in the	Prior to construction	City Planning and Building Dept., Public Works Dept., and applicant		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>temperature of the cooling water, etc.):</p> <ul style="list-style-type: none"> <li>Automatic Control Interlock between HBGS Pumps and Desalination Facility Intake Pumps: The shutdown controls of the desalination facility intake pumps shall be interlocked with the HBGS pumps so that during co-location, when HBGS pump operation is discontinued to prepare for heat treatment, non-routine, or even routine pump shutdown, this would automatically trigger an alarm at the desalination facility along with shutdown of the desalination intake pumps. After this emergency shutdown, the intake pumps shall be started up manually, and the operations staff would be required to check the reason of shutdown with the HBGS staff before restarting the treatment facility intake pumps.</li> <li>Continuous Intake Pump Flow Measurement Devices: Seawater intake pumps shall be equipped with flowmeters, which would record the pumped flow continuously. If the intake flow is discontinued for any</li> </ul>		event of "non-routine" operations				

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>reason, including non-routine HBGS operations, automatic intake pump shutdown shall occur.</p> <ul style="list-style-type: none"> <li>Continuous Intake Water Temperature Measurement Devices:</li> </ul> <p>The desalination facility intake pump station shall be equipped with instrumentation for continuous measurement of the intake temperature. Any fluctuations of the intake temperature outside preset normal limits shall trigger alarm and intake pump shutdown. This monitoring equipment shall provide additional protection against heat treatment or other unusual intake water quality conditions.</p> <ul style="list-style-type: none"> <li>Continuous Intake Water Salinity/Conductivity Measurement Devices:</li> </ul> <p>The desalination facility intake pump station shall be equipped with instrumentation for continuous measurement of the intake seawater salinity. Any fluctuations of the intake salinity outside preset normal operational limits shall trigger an alarm and</p>						

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>initiate intake pump shutdown. This monitoring equipment shall provide additional protection against discharge of unusual freshwater/surface water streams in the facility outfall.</p> <ul style="list-style-type: none"> <li>Continuous Intake Water Oil Spill/Leak Detection Monitoring Devices: The desalination facility intake pump station shall be equipped with instrumentation for oil spill/leak detection. Detection of oil in the intake water, even in concentrations lower than 0.5 milligrams per liter, shall automatically trigger an alarm and initiate intake pump shutdown. This monitoring equipment shall provide additional protection against unusual intake water quality conditions.</li> <li>Routine Communication with HBGS Staff: While the desalination facility is in operation in conjunction with the HBGS, the desalination facility staff of each shift shall be required to contact HBGS personnel at least once per shift and inquire about unusual</li> </ul>						

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
planned or unplanned events at the HBGS. If non-routine operations are planned at the HBGS, the desalination facility shall modify desalination facility operations accordingly.						
<b>PW-3</b> During project operations, the RO membrane system shall be continuously monitored for feed seawater and permeate conductivity and the differential pressure through the membranes. If permeate salinity (i.e., total dissolved solids) concentration exceeds the design level, membranes shall be cleaned to recover their original performance capabilities.	Design and operation plans	Review design and operation plans and ensure RO membrane system is monitored for feed seawater and permeate conductivity and the differential pressure through the membranes	During operation	City Planning and Building Dept. and applicant/ designated monitors		
<b>PW-4</b> Prior to project operations, the desalination facility operations staff shall develop an earthquake preparedness plan, which shall be reviewed and approved by the City of Huntington Beach. The plan shall be in compliance with all applicable regulations and	Earthquake preparedness plan	Review and approve earthquake preparedness plan	Prior to operation	City Fire Dept. and applicant/ desalination facility operations staff		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
shall include safety planning documentation providing measures that include but are not limited to coordination procedures with appropriate agencies and facility operations procedures to ensure water delivery under earthquake emergency conditions are maintained.						
<b>PW-5</b> Prior to project operations, a corrosion monitoring system shall be installed in the proposed transmission pipeline at points of interconnection with the existing water distribution system to ensure that the proposed corrosion control measures are effective and adequate. The corrosion monitoring system will include monitoring beyond the point of connection in order to monitor downstream effects, if required by MWD.	Building plans	Review building plans and ensure corrosion monitoring system is installed	Prior to operation	City Public Works Dept.		
<b>PW-6</b> To protect against potential taste and odor problems associated with the startup of facility operations, a sequential flushing program shall be initiated just prior to project startup that shall be coordinated with the involved water agencies to minimize sediment disturbance that might occur due to flow reversal in a portion of the existing distribution system.	Flushing program	Review flushing program and ensure coordination with water agencies to minimize sediment disturbance	Prior to operation	City Public Works Dept. and applicant		
<b>PW-7</b> Prior to project operations, a sampling	Design plan	Review design	Prior to and	City Public		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
location shall be established near the physical connection of the transmission pipeline to the OC-44 feeder. A monitoring program shall be implemented for this location incorporating the following parameters: coliform bacteria, heterotrophic bacteria, chlorine residual, disinfection byproducts, and aesthetic parameters such as turbidity, odor, and color, as well as corrosion indices.		plan and ensure sampling location is established and monitored during operation	during operation	Works Dept. and applicant		
<b>PW-8</b> Prior to project operations, the applicant shall coordinate with and obtain approval as required from applicable local and regional water agencies that own and operate the distribution system with which the desalinated water would come in contact. Various operating approvals and corresponding agreements shall be signed before the desalinated water is introduced into the local distribution system.	Operating approvals and agreements	Review approvals and agreements with appropriate local/regional water agencies	Prior to operation	City Public Works Dept. and applicant		
<b>CONSTRUCTION-RELATED IMPACTS</b>						
<b>CONSTRUCTION - HYDROLOGY AND WATER QUALITY</b>						
<b>CON-1</b> Concurrent with the submittal of any Grading Plan or Demolition Plan, the Applicant shall submit an Erosion Control Plan to the City of Huntington Beach Public Works Department for review and approval, which shall include the following measures: <ul style="list-style-type: none"> <li>Where necessary, temporary and/or</li> </ul>	Erosion Control Plan	Review Erosion Control Plan	Concurrent with the submittal of any Grading Plan or Demolition Plan	City Public Works Dept. and applicant		



Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>permanent erosion control devices, as approved by the City of Huntington Beach Public Works Department, shall be employed to control erosion and provide safety during the rainy season from October 15 to April 15.</p> <ul style="list-style-type: none"> <li>Equipment and workers for emergency work shall be made available at all times during the rainy season. Necessary materials shall be available on site and stockpiled at convenient locations to facilitate the rapid construction of temporary devices when rain is imminent.</li> <li>Erosion control devices shall not be moved or modified without the approval of the City of Huntington Beach Public Works Department.</li> <li>All removable erosion protective devices shall be in place at the end of each working day when the 5-day rain probability forecast exceeds 40%.</li> <li>After a rainstorm, all silt and debris shall be removed from streets, check berms, and basins.</li> </ul>						

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<ul style="list-style-type: none"> <li>Graded areas on the permitted area perimeter must drain away from the face of the slopes at the conclusion of each working day. Drainage is to be directed toward desilting facilities.</li> <li>The permittee and contractor shall be responsible and shall take necessary precautions to prevent public trespass onto areas where impounded water creates a hazardous condition.</li> <li>The permittee and contractor shall inspect the erosion control work and ensure that the work is in accordance with the approved plans.</li> <li>Water shall be applied to the site twice daily during grading operations or as otherwise directed by the County of Orange Inspector in compliance with South Coast Air Quality Management District (SCAQMD) Rule 403 (Fugitive Dust Emissions). A grading operations plan may be required, including watering procedures to minimize dust and equipment procedures to</li> </ul>						

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
minimize vehicle emissions from grading equipment.						
<b>CON-2</b> Construction of the project shall include best management practices (BMPs) as stated in the Orange County Stormwater Management Program's Drainage Area Management Plan (DAMP). BMPs applicable to the project include the following: <ul style="list-style-type: none"> <li>• Silt fences installed along limits of work, the project construction site, or both.</li> <li>• Stockpile containment (i.e., visqueen, fiber rolls, gravel bags, etc.)</li> <li>• Hillside stabilization structures (i.e., fiber matrix on slopes and construction access stabilization mechanisms, etc.)</li> <li>• Street sweeping</li> <li>• Tire washes for equipment</li> <li>• Runoff control devices (i.e., drainage swales, gravel bag barriers/chevrons, velocity check dams, etc.)</li> </ul>	Contract language and construction plans	Review and approve contract specifications and construction plans	Prior to construction	City Public Works Dept. and designated construction contractors		
<b>CON-3</b> As part of its compliance with the NPDES requirements, the applicant shall prepare permit registration documents (PRDs)	Permit registration documents	Review Stormwater Pollution	Prior to construction	City Public Works Dept. and applicant		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
that include a Notice of Intent (NOI) to be submitted to the Santa Ana Regional Water Quality Control Board providing notification and intent to comply with the State of California general permit prior to any construction occurring. Prior to filing the PRDs, completion of a stormwater pollution prevention plan (SWPPP) shall be required for construction activities on site. A copy of the SWPPP shall be available, implemented, and amended at the construction site at all times.	(PRDs), Notice of Intent (NOI), and Stormwater Pollution Prevention Plan (SWPPP)	Prevention Plan (SWPPP), permit registration documents (PRDs), and Notice of Intent (NOI)				
<b>CON-4</b> As part of its compliance with the NPDES requirements, the applicant shall prepare permit registration documents (PRDs) that include a Notice of Intent (NOI) to be submitted to the Santa Ana Regional Water Quality Control Board providing notification and intent to comply with the State of California general permit prior to any construction occurring. According to the risk level assessed to the discharges of the project, the applicant will comply with additional requirements of NPDES permit (Order No. 2009-0009 DWQ (CAS000002)) to be effective July 1, 2010. These include numeric action levels and/or numeric effluent limitations for pH and turbidity, the preparation of rain event action plans,	Permit registration documents (PRDs) and Notice of Intent (NOI)	Review permit registration documents (PRDs), Notice of Intent (NOI), and additional requirements of NPDES permit (Order No. 2009-0009 DWQ (CAS000002))	Prior to construction and dewatering activities	City Public Works Dept. and applicant		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
monitoring for pH and turbidity, and bioassessments.						
<b>CON-5</b> Prior to any dewatering activities, the applicant shall obtain and comply with a general dewatering NPDES permit from the Santa Ana Regional Water Quality Control Board. Prior to dewatering into a sanitary sewer system, the project applicant will obtain the required permit and adhere to the conditions outlined in the permit issued by the Orange County Sanitation District.	NPDES and Orange County Sanitation District permit	Review and ensure adherence to NPDES and Orange County Sanitation District permits	Prior to dewatering activities	City Public Works Dept. and applicant		
<b>CON-6</b> Prior to receiving any grading or building permit, the applicant shall prepare a precise grading and drainage plan containing the recommendations of the final soils and geotechnical analysis for temporary and permanent groundwater dewatering, as well as for surface drainage, for review and approval by the Santa Ana Regional Water Quality Control Board and the City of Huntington Beach Public Works Department. The dewatering plan shall ensure treatment in compliance with the NPDES dewatering permit to be issued by the Santa Ana Regional Water Quality Control Board. Where necessary, a dewatering treatment system shall be employed to remove contaminants. For instance, for treatment of volatile organic	Grading and drainage plan	Review and approve grading and drainage plan  Obtain approval from Santa Ana Regional Water Quality Control Board	Prior to permitting	City Public Works Dept. and applicant		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>compounds such as trichloroethylene, the system may employ at least two beds of granular activated carbon in series in addition to physical processes used to reduce suspended solids.</p> <p>The applicant will comply with the approved dewatering plan. The dewatering plan will include provisions for the installation and operation of a monitoring well system for the duration of the desalination facility construction period. The monitoring well system will ensure that construction activities do not have any measurable impacts on groundwater quality outside of the boundaries of the desalination facility site. The City of Huntington Beach shall require that the applicant prepare a groundwater hydrology study to determine the lateral transmissivity of area soils and a safe pumping yield such that dewatering activities do not interfere with nearby water supplies. The groundwater hydrology study shall make recommendations on whether permanent groundwater is feasible within the constraints of a safe pumping level.</p>						
<p><b>CON-7</b> Prior to issuance of any grading permits, the applicant shall inform the Orange County Water District (OCWD) of its plans for on-site</p>	Notification to Orange County Water District	Ensure Orange County Water District	Prior to permitting	City Public Works Dept. and applicant		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
dewatering and, if necessary, acquire necessary permits and approvals from the OCWD to ensure that no adverse impacts on the groundwater basin or seawater intrusion barrier occur as a result of the proposed project. The applicant would comply with any approved dewatering permits or plans.	(OCWD)	(OCWD) is informed of dewatering plans and permits are acquired (if required)				
<b>CON-8</b> During dewatering operations, a survey program shall be conducted on surrounding properties and structures to ensure that movement or settlement from on-site dewatering operations does not occur. This survey program would be subject to approval by the City of Huntington Beach Engineer and shall outline measures to be completed in the event that movement or settlement is identified, which could include discontinuing dewatering activities.	Dewatering survey program	Review and approve dewatering survey program	During construction and dewatering operations	City Public Works Dept.		
<b>CON-9</b> Should on-site dewatering operations require discharge into the sanitary sewer system, the applicant shall obtain applicable permits and approvals from the Orange County Sanitation District and City of Huntington Beach Public Works Department prior to any dewatering operations. Should the dewatering discharge be directed to existing AES storm drain facilities, the Applicant shall ensure that dewatering is addressed in the applicant's Santa	Permits and approvals from the Orange County Sanitation District and City of Huntington Beach Public Works Department	Review applicable permits and seek approval from the Orange County Sanitation District	Prior to dewatering operations	City Public Works Dept. and applicant		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
Ana Regional Water Quality Control Board NPDES permit.						
<b>CONSTRUCTION - AIR QUALITY</b>						
<p><b>CON-10</b> Prior to issuance of any grading permit, the applicant shall demonstrate (through submittal of a grading plan to the City of Huntington Beach) that, in compliance with SCAQMD Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures, as specified in the SCAQMD's rules and regulations. In addition, SCAQMD Rule 402 requires the implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors:</p> <ul style="list-style-type: none"> <li>• Active portions of the construction site shall be watered twice daily to prevent excessive amounts of dust</li> <li>• On-site vehicle speed shall be limited to 15 miles per hour</li> <li>• All on-site roads shall be paved as soon as feasible, watered twice daily, or chemically stabilized</li> <li>• Visible dust beyond the property line</li> </ul>	Grading plan	Review grading plan and ensure dust suppression techniques are implemented to prevent fugitive dust	Prior to issuance of grading permit and during construction	City Public Works Dept. and applicant		



Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>that emanates from the project shall be prevented to the maximum extent feasible</p> <ul style="list-style-type: none"> <li>• All material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust prior to departing the job site</li> <li>• Track-out devices shall be used at all construction site access points</li> <li>• All delivery truck tires shall be watered down, scraped down, or both prior to departing the job site.</li> <li>• Non-toxic soil stabilizers shall be applied to all disturbed construction sites that will be inactive for 10 days or more</li> <li>• All excavating and grading operations shall be suspended when wind gusts (as instantaneous gusts) exceed 25 miles per hour.</li> <li>• A construction relations officer shall be appointed to act as a community liaison concerning on-site construction activity including resolution of issues related to fugitive</li> </ul>						

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
dust.						
<b>CON-11</b> All trucks that are to haul excavated or graded material on site shall comply with California Vehicle Code Section 23114(b)(F)(e)(4) as amended, regarding the prevention of materials spilling onto public streets and roads. Prior to the issuance of grading permits, the applicant shall demonstrate to the City of Huntington Beach Engineer how the project operations subject to that specification during hauling activities shall comply with the provision set forth in Sections 23114(b)(F)(e)(4).	Construction plans	Review plans and confirm that hauling activities shall comply with California Vehicle Code Section 23114(b)(F)(e)(4)	Prior to the issuance of grading permit and during construction	City Public Works Dept. and applicant		
<b>CON-12</b> Prior to issuance of a grading permit, the City of Huntington Beach Engineer and the chief building official shall confirm that the grading plan, building plans, and specifications stipulate that, in compliance with SCAQMD Rule 403, O <sub>3</sub> precursor emissions from construction equipment vehicles shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturer's specifications, to the satisfaction of the City Engineer. Maintenance records shall be provided to the City. The City Inspector shall be responsible for ensuring that contractors comply with this measure during construction.	Contract language and construction equipment vehicles maintenance records	Review maintenance records and ensure construction equipment vehicles engines are maintained in good condition	Prior to the issuance of grading permit	City Public Works Dept. and Planning and Building Dept.		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<b>CON-13</b> The following measures shall be implemented by the contractor to reduce ROG emissions resulting from application of architectural coatings: <ul style="list-style-type: none"> <li>• Use high-pressure-low-volume paint applicators with a minimum transfer efficiency of at least 50%</li> <li>• Use required coatings and solvents with an ROG content lower than required under Rule 1113</li> <li>• Utilize building materials that do not require painting to the extent feasible</li> <li>• Use pre-painted construction materials.</li> </ul>	Contract language and construction plans	Review contract specifications and ensure reduction of ROG emissions are achieved through best management practices	During construction	City Planning and Building Dept. and applicant/designated contractor		
<b>CON-14</b> Prior to issuance of a grading permit, a Diesel Fuel Reduction Plan shall be submitted to the City Engineer. This plan shall identify the actions to be taken to reduce diesel fuel emissions during construction activities (inclusive of grading and excavation activities). Reductions in diesel fuel emissions can be achieved by measures including but not limited to the following: a) use of alternative energy sources, such as compressed natural gas or liquefied petroleum gas, in mobile equipment and vehicles; b) use of "retrofit technology."	Diesel Fuel Reduction Plan	Review Diesel Fuel Reduction Plan	Prior to issuance of grading permit	City Public Works Dept. and applicant		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>including diesel particulate traps, on existing diesel engines and vehicles; and c) other appropriate measures. Prior to the issuance of a grading permit, the Diesel Fuel Reduction Plan shall be filed with the City of Huntington Beach. The plan shall include, at a minimum, the following provisions:</p> <ul style="list-style-type: none"> <li>All diesel-fueled off-road construction equipment shall be California Air Resources Board certified or use post-combustion controls that reduce pollutant emissions to the same level as California Air Resources Board certified equipment. California Air Resources Board certified off-road engines are engines that are 3 years old or less and comply with lower emission standards. Post-combustion controls are devices that are installed downstream of the engine on the tailpipe to treat the exhaust. These devices are now widely used on construction equipment and are capable of removing over 90% of the PM10, CO, and volatile organic compounds from engine exhaust, depending on the specific device,</li> </ul>						

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>sulfur content of the fuel, and specific engine. The most common and widely used post-combustion control devices are particulate traps (e.g., soot filters), oxidation catalysts, and combinations thereof.</p> <ul style="list-style-type: none"> <li>All diesel-fueled on-road construction vehicles shall meet the emission standards applicable to the most current year to the greatest extent possible. To achieve this standard, new vehicles shall be used, or older vehicles shall use post-combustion controls that reduce pollutant emissions to the greatest extent feasible.</li> <li>The effectiveness of the latest diesel emission controls is highly dependent on the sulfur content of the fuel. Therefore, diesel fuel used by on- and off-road construction equipment shall be low sulfur (less than 15 ppm) or other alternative, low-polluting diesel fuel formulation.</li> </ul>						
<b>CON-15</b> Prior to the issuance of grading permits, the applicant shall ensure evidence acceptable to the City of Huntington Beach	Contract language and construction	Review contract language and construction	Prior to the issuance of grading	City Public Works Dept., Planning and		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>Planning and Building Department and Public Works Department that:</p> <ul style="list-style-type: none"> <li>Construction vehicles or equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other state-required noise attenuation devices.</li> <li>Operations shall comply with the City of Huntington Beach Municipal Code Chapter 8.40 (Noise Control).</li> <li>Property owners and occupants located within 1,200 feet of the desalination facility boundary shall be sent a notice, at least 15 days prior to commencement of construction of each phase, regarding the construction schedule of the proposed project. A sign, legible at a distance of 50 feet shall also be posted at the project construction site. All notices and signs shall be reviewed and approved by the City prior to mailing or posting and shall indicate the dates and duration of construction activities, as well as provide a contact name and a telephone number where residents</li> </ul>	plans	<p>plans</p> <p>Ensure construction noise does not exceed City's noise ordinance</p>	permits	Building Dept., and applicant		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>can inquire about the construction process and register complaints.</p> <ul style="list-style-type: none"> <li>Prior to issuance of a grading or building permit, the applicant shall demonstrate to the satisfaction of the City's Building Official how construction noise reduction methods (e.g., shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, and maximizing the distance between construction equipment staging areas and occupied residential areas) shall be used where feasible.</li> <li>Construction haul routes shall be designed to avoid noise-sensitive uses (e.g., residences, schools, etc.).</li> <li>During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers.</li> </ul>						
<b>CONSTRUCTION - UNDERGROUND UTILITIES</b>						
<b>CON-16</b> Unless underground utility locations are well documented, as determined	Construction plan	Verify underground	Prior to construction	City Public Works Dept. and		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
by the City of Huntington Beach Public Works Department, the project engineer shall perform geophysical surveys to identify subsurface utilities and structures, and incorporate the findings into site design prior to construction. Pipelines or conduits that may be encountered within the excavation and graded areas shall either be relocated or cut and plugged according to the applicable code requirements.		utility locations. If necessary, review geophysical surveys conducted identifying subsurface utilities and structures, and ensure findings are incorporated in site design		applicant		
<b>CONSTRUCTION - AESTHETICS</b>						
<b>CON-17</b> During construction, a security fence, the height of which shall be determined by the City of Huntington Beach Planning and Building Department, shall be installed around the perimeter of the site. The construction site shall be kept clear of all trash, weeds, etc.	Contract language and construction plan	Review contract language and construction plan and ensure security fence is installed around the perimeter of the site	During construction	City Planning and Building Dept. and applicant/ designated contractor		



Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<b>CON-18</b> Construction activities shall be concentrated away from adjacent residential areas, to the extent feasible. Equipment storage and soil stockpiling shall be at least 100 feet away from adjacent residential property lines.	Contract language and construction plan	Review contract language and construction plan and ensure avoidance of adjacent residential areas, to the extent feasible, and equipment storage and soil stockpiling is at least 100 feet from residential property	During construction	City Planning and Building Dept.		
<b>CONSTRUCTION - HAZARDS AND HAZARDOUS MATERIALS</b>						
<b>CON-19</b> Prior to excavation of the contaminated area and other areas for rough grading, the project site shall be cleared of excess vegetation, surface trash, piping, debris, and other deleterious materials. These materials shall be removed and disposed of properly (recycled, if possible).	Contract language and construction plans	Review contract language and construction plans and ensure removal and disposal of excess vegetation, surface trash,	Prior to excavation	City Public Works Dept. and applicant/ designated contractor		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
		piping, debris, and other deleterious materials from project site				
<b>CON-20</b> Proper excavation procedures shall comply with the Occupational Safety and Health Administration's Safety and Health Standards. If applicable, the SCAQMD Rule 1166 permit shall be obtained prior to the commencement of excavation and remedial activities.	Contract language and construction plans	Review contract language and construction plans and ensure compliance with Occupational Safety and Health Administration's Safety and Health Standards  Review SCAQMD Rule 1166 permit (if applicable)	Prior to and during excavation and remediation	City Public Works Dept. and applicant/ designated contractor		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<b>CON-21</b> The contractor shall follow all recommendations contained within the adopted Remedial Action Plan and Health and Safety Plan for the project site.	Remedial Action Plan and Health and Safety Plan	Review Remedial Action Plan and Health and Safety Plan and ensure recommendations are followed	During construction	City Fire Dept. and applicant/ designated contractor		
<b>CON-22</b> A licensed asbestos/lead abatement contractor shall be obtained to remediate the asbestos-containing materials and lead-based paint on site prior to construction. The contractor shall contact the SCAQMD and the City of Huntington Beach Departments of Planning, Building and Safety, and Fire prior to asbestos/lead paint removal.	Contract language and construction plans	Review contract language and construction plans. Coordinate with SCAQMD and the fire department	Prior to construction and asbestos/lead paint removal	City Planning and Building Dept., Fire Dept., and applicant/ designated contractor		
<b>CON-23</b> If any hazardous materials not previously addressed in the mitigation measures contained herein are identified and/or released to the environment at any point during the site cleanup process, operations in that area shall cease immediately. At the earliest possible time, the contractor shall notify the City of Huntington Beach Fire Department of any such findings. Upon notification of the appropriate agencies, a course of action would be determined subject to the approval of the City of Huntington Beach	Contract language and construction plans	Review contract language and construction plans and ensure cleanup/construction is ceased if hazardous materials are identified and/or	During construction	City Fire Dept., Public Works Dept., and applicant/ designated contractor		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
Public Works Department and Fire Department.		released. Notify City fire department.				
<b>CON-24</b> All structures must be cleaned of hazardous materials prior to off-site transportation or hauled off site as a waste in accordance with applicable regulations.	Contract language and construction plans	Review contract language and construction plans and ensure structures of hazardous materials are cleaned prior to off-site transportation	During construction	City Fire Dept., Public Works Dept., and applicant/ designated contractor		
<b>CON-25</b> Structure removal operations shall comply with all regulations and standards of the SCAQMD	Contract language and construction plans	Review contract language and construction plans and ensure compliance with regulations and standards of SCAQMD for	During construction	City Planning and Building Dept. and applicant/ designated contractor		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
		structure removal				
<b>CON-26</b> The contractor shall post signs prior to commencing remediation, alerting the public to the site cleanup operations in progress. The City of Huntington Beach Planning and Building Department and Public Works Department shall review and approve the size, wording, and placement of these signs.	Cleanup/remediation signage	Review public notice of site cleanup	Prior to and during remediation	City Planning and Building Dept., Public Works Dept., and applicant/designated contractor		
<b>CON-27</b> Unrecorded or unknown wells uncovered during the excavation or grading process shall be immediately reported to and coordinated with the City of Huntington Beach Fire Department and state Division of Oil, Gas, and Geothermal Resources, and shall meet City of Huntington Beach Specification 422.	Contract language and construction/grading plans	Review contract language and construction plans  Report unrecorded or unknown wells uncovered during the excavation or grading process	During excavation/grading	City Fire Dept., DOGGR, and applicant/designated contractor		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<b>CON-28</b> During remediation, if any soil was found to be hazardous due to contamination other than petroleum hydrocarbons, it would be segregated, stockpiled, and handled separately after issuance of a stockpiling permit by the City of Huntington Beach Public Works Department.	Contract language and construction/ remediation plans	Review contract language and construction plans  Segregate and stockpile any soil deemed hazardous	During remediation	City Public Works Dept. and applicant/ designated contractor		
<b>CON-29</b> Dust and volatile organic emissions from excavation activities shall be controlled through water spray or by employing other approved vapor suppressants, including hydromulch spray, in accordance with Regional Water Quality Control Board Waste Discharge Requirements and the SCAQMD permit conditions.	Contract language and construction plans	Review contract language and construction plans and ensure control of dust and VOC emissions	Prior to construction and excavation	City Public Works Dept. and applicant/ designated contractor		
<b>CON-30</b> Prior to the excavation process for pipeline construction, the contractor shall coordinate with the Orange County Integrated Waste Management Department in order to ensure that proposed pipeline construction does not impact drainage of the former Cannery Street Landfill.	Contract language and construction plans	Review contract language and construction plans  Coordinate with the Orange County Integrated Waste	Prior to construction and excavation	City Public Works Dept. and applicant/ designated contractor		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
		Management Department to ensure proposed pipeline construction does not impact drainage of the former Cannery Street Landfill				
<b>CON-31</b> Methane migration features would be consistent with the requirements of the City of Huntington Beach Specification Number 429 and other applicable state and federal regulations. The methane migration features shall be submitted for review and approval to the Orange County Health Care Agency, Environmental Health Division and the City of Huntington Beach Fire Department.	Methane migration features report	Review and confirm approval of methane migration features report	Prior to construction	City Fire Dept., Orange County Health Care Agency, Environmental Health Division, and applicant		
<b>CON-32</b> Studies to evaluate the potential for landfill gas generation and migration would be completed prior to implementation of the proposed water delivery component of the project. Appropriate mitigation measures would be coordinated with the SCAQMD, Solid Waste Local Enforcement Agency, Regional Water	Studies to evaluate the potential for landfill gas generation and migration	Review studies to evaluate the potential for landfill gas generation and migration	Prior to construction	City Public Works Dept. and Fire Dept. in coordination with SCAQMD, Solid Waste Local Enforcement		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
Quality Control Board, and the City of Huntington Beach Fire Department. Mitigation measures shall entail active or passive extraction of landfill gas to control surface and off-site migration and passive barriers with vent layers and alarm systems below trenches and within 1,000 feet of the former Cannery Street Landfill boundary. A comprehensive monitoring network would be established along the pipeline alignment adjacent to the landfill. Periodic monitoring of the monitoring network would be performed.				Agency, Regional Water Quality Control Board, and applicant		
<b>CON-33</b> Closure reports or other acceptable documentation shall be reviewed and approved by the Huntington Beach Fire Department to document the successful completion of required remediation activities, if any, for contaminated soils, in accordance with City Specification 431-92. The reports/documentation shall be submitted and approved by the Huntington Beach Fire Department prior to the issuance of grading permits for site development. No construction shall occur in the affected area until reports have been accepted by the City.	Closure reports and documentation	Review closure reports to document the successful completion of required soil remediation activities	Prior to issuance of grading permits	City Fire Dept. and applicant		
<b>CONSTRUCTION - TRAFFIC</b>						



Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p><b>CON-34</b> Prior to construction, a traffic management plan (TMP) shall be prepared and implemented to the satisfaction of the affected jurisdiction within which the facilities are to be constructed where construction would affect roadways. The affected jurisdiction shall review and approve the TMP prior to construction to ensure that congestion and delay of traffic resulting from project construction is not substantially increased and will be of a short-term nature. To ensure that congestion and delay of traffic resulting from project construction is not substantially increased, the TMP shall include, but not be limited to, the following measures:</p> <ul style="list-style-type: none"> <li>• Limit construction to one side of the road or out of the roadbed where possible</li> <li>• Provide of continued access to commercial and residential properties adjacent to construction sites</li> <li>• Provide alternate bicycle routes and pedestrian paths that comply with the American with Disability Act</li> </ul> <p>Accessibility Guidelines, where existing paths/routes are disrupted by</p>	Traffic management plan	Review and confirm implementation of traffic management plan	Prior to construction	Affected jurisdiction's traffic staff and applicant/designated contractor		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>construction activities, if any</p> <ul style="list-style-type: none"> <li>• Submit a truck routing plan for approval by the City of Huntington Beach, Orange County, and other responsible public agencies in order to minimize impacts from truck traffic during material delivery and disposal</li> <li>• Where construction is proposed for two-lane roadways, confine construction to one-half of the pavement width. Establish one lane of traffic on the other half of the roadway using appropriate construction signage and flagmen, or submit a detour plan for approval by the City Traffic Engineer</li> <li>• The traffic management plan shall specifically address the proposed Ascon landfill remediation activities and provide measures to ensure that the timing and frequency of truck traffic entering and exiting the landfill, in conjunction with project construction, will not result in substantial delays, or circulation conflicts. Measures may include</li> </ul>						

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>staggering of work hours/construction days, use of flag personnel, alternate routes, or other measures capable of avoiding or reducing traffic congestion</p> <ul style="list-style-type: none"> <li>Affected agencies shall approve the traffic management plan at least two weeks prior to construction. Per California Department of Transportation (Caltrans) requirements, the applicant shall submit the traffic management plan to Caltrans at the 90% design phase</li> <li>Construction activities shall, to the extent feasible, be coordinated with other construction activity taking place in the affected area(s)</li> <li>Provide for temporary parking, where necessary, during installation of pipelines within the AES site.</li> <li>On- and off-site traffic signing and striping shall be implemented in conjunction with detailed construction plans for the project.</li> <li>Ensure that access will be maintained to individual properties and</li> </ul>						

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
businesses, and that emergency access will not be restricted. The contractor shall coordinate in advance with local jurisdictions to avoid restricting movements of emergency vehicles. Jurisdictions shall notify police departments, fire departments, ambulance services, and paramedic services in advance of the proposed locations, nature, timing, and duration of construction activities and shall advise of access restrictions that could impact their effectiveness. At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over excavations, short detours, and alternate routes in conjunction with local agencies.						
<b>CON-35</b> Prior to initiating the removal of structures and contaminated materials, the contractor must provide evidence that the removal of materials would be subject to a traffic control plan, for review and approval by the City of Huntington Beach Public Works Department. The intent of this measure is to minimize the	Contract language and traffic control plan	Review contract language or evidence that the removal of materials would be subject to traffic control	Prior to removal of structures/contaminated materials	City Public Works Dept. and applicant/designated contractor		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
time period and disruption of heavy-duty trucks.		plan				
<b>CON-36</b> Construction-related activities would be subject to, and comply with, standard street use requirements imposed by the City of Huntington Beach, Orange County, and other public agencies, including the use of flagmen to assist with haul truck ingress and egress of construction areas and limiting the large size vehicles to off-peak commute traffic periods.	Contract language and traffic control plan	Review contract language and traffic control plan and ensure compliance with City, Orange County, and other public agencies' street use requirements	During construction	Affected jurisdiction's traffic staff and applicant/designated contractor		
<b>CON-37</b> The contractor shall obtain the necessary right-of-way encroachment permits and satisfy permit requirements prior to any construction. Nighttime construction may be performed in congested areas. Also, nighttime construction activities shall have prior approval by the City of Huntington Beach Public Works Department and other affected agencies.	Right-of-way encroachment permits	Review right-of-way encroachment permits and approval of nighttime construction activities	Prior to construction	Affected jurisdiction's Public Works staff and applicant/designated contractor		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<b>CON-38</b> During periods of heavy equipment access or truck hauling, the contractor would provide construction traffic signage and a construction traffic flagman to control construction and general project traffic at points of ingress and egress and along roadways that require a lane closure.	Contract language	Review contract specifications to ensure provision of construction traffic signage and flagman	During construction	Affected jurisdiction's traffic staff and applicant/designated contractor		
<b>CON-39</b> The applicant shall coordinate with the Public Works Department, Traffic Engineering Division in developing a truck and construction vehicle routing plan prior to issuance of grading permits. This plan shall include the approximate number of truck trips and the proposed truck haul routes. It shall specify the hours in which transport activities can occur and methods to mitigate construction related impacts to adjacent residents and the surrounding area. The plan shall take into consideration any street improvement construction occurring in the vicinity. These plans must be submitted for approval to the Public Works Department.	Truck and construction vehicle routing plan	Review truck and construction vehicle routing plan	Prior to issuance of grading permits	City Public Works Dept. and applicant		
<b>CONSTRUCTION - BIOLOGICAL RESOURCES</b>						
<b>CON-40</b> The willow scrub vegetation on the OC-44 pump station site (primary site) provides suitable nesting and foraging habitat for the least Bell's vireo ( <i>Vireo bellii bellii</i> ). The	Construction documents	Review construction documents and confirm	Prior to and during construction	City Planning and Building Dept., Public Works Dept. and		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
applicant shall demonstrate in its construction documents that construction activities do not directly affect the willow scrub vegetation. Further, if construction is to occur during the breeding season for least Bell's vireo (March 1 through September 15), focused surveys for this species are recommended in order to determine this species presence or absence from the project site prior to any construction activities. If the species is detected, and if construction occurs during the breeding season within 500 feet of active nest sites, construction noise shall be limited to 60 decibels adjusted at the nest location.		construction activities do not directly affect the willow scrub vegetation.  Confirm focused surveys for this species are conducted if construction is to occur during the breeding season for least Bell's vireo (March 1 through September 15).		applicant/qualified biologist		
<b>CON-41</b> To avoid impacts on nesting birds (including the least Bell's vireo), construction activities for the OC-44 booster pump station site or optional sites (whichever is selected) should be conducted between September 16 and March 14. If construction occurs inside the peak nesting season (between March 15 and September 15), a preconstruction	Contract language and construction schedule	Review construction schedule, preconstruction survey(s), and monitoring reports.	Prior to and during construction	City Planning and Building Dept., Public Works Dept. and applicant/qualified biologist		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>survey (or possibly multiple surveys) will be conducted prior to construction activities by a qualified biologist to identify any active nesting locations. If the biologist does not find any active nests within the project site, the construction would be allowed to proceed. If the biologist finds an active nest within the project site and determines that the nest may be impacted, the biologist would delineate an appropriate buffer zone around the nest; the size of the buffer zone would depend on the affected species and the type of construction activity. Any active nests observed during the survey would be mapped on an aerial photograph. Only construction activities (if any) that have been approved by a biological monitor would take place within the buffer zone until the nest is vacated. The biologist shall serve as a construction monitor during those periods when construction activities shall occur near active nest areas to ensure that no inadvertent impacts on these nests shall occur. Results of the preconstruction survey and any subsequent monitoring shall be provided to the California Department of Fish and Game and any other appropriate CEQA lead and responsible agencies.</p>						



Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<b>CON-42</b> Suitable habitat for the coastal California gnatcatcher ( <i>Polioptila californica</i> ) is present within the coastal sage scrub vegetation that occurs immediately east of the primary site for the OC-44 pump station. Additionally, gnatcatchers were observed in this area during the biological survey. The applicant shall demonstrate in its construction documents that occupied coastal sage scrub vegetation is not directly affected by construction activities. Further, if construction activities take place during the breeding season for this species (between February 15 and August 30 for areas within the Natural Community Conservation Plan), a preconstruction survey is recommended in order to determine the presence or absence of this species from the project site. If this species is found to occur on the project site, and if construction occurs during the breeding season within 500 feet of active nest sites, construction noise shall be limited to 60 decibels adjusted at the nest location.	Contract language and construction documents	Review construction documents and preconstruction survey(s), as necessary	Prior to and during construction	City Planning and Building Dept., Public Works Dept. and applicant		
<b>CON-43</b> A survey for active raptor nests by a qualified biologist would be required on the proposed OC-44 booster pump station site prior to any habitat disturbance during the breeding season (generally between February 1 and June	Survey and construction plans	Review survey results and construction plans.	Prior to and during construction	City Planning and Building Dept., Public Works Dept. and applicant/		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
30). Any occupied nests found during survey efforts would be mapped on construction plans. Restrictions on construction activities may be required in the vicinity of the nest until the nest is no longer active as determined by a qualified biologist. In many circumstances, a 300- to 500-foot buffer zone is designated around an active nest to minimize disturbance to the active nest. Once the nest is no longer in use for the season, construction can proceed within the buffer zone.				qualified biologist		
<b>CON-44</b> The project applicant shall prepare a horizontal directional drill contingency plan prior to each major bore to address procedures for containing an inadvertent release of drilling fluid (frac-out). The plan shall contain specific measures for monitoring frac-outs, containing drilling mud, and notifying agency personnel. The City Engineer and appropriate resource agencies shall review the site-specific Frac-Out Contingency Plan prior to each major bore, and during construction the project applicant shall implement the measures identified in the plan.	Horizontal directional drill contingency plan (Frac-Out Contingency Plan)	Review horizontal directional drill contingency plan and conform to approved plan	Prior to construction and each major bore	City Public Works Dept. and applicant		
<b>CON-45</b> In order to minimize potential construction impacts to nesting savannah sparrows ( <i>Passerculus sandwichensis</i> ) near the proposed desalination facility, a qualified	Preconstruction nesting survey for savannah sparrows	Review preconstruction survey report	Prior to construction	City Planning and Building Dept. and applicant/		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
biologist will perform a preconstruction nesting survey in consultation with applicable regulatory agencies. Should nesting savannah sparrows be found, adequate mitigation (e.g., relocation, construction noise abatement measures, etc.) would be implemented as appropriate based on the findings of the preconstruction survey.		Ensure adequate mitigation is implemented, as necessary		qualified biologist		
<b>CON-46</b> Focused surveys for sensitive biological resources performed prior to proposed project implementation shall include a review of data within the California Natural Diversity Database to obtain current information on any previously reported sensitive species/habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code.	Focused surveys for sensitive species, including review of California Natural Diversity Database	Review of focused survey results	Prior to construction	City Planning and Building Dept. and applicant/qualified biologist		
<b>CON-47</b> Construction activities would be limited to a well-defined area. Prior to grading and construction activities, a qualified biologist shall fence or stake the limits of disturbance.	Contract language and construction plan	Review contract language and construction plan Confirmation that fencing/staking occurs	Prior to and during grading and construction	City Planning and Building Dept. and applicant/qualified biologist		

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<b>CON-48</b> A qualified biologist shall monitor construction activities to ensure that no inadvertent impacts on biological resources occur.	Contract language and construction plan	Review contract language and construction plan  Confirmation of qualified monitor	During construction	City Planning and Building Dept. and applicant/qualified biologist		
<b>CONSTRUCTION - CULTURAL AND PALEONTOLOGICAL RESOURCES</b>						
<b>CON-49</b> Should buried historical/archaeological resources be discovered during excavation on the OC-44 proposed booster pump station site, all construction work in that area shall be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds	Contract language and construction plan	Review contract language and construction plan	During excavation	City Planning and Building Dept., Public Works Dept. and applicant/ designated archaeologist, as necessary		
<b>CON-50</b> During excavation of 5 feet below ground surface or lower on the proposed OC-44 booster pump station site, a paleontological resource recovery program for Miocene invertebrate fossils shall be implemented. This program shall include, but not	Paleontological resource recovery program	Review paleontological resource recovery program	During excavation	City Planning and Building Dept., Public Works Dept. and applicant/ designated		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<p>be limited to, the following:</p> <ul style="list-style-type: none"> <li>Monitoring by a qualified paleontologic monitor of excavation in areas identified as likely to contain paleontologic resources. The monitor shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments, which are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if the potentially fossiliferous units described herein are not encountered, or upon exposure are determined following examination by qualified paleontologic personnel to have low potential to contain fossil resources.</li> <li>Preparation of recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates.</li> </ul>				paleontologic monitor		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
<ul style="list-style-type: none"> <li>• Identification and curation of specimens into a museum repository with permanent retrievable storage. The paleontologist should have a written repository agreement in hand prior to the initiation of mitigation activities.</li> <li>• Preparation of a report of findings with appended itemized inventory of specimens. The report and inventory, when submitted to the appropriate lead agency, would signify completion of the program to mitigate impacts to paleontologic resources</li> </ul>						
<b>CON-51</b> A qualified paleontologist shall be retained to monitor grading operations at the proposed desalination facility site and, if necessary, to salvage scientifically significant fossil remains. The paleontologist shall have the authority to temporarily divert or direct grading efforts to allow evaluation and salvage of exposed fossils.	Contract language and grading/construction plan	Review contract language and grading/construction plan	During construction grading	City Planning and Building Dept. and applicant/ designated paleontologist		
<b>CON-52</b> While it is not anticipated, in the case that human remains are found within the OC-44 booster pump station site, no further excavation or	Contract language and construction plan	Review contract language and construction	During construction	City Planning and Building Dept., Public		

Seawater Desalination Project at Huntington Beach  
Final Subsequent Environmental Impact Report

MMRP

Mitigation Measure	Implementation Documentation	Monitoring Activity	Timing	Responsible Monitor	Compliance Verification Signature	Date
disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains. The County coroner shall be notified within 24 hours of the discovery. If the County coroner determines that the remains are or are believed to be Native American, the California Native American Heritage Commission in Sacramento must be notified within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the Native American Heritage Commission must immediately notify those persons it believes to be the most likely descended from the deceased Native American. The descendants shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.		plan		Works Dept. and applicant		

# **APPENDIX F**



**Item W16a – Exhibit 1**  
**Special Condition 8 of E-06-013 – Poseidon Resources**  
**November 21, 2008**

**APPROVED MARINE LIFE MITIGATION PLAN**

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**INTRODUCTION**

Poseidon's Carlsbad desalination facility will be co-located with the Encina Power Station and will use the power plant's once-through cooling intake and outfall structures. The desalination facility is expected to use about 304 million gallons per day (mgd) of estuarine water drawn through the structure. The facility will operate both when the power plant is using its once-through cooling system and when it is not.

This Marine Life Mitigation Plan (the Plan) will result in mitigation necessary to address the entrainment impacts caused by the facility's use of estuarine water. The Plan includes two phases of mitigation – Poseidon is required during Phase I to provide at least 37 acres of estuarine wetland restoration, as described below. In Phase II, Poseidon is required to provide an additional 18.4 acres of estuarine wetland restoration. However, as described below, Poseidon may choose to provide all 55.4 acres of restoration during Phase I. Poseidon may also choose during Phase II to apply for a CDP to reduce or eliminate the required 18.4 acres of mitigation and instead conduct alternative mitigation by implementing new entrainment reduction technology or obtaining mitigation credit for conducting dredging.

**CONDITION A: WETLAND RESTORATION MITIGATION**

The permittee shall develop, implement and fund a wetland restoration project that compensates for marine life impacts from Poseidon's Carlsbad desalination facility.

**1.0 PHASED IMPLEMENTATION**

**Phase I:** Poseidon is to provide at least 37 acres of estuarine wetland restoration. Within two years of issuance of the desalination facility's coastal development permit (CDP), Poseidon is to submit a complete CDP application for a proposed restoration project, as described below.

**Phase II:** Within five years of issuance of the Phase I CDP, Poseidon is to submit a complete CDP application proposing up to 18.4 acres of additional estuarine wetland restoration, subject to reduction as described in Section 6.0 below.

## **2.0 SITE SELECTION**

In consultation with Commission staff, the permittee shall select a wetland restoration site or sites for mitigation in accordance with the following process and terms.

Within 10 months of the effective date of this permit, the permittee shall submit the proposed site(s) and preliminary wetland restoration plan to the Commission for its review and approval or disapproval.

The location of the wetland restoration project(s) shall be within the Southern California Bight. The permittee shall select from sites including, but not limited to, the following eleven sites: Tijuana Estuary in San Diego County; San Dieguito River Valley in San Diego County; Agua Hedionda Lagoon in San Diego County; San Elijo Lagoon in San Diego County; Buena Vista Lagoon in San Diego County; Huntington Beach Wetland in Orange County, Anaheim Bay in Orange County, Santa Ana River in Orange County, Los Cerritos Wetland in Los Angeles County, Ballona Wetland in Los Angeles County, and Ormond Beach in Ventura County. The permittee may also consider any sites that may be recommended by the California Department of Fish & Game as high priority wetlands restoration projects. Other sites proposed by the permittee may be added to this list with the Executive Director's approval.

The basis for the selection shall be an evaluation of the site(s) against the minimum standards and objectives set forth in subsections 3.1 and 3.2 below. The permittee shall take into account and give serious consideration to the advice and recommendations of the Scientific Advisory Panel (SAP) established and convened by the Executive Director pursuant to Condition B.1.0. The permittee shall select the site(s) that meet the minimum standards and best meet the objectives.

## **3.0 PLAN REQUIREMENTS**

In consultation with Commission staff, the permittee shall develop a wetland restoration plan for the wetland site(s) identified through the site selection process. The wetland restoration plan shall meet the minimum standards and incorporate as many as feasible of the objectives in subsections 3.1 and 3.2, respectively.

### **3.1 Minimum Standards**

The wetland restoration project site(s) and preliminary plan(s) must meet the following minimum standards:

- a. Location within Southern California Bight;
- b. Potential for restoration as tidal wetland, with extensive intertidal and subtidal areas;
- c. Creates or substantially restores a minimum of 37 acres and up to at least 55.4 acres of habitat similar to the affected habitats in Agua Hedionda Lagoon, excluding buffer zone and upland transition area;

- d. Provides a buffer zone of a size adequate to ensure protection of wetland values, and at least 100 feet wide, as measured from the upland edge of the transition area.
- e. Any existing site contamination problems would be controlled or remediated and would not hinder restoration;
- f. Site preservation is guaranteed in perpetuity (through appropriate public agency or nonprofit ownership, or other means approved by the Executive Director), to protect against future degradation or incompatible land use;
- g. Feasible methods are available to protect the long-term wetland values on the site(s), in perpetuity;
- h. Does not result in a net loss of existing wetlands; and
- i. Does not result in an adverse impact on endangered animal species or an adverse unmitigated impact on endangered plant species.

### **3.2 Objectives**

The following objectives represent the factors that will contribute to the overall value of the wetland. The selected site(s) shall be determined to achieve these objectives. These objectives shall also guide preparation of the restoration plan.

- a. Provides maximum overall ecosystem benefits, e.g. maximum upland buffer, enhancement of downstream fish values, provides regionally scarce habitat, potential for local ecosystem diversity;
- b. Provides substantial fish habitat compatible with other wetland values at the site(s);
- c. Provides a buffer zone of an average of at least 300 feet wide, and not less than 100 feet wide, as measured from the upland edge of the transition area.
- d. Provides maximum upland transition areas (in addition to buffer zones);
- e. Restoration involves minimum adverse impacts on existing functioning wetlands and other sensitive habitats;
- f. Site selection and restoration plan reflect a consideration of site specific and regional wetland restoration goals;
- g. Restoration design is that most likely to produce and support wetland-dependent resources;
- h. Provides rare or endangered species habitat;

- i. Provides for restoration of reproductively isolated populations of native California species;
- j. Results in an increase in the aggregate acreage of wetland in the Southern California Bight;
- k. Requires minimum maintenance;
- l. Restoration project can be accomplished in a reasonably timely fashion; and,
- m. Site(s) in proximity to the Carlsbad desalination facility.

### **3.3 Restrictions**

- a. The permittee may propose a wetland restoration project larger than the minimum necessary size specified in subsection 3.1(c) above, if biologically appropriate for the site(s), but the additional acreage must (1) be clearly identified, and (2) must not be the portion of the project best satisfying the standards and objectives listed above.
- b. If the permittee jointly enters into a restoration project with another party: (1) the permittee's portion of the project must be clearly specified, (2) any other party involved cannot gain mitigation credit for the permittee's portion of the project, and (3) the permittee may not receive mitigation credit for the other party's portion of the project.
- c. The permittee may propose to divide the mitigation requirement between a maximum of two wetland restoration sites, unless there is a compelling argument, approved by the Executive Director, that the standards and objectives of subsections 3.1 and 3.2 will be better met at more than two sites.

## **4.0 PLAN IMPLEMENTATION**

### **4.1 Coastal Development Permit Applications**

The permittee shall submit complete Coastal Development Permit applications for the Phase I and Phase II restoration plan(s) that include CEQA documentation and local or other state agency approvals. The CDP application for Phase I shall be submitted within 24 months following the issuance of the Coastal Development Permit for the Carlsbad desalination facility. The CDP application for Phase II shall be submitted within 5 years of issuance of the CDP for Phase I. The Executive Director may grant an extension to these time periods at the request of and upon a demonstration of good cause by the permittee. The restoration plans shall substantially conform to Section 3.0 above and shall include, but not be limited to the following elements:

- a. Detailed review of existing physical, biological, and hydrological conditions; ownership, land use and regulation;

- b. Evaluation of site-specific and regional restoration goals and compatibility with the goal of mitigating for Poseidon's marine life impacts;
- c. Identification of site opportunities and constraints;
- d. Schematic restoration design, including:
  - 1. Proposed cut and fill, water control structures, control measures for stormwater, buffers and transition areas, management and maintenance requirements;
  - 2. Planting program, including removal of exotic species, sources of plants and or seeds (local, if possible), protection of existing salt marsh plants, methods for preserving top soil and augmenting soils with nitrogen and other necessary soil amendments before planting, timing of planting, plans for irrigation until established, and location of planting and elevations on the topographic drawings;
  - 3. Proposed habitat types (including approximate size and location);
  - 4. Assessment of significant impacts of design (especially on existing habitat values) and net habitat benefits;
  - 5. Location, alignment and specifications for public access facilities, if feasible;
  - 6. Evaluation of steps for implementation e.g. permits and approvals, development agreements, acquisition of property rights;
  - 7. Cost estimates;
  - 8. Topographic drawings for final restoration plan at 1" = 100 foot scale, one foot contour interval; and
  - 9. Drawings shall be directly translatable into final working drawings.
- e. Detailed information about how monitoring and maintenance will be implemented;
- f. Detailed information about construction methods to be used;
- g. Defined final success criteria for each habitat type and methods to be used to determine success;
- h. Detailed information about how Poseidon will coordinate with the Scientific Advisory Panel including its role in independent monitoring, contingency planning review, cost recovery, etc.;
- i. Detailed information about contingency measures that will be implemented if mitigation does not meet the approved goals, objectives, performance standards, or other criteria; and,
- j. Submittal of "as-built" plans showing final grading, planting, hydrological features, etc. within 60 days of completing initial mitigation site construction.

## **4.2 Wetland Construction Phase**

Within 6 months of approval of the Phase I restoration plan, subject to the permittee's obtaining the necessary permits, the permittee shall commence the construction phase of the wetland restoration project. The permittee shall be responsible for ensuring that construction is carried out in accordance with the specifications and within the timeframes specified in the approved final restoration plan and shall be responsible for any remedial work or other intervention necessary to comply with final plan requirements.

## **4.3 Timeframe for Resubmittal of Project Elements**

If the Commission does not approve any element of the project (i.e. site selection, restoration plan), the Commission will specify the time limits for compliance relative to selection of another site or revisions to the restoration plan.

## **5.0 WETLAND MONITORING, MANAGEMENT AND REMEDIATION**

Monitoring, management (including maintenance), and remediation shall be conducted over the "full operating life" of Poseidon's desalination facility, which shall be 30 years from the date "as-built" plans are submitted pursuant to subsection 4.1(l).

The following section describes the basic tasks required for monitoring, management and remediation. Condition B specifies the administrative structure for carrying out these tasks, including the roles of the permittee and Commission staff.

### **5.1 Monitoring and Management Plan**

A monitoring and management plan will be developed in consultation with the permittee and appropriate wildlife agencies, concurrently with the preparation of the restoration plan to provide an overall framework to guide the monitoring work. It will include an overall description of the studies to be conducted over the course of the monitoring program and a description of management tasks that are anticipated, such as trash removal. Details of the monitoring studies and management tasks will be set forth in a work program (see Condition B).

### **5.2 Pre-restoration site monitoring**

Pre-restoration site monitoring shall be conducted to collect baseline data on the wetland attributes to be monitored. This information will be incorporated into and may result in modification to the overall monitoring plan.

### **5.3 Construction Monitoring**

Monitoring shall be conducted during and immediately after each stage of construction of the wetland restoration project to ensure that the work is conducted according to plans.

## **5.4 Post-Restoration Monitoring and Remediation**

Upon completion of construction of the wetland(s), monitoring shall be conducted to measure the success of the wetland(s) in achieving stated restoration goals (as specified in the restoration plan(s)) and in achieving performance standards, specified below. The permittee shall be fully responsible for any failure to meet these goals and standards during the facility's full operational years. Upon determining that the goals or standards are not achieved, the Executive Director shall prescribe remedial measures, after consultation with the permittee, which shall be immediately implemented by the permittee with Commission staff direction. If the permittee does not agree that remediation is necessary, the matter may be set for hearing and disposition by the Commission.

Successful achievement of the performance standards shall (in some cases) be measured relative to approximately four reference sites, which shall be relatively undisturbed, natural tidal wetlands within the Southern California Bight. The Executive Director shall select the reference sites. The standard of comparison, i.e., the measure of similarity to be used (e.g., within the range, or within the 95% confidence interval) shall be specified in the work program.

In measuring the performance of the wetland project, the following physical and biological performance standards will be used:

- a. **Longterm Physical Standards.** The following long-term standards shall be maintained over the full operative life of the desalination facility:
  1. **Topography.** The wetland(s) shall not undergo major topographic degradation (such as excessive erosion or sedimentation);
  2. **Water Quality.** Water quality variables [to be specified] shall be similar to reference wetlands;
  3. **Tidal prism.** If the mitigation site(s) require dredging, the tidal prism shall be maintained and tidal flushing shall not be interrupted; and,
  4. **Habitat Areas.** The area of different habitats shall not vary by more than 10% from the areas indicated in the restoration plan(s).
- b. **Biological Performance Standards.** The following biological performance standards shall be used to determine whether the restoration project is successful. Table 1, below, indicates suggested sampling locations for each of the following biological attributes; actual locations will be specified in the work program:
  1. **Biological Communities.** Within 4 years of construction, the total densities and number of species of fish, macroinvertebrates and birds (see Table 1) shall be similar to the densities and number of species in similar habitats in the reference wetlands;
  2. **Vegetation.** The proportion of total vegetation cover and open space in the marsh shall be similar to those proportions found in the reference sites. The percent cover of algae shall be similar to the percent cover found in the reference sites;
  3. **Spartina Canopy Architecture.** The restored wetland shall have a canopy architecture that is similar in distribution to the reference sites, with an equivalent proportion of stems over 3 feet tall;

4. **Reproductive Success.** Certain plant species, as specified by in the work program, shall have demonstrated reproduction (i.e. seed set) at least once in three years;
5. **Food Chain Support.** The food chain support provided to birds shall be similar to that provided by the reference sites, as determined by feeding activity of the birds; and,
6. **Exotics.** The important functions of the wetland shall not be impaired by exotic species.

**Table 1: Suggested Sampling Locations**

	Salt Marsh			Open Water		Mudflat	Tidal Creeks
	Spartina	Salicornia	Upper	Lagoon	Eelgrass		
1) Density/spp:							
– Fish				X	X	X	X
– Macroinvert-ebrates				X	X	X	X
– Birds	X	X	X	X		X	X
2) % Cover							
Vegetation	X	X	X		X		
algae	X	X				X	
3) Spartina architecture	X						
4) Reproductive success	X	X	X				
5) Bird feeding				X		X	X
6) Exotics	X	X	X	X	X	X	X

## 6.0 ALTERNATIVE MITIGATION

As part of Phase II, Poseidon may propose in its CDP application alternatives to reduce or eliminate the required 18.4 acres of mitigation. The alternative mitigation proposed may be in the form of implementing new entrainment reduction technology or may be mitigation credits for conducting dredging, either of which could reduce or eliminate the 18.4 acres of mitigation.



## **CONDITION B: ADMINISTRATIVE STRUCTURE**

### **1.0 ADMINISTRATION**

Personnel with appropriate scientific or technical training and skills will, under the direction of the Executive Director, oversee the mitigation and monitoring functions identified and required by Condition A. The Executive Director will retain scientific and administrative support staff needed to perform this function, as specified in the work program.

This technical staff will oversee the preconstruction and post-construction site assessments, mitigation project design and implementation (conducted by permittee), and monitoring activities (including plan preparation); the field work will be done by contractors under the Executive Director's direction. The contractors will be responsible for collecting the data, analyzing and interpreting it, and reporting to the Executive Director.

The Executive Director shall convene a Scientific Advisory Panel to provide the Executive Director with scientific advice on the design, implementation and monitoring of the wetland restoration. The panel shall consist of recognized scientists, including a marine biologist, an ecologist, a statistician and a physical scientist.

### **2.0 BUDGET AND WORK PROGRAM**

The funding necessary for the Commission and the Executive Director to perform their responsibilities pursuant to these conditions will be provided by the permittee in a form and manner reasonably determined by the Executive Director to be consistent with requirements of State law, and which will ensure efficiency and minimize total costs to the permittee. The amount of funding will be determined by the Commission on a biennial basis and will be based on a proposed budget and work program, which will be prepared by the Executive Director in consultation with the permittee, and reviewed and approved by the Commission in conjunction with its review of the restoration plan. If the permittee and the Executive Director cannot agree on the budget or work program, the disagreement will be submitted to the Commission for resolution.

The budget to be funded by the permittee will be for the purpose of reasonable and necessary costs to retain personnel with appropriate scientific or technical training and skills needed to assist the Commission and the Executive Director in carrying out the mitigation and lost resource compensation conditions. In addition, reasonable funding will be included in this budget for necessary support personnel, equipment, overhead, consultants, the retention of contractors needed to conduct identified studies, and to defray the costs of members of any scientific advisory panel(s) convened by the Executive Director for the purpose of implementing these conditions.

Costs for participation on any advisory panel shall be limited to travel, per diem, meeting time and reasonable preparation time and shall only be paid to the extent the participant is not otherwise entitled to reimbursement for such participation and preparation. The amount of funding will be determined by the Commission on a biennial basis and will be based on a proposed budget and work program, which will be prepared by the Executive Director in consultation with the permittee, and reviewed and approved by the Commission in conjunction

with its review of the restoration plan. If the permittee and the Executive Director cannot agree on the budget or work program, the disagreement will be submitted to the Commission for resolution. Total costs for such advisory panel shall not exceed \$100,000 per year adjusted annually by any increase in the consumer price index applicable to California.

The work program will include:

- a. A description of the studies to be conducted over the subsequent two year period, including the number and distribution of sampling stations and samples per station, methodology and statistical analysis (including the standard of comparison to be used in comparing the mitigation project to the reference sites);
- b. A description of the status of the mitigation projects, and a summary of the results of the monitoring studies to that point;
- c. A description of four reference sites;
- d. A description of the performance standards that have been met, and those that have yet to be achieved;
- e. A description of remedial measures or other necessary site interventions;
- f. A description of staffing and contracting requirements; and,
- g. A description of the Scientific Advisory Panel's role and time requirements in the two year period.

The Executive Director may amend the work program at any time, subject to appeal to the Commission.

### **3.0 ANNUAL REVIEW AND PUBLIC WORKSHOP REVIEW**

The permittee shall submit a written review of the status of the mitigation project to the Executive Director no later than April 30 each year for the prior calendar year. The written review will discuss the previous year's activities and overall status of the mitigation project, identify problems and make recommendations for solving them, and review the next year's program.

To review the status of the mitigation project, the Executive Director will convene and conduct a duly noticed public workshop during the first year of the project and every other year thereafter unless the Executive Director deems it unnecessary. The meeting will be attended by the contractors who are conducting the monitoring, appropriate members of the Scientific Advisory Panel, the permittee, Commission staff, representatives of the resource agencies (CDFG, NMFS, USFWS), and the public. Commission staff and the contractors will give presentations on the previous biennial work program's activities, overall status of the mitigation project, identify problems and make recommendations for solving them, and review the next upcoming period's biennial work program.

The public review will include discussions on whether the wetland mitigation project has met the performance standards, identified problems, and recommendations relative to corrective measures necessary to meet the performance standards. The Executive Director will use information presented at the public review, as well as any other relevant information, to determine whether any or all of the performance standards have been met, whether revisions to the standards are necessary, and whether remediation is required. Major revisions shall be subject to the Commission's review and approval.

The mitigation project will be successful when all performance standards have been met each year for a three-year period. The Executive Director shall report to the Commission upon determining that all of the performance standards have been met for three years and that the project is deemed successful. If the Commission determines that the performance standards have been met and the project is successful, the monitoring program will be scaled down, as recommended by the Executive Director and approved by the Commission. A public review shall thereafter occur every five years, or sooner if called for by the Executive Director. The work program shall reflect the lower level of monitoring required. If subsequent monitoring shows that a standard is no longer being met, monitoring may be increased to previous levels, as determined necessary by the Executive Director.

The Executive Director may make a determination on the success or failure to meet the performance standards or necessary remediation and related monitoring at any time, not just at the time of the workshop review.

#### **4.0 ADDITIONAL PROCEDURES**

##### **4.1 Dispute Resolution**

In the event that the permittee and the Executive Director cannot reach agreement regarding the terms contained in or the implementation of any part of this Plan, the matter may be set for hearing and disposition by the Commission.

##### **4.2 Extensions**

Any of the time limits established under this Plan may be extended by the Executive Director at the request of the permittee and upon a showing of good cause.

#### **CONDITION C: SAP DATA MAINTENANCE**

The permittee shall make available on a publicly-accessible website all scientific data collected as part of the project. The website and the presentation of data shall be subject to Executive Director review and approval.

# APPENDIX G

**CALENDAR ITEM  
62**

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C. Connor  
M. Meier  
S. Mindt

**AMENDMENT OF LEASE**

**LESSEE:**

AES Huntington Beach LLC  
21730 Newland Street  
Huntington Beach, CA 92646

**APPLICANT:**

Poseidon Resources (Surfside) LLC (Poseidon Resources)  
501 West Broadway, Suite 2020  
San Diego, CA 92101

**AREA, LAND TYPE, AND LOCATION:**

11.78 acres, more or less, of tide and submerged lands in the Pacific Ocean, offshore of Huntington Beach State Park, near the city of Huntington Beach, Orange County

**AUTHORIZED USE:**

Continued use and maintenance of one 14-foot diameter seawater intake pipeline extending offshore approximately 1,650 feet and one 14-foot diameter discharge pipeline extending approximately 1,500 feet offshore. The pipelines are utilized as components of a once-through cooling system associated with the AES upland Huntington Beach Generating Station.

**LEASE TERM:**

20 years, beginning August 8, 2006.

**CONSIDERATION:**

As to the existing lease issued to AES Huntington Beach LLC (AES), the current annual rent is \$88,005. The "Base Rent", set at \$82,500 in August 2006, is adjusted annually using the Consumer Price Index (CPI) for all Urban Consumers, Los Angeles-Riverside-Orange County, CA. The State reserves the

CALENDAR ITEM NO **62** (CONT'D)

right to fix a different "Base Rent" periodically during the lease term, as provided in the lease.

**PROPOSED AMENDMENT:**

**SECTION 1 – BASIC PROVISIONS** is amended to include Poseidon Resources (Surfside) LLC as a Co-Lessee. **Location** is amended to include sovereign tide and submerged lands affected by increases in salinity from the desalination facility's concentrated seawater discharge.

**SECTION 1 – LAND USE OR PURPOSE** is amended to include desalination use of existing improvements by Poseidon Resources.

**SECTION 1 – CONSIDERATION** is amended to require that, in addition to the rent paid by AES, Poseidon Resources is to provide annual rental in the amount of \$115,500 beginning on the first day of the operation of the desalination facility, to compensate for use of Public Trust resources on sovereign lands affected by increases in salinity from the desalination facility's concentrated seawater discharge. This annual rent is subject to review and modification by the Commission subject to the terms of Section 2, paragraph 10, and Section 4, paragraph 2 of this Lease.

**SECTION 2 – SPECIAL PROVISIONS** is amended to include the following:

AES and Poseidon Resources, as Co-Lessees, or individuals, shall be required jointly and severally to comply with all of the reservations, terms, covenants and conditions of the Lease; provided, however, that: (i) AES shall be responsible for obligations under the Lease pertaining to its power plant facility; (ii) Poseidon Resources shall be responsible for obligations under the Lease pertaining to its desalination facility; and, (iii) If there is a disagreement between Poseidon Resources and AES as to their respective responsibilities under the Lease, that dispute shall be resolved by Lessor.

Poseidon Resources shall, at all times during the term of the Lease, comply at a minimum with the Energy Minimization and Green House Gas Reduction Plan (the GHG Plan), as adopted by the City of Huntington Beach on September 20, 2010. In the event that the GHG Plan adopted by the City of Huntington Beach on September 20, 2010, is modified in any way or is terminated, invalidated or suspended, Poseidon Resources shall, within 30 days after the effective date of modification, invalidation or suspension, notify Lessor's Executive Officer of the modification, termination, invalidation or suspension. If the Executive Officer determines that the effect of the modification, termination, invalidation or suspension constitutes a substantive weakening of the GHG Plan, then compliance with the GHG Plan as adopted by the City of Huntington Beach on

CALENDAR ITEM NO 62 (CONT'D)

September 20, 2010 shall remain a term of this Lease. The Executive Officer may allow the Lease to remain in effect subject to any new terms lawfully imposed on the GHG Plan by any and all applicable regulatory authorities, including, but not limited to, the California Coastal Commission and the South Coast Air Quality Management District, or require that Poseidon Resources continue to comply with the GHG Plan as adopted by the City of Huntington Beach on September 20, 2010.

Poseidon Resources, as a separate obligation, shall implement a Salinity Monitoring and Reporting Program (SMRP), which supplements the effluent and receiving water monitoring performed by Poseidon Resources under requirements established by the California Regional Water Quality Control Board (CRWQCB) Order No. R8-2006-0034, National Pollutant Discharge Elimination System (NPDES) Permit No. CA 8000403 (see [http://www.waterboards.ca.gov/santaana/board\\_decisions/adopted\\_orders/orders/2006/06\\_034\\_wdr\\_poseidon\\_resources\\_surfside\\_08252006.pdf](http://www.waterboards.ca.gov/santaana/board_decisions/adopted_orders/orders/2006/06_034_wdr_poseidon_resources_surfside_08252006.pdf)). The SMRP will include the following:

- a) Six months prior to the commencement of pre-discharge monitoring under the SMRP, Poseidon Resources shall submit for review and approval by Lessor's Executive Officer a protocol that will contain sufficient detail to ensure implementation of monitoring and reporting consistent with this paragraph.
- b) In addition to the receiving water salinity monitoring stations designated by the CRWQCB under Order No. R8-2006-0034, NPDES Permit No. CA 8000403, Poseidon Resources shall establish three additional monitoring stations offshore, at locations reasonably acceptable to Lessor's Executive Officer, in an array adequate to characterize the salinity plume and to sample the biota. All sampling and monitoring to be conducted at these three supplemental stations pursuant to this paragraph shall be conducted at the same time if feasible.
- c) Poseidon Resources shall provide for random quarterly sampling, during low-flow conditions if feasible, of salinity, temperature, and pH at the three supplemental stations established pursuant to Paragraph b), above, for the following durations:
  - for one year under pre-discharge conditions;
  - for two years under post-discharge conditions; and
  - for two years after commencement of stand-alone operations.
- d) Poseidon Resources shall provide for quarterly benthic monitoring, at the three supplemental stations established pursuant to Paragraph b), above,

CALENDAR ITEM NO 62 (CONT'D)

for the following durations:

- for one year under pre-discharge conditions;
  - for two years under post-discharge conditions; and
  - for two years after commencement of stand-alone operations.
- e) Benthic samples shall be collected using a 0.1 square meter grab sampler. Three size classes to be monitored include meiofauna (invertebrates passing through a 1.0 millimeter (mm) mesh sieve and retained in a 40-42  $\mu$ m mesh sieve), macrofauna (invertebrates retained on a sieve or 0.25-0.30 mm mesh sieve with the exception of meiofauna taxa such as Nematoda, Copepoda, Ostracoda, and Foraminifera), and megafauna (epibenthic vertebrates and invertebrates visible to the naked eye). Benthic infaunal organisms retained on the sieve shall be counted and identified to the lowest taxon possible. Analysis of benthic community structure at each sampling station shall include determination of the:
- Number of species per 0.1 square meter (species richness);
  - Number of individuals per species per station;
  - Total numerical abundance;
  - Shannon's diversity index (H'); and
  - Biomass.
- f) Salinity, temperature, pH and benthic sampling identified above shall be conducted by a third-party contractor approved by Lessor's Executive Officer and reasonably acceptable to Poseidon Resources. The third-party contractor may be the same contractor taking sampling under the CRWQCB Order and NPDES permit identified above.
- g) Poseidon Resources shall also provide all NPDES permit monitoring data and results to the Lessor's Executive Officer in accordance with the timeframes established by the CRWQCB Order and NPDES permit identified above.
- h) At the conclusion of two years of post-discharge monitoring under the SMRP, Poseidon Resources shall prepare and submit a report (the "SMRP Report") to Lessor's Executive Officer that:
- Summarizes all collected monitoring data (including receiving monitoring data collected per requirements of the CRWQCB);
  - Presents a comparison of pre-discharge and post-discharge data and characterizes statistical trends in benthic species richness, abundance, population, or diversity; and
  - Evaluates receiving water salinity data to assess the characteristics (i.e., size and density) of the plume.



CALENDAR ITEM NO 62 (CONT'D)

Poseidon Resources shall prepare a similar report at the conclusion of two years of stand-alone post-discharge monitoring under the SMRP.

- i) If after two years of post-discharge monitoring or two years of stand-alone post-discharge monitoring, as applicable, Lessor's Executive Officer reasonably determines that the results in the SMRP Report are sufficient to assess the extent of use of Public Trust resources due to increases in salinity levels, then the SMRP shall be discontinued and Poseidon Resources may submit to the Commission a request regarding the modification or elimination of the consideration established in SECTION 1 for the use of the Public Trust resources related to increases in salinity levels.

Poseidon Resources, as a separate obligation, shall provide notice and sufficient details to Lessor 60 days prior to any changes in ownership or assignment of interest as defined in Section 4, Paragraph 10 of the Lease.

AES shall notify Lessor in writing prior to discontinuing its use of the Lease Premises in connection with the production of electricity using Once-Through-Cooling (OTC). Upon receipt of notification by Lessor, AES may apply to Lessor for approval of an assignment of its obligations under the Lease to Poseidon Resources. In considering AES application for approval of an assignment, Lessor will take into account Poseidon Resources' past performance and the likelihood that Poseidon Resources could and would carry out all obligations under the Lease as sole lessee. In the event that Lessor finds that there is a substantial probability that Poseidon Resources would not or could not carry out all such obligations, then Lessor may disapprove the assignment, in which case, at AES's option, the Lease would terminate or AES would remain as Co-Lessee. If Lessor agrees to the assignment, then as compensation for the use of Public Trust resources on sovereign lands affected by the stand-alone entrainment and impingement impacts, Poseidon Resources shall assume the maintenance obligations for the existing entrainment and impingement mitigation program that is being maintained by AES as of the date of this Lease Amendment.

Poseidon Resources, as a separate obligation, shall provide copies of all regulatory monitoring and compliance reports pertaining to the operation of its desalination facility to Lessor at the time of submitting such reports with any regulatory agency.

Poseidon Resources, as a separate obligation, shall provide Lessor with a performance deposit in the amount of \$500,000 prior to commencement of project construction. At any time during the term of the Lease, Lessor may require an increase in the amount of the performance deposit to reflect economic

CALENDAR ITEM NO 62 (CONT'D)

inflation or to cover any additionally authorized improvements, alterations, or of modification of rental. Additionally, should AES's interest in this Lease be assigned to Poseidon Resources, then Lessor may require an increase in the amount of the performance deposit. Such increase may not initially exceed an additional \$500,000, but shall otherwise be subject to Paragraph 9 of Section 4, General Provisions, of the Lease.

Poseidon Resources, as a separate obligation, shall provide to Lessor, in a form approved by Lessor's staff, an unconditional guarantee by parent company Poseidon Water LLC for full performance by Poseidon Resources of all the obligations under the Lease.

Poseidon Resources, as a separate obligation, shall provide to Lessor any and all permits and authorizations issued by any and all other State, local or federal agencies as a result of this project. This includes, but is not limited to, a detailed report of compliance with Order No. R8-2006-0034, NPDES Permit No. CA 8000403, and any subsequent NPDES permit. Copies of all permits and authorizations issued prior to operation of the desalination facility on the Lease Premises shall be provided to Lessor prior to operation, and copies of each and every permit or authorization issued after operations begin will be provided within 30 days after Poseidon Resources receives the permit or authorization.

Poseidon Resources acknowledges that Lessor may conduct a public hearing five years after the effective date of commencement of the desalination facility's operations in order to publicly review and evaluate Poseidon Resources' compliance with the terms of the Lease as provided for in Section 4, Paragraph 6, including, but not limited to, compliance with the federal Clean Water Act, and California's Porter-Cologne Water Quality Control Act.

In the event that Poseidon Resources fails to comply in any material respect with any and all of its separate obligations under this Lease, Lessor may terminate Poseidon Resources rights under this Lease without affecting any or all of AES' rights or obligations under this Lease subject to the notice provisions in Section 4, paragraph 11(b) of this Lease.

Poseidon Resources shall not make any changes in use or operation of the intake and outfall pipelines without prior authorization by Lessor.

Poseidon Resources shall be responsible for reimbursing all of Lessor's reasonable staff expenses incurred by Lessor and its staff to monitor compliance by Poseidon Resources of all of its reservations, terms, covenants and conditions of the Lease for the term of the Lease. Upon execution of the Lease Amendment, Poseidon Resources shall execute a Reimbursement Agreement

CALENDAR ITEM NO **62** (CONT'D)

with the Lessor specifying the mechanism by which all actual costs by Lessor shall be reimbursed. An expense deposit of \$150,000 shall be paid to and held by the Lessor as a cash surety to ensure performance of this paragraph.

Poseidon Resources shall complete construction of the desalination facility within eight years of the authorization of this amendment.

**SECTION 4 – GENERAL PROVISIONS** is amended as follows:

Paragraph 11, Default and Remedies, (a) Default, Paragraph (4) is hereby deleted in its entirety and is replaced with the following:

(4) Co-Lessee's failure to obtain, maintain and comply with all necessary governmental permits or other entitlements;

All other terms and conditions of the Lease shall remain in effect without amendment.

The complete copy of the Lease Amendment is on file in the Sacramento office of the California State Lands Commission.

**1) PROJECT DESCRIPTION**

On February 6, 2007, Poseidon Resources submitted an application to the Commission for consideration of a desalination use of the existing intake and outfall structures. Poseidon Resources notified CSLC staff on December 1, 2009 that it was withdrawing its application in order to provide sufficient time to undertake additional CEQA review of the project as a stand-alone operation. On June 15, 2010, Poseidon Resources submitted a revised application to the Commission.

Poseidon proposes to co-locate an 11-acre desalination facility within the Huntington Beach Generating Station site currently owned by AES. The desalination facility as designed would produce up to 50 million gallons per day (MGD) of potable drinking water for use by residents and businesses in Orange County. The project includes a 10,120 square foot administration building, a 38,090 square feet reverse osmosis (RO) building, a 26,305 square foot product water storage tank, and miscellaneous accessory structures. Proposed improvements include up to 8-10 miles of water transmission lines in Huntington Beach and Costa Mesa to connect to an existing regional transmission system in Costa Mesa and two offsite pump stations, one in unincorporated Orange County and one in the city of Irvine. From the desalination plant, the product water

## CALENDAR ITEM NO 62 (CONT'D)

would be distributed along several pipeline routes (some proposed, some planned, and some existing) to various local water districts in Orange County.

The construction period for the plant and ancillary facilities is estimated at 24 months, with another six months of testing upon completion. If all permits and approvals are received by mid to late 2011, then the plant should be operational some time in 2014.

The cost of the desalination plant and related facilities (pipeline, etc.) is estimated at approximately \$350 million. While a financing plan is currently not available, Poseidon Resources reports that they will try to fund it in a similar manner as the Carlsbad desalination facility, using tax-exempt private activity bonds.

In September of 2005, Poseidon Resources and AES executed a Ground Lease and Easement for a term of 35 years from the anniversary of the commercial operation date of the desalination facility with an option to extend the term for up to two consecutive additional periods of ten years that is binding on successors in interest.

The AES power plant currently uses Once-Through Cooling (OTC) technology to cool its generators, and the desalination facility would reuse this water as its supply source. This source water would be desalinated using RO technology, producing approximately 50 MGD of product water and up to 75 MGD of concentrated 57 parts per thousand (ppt) seawater (brine) as a by-product. The brine solution would then be co-mingled, diluted, and discharged with the OTC flows originating from the power plant. Total sea water volumes that would be needed for the desalination process under current conditions would be approximately 124 MGD.

AES and Poseidon Resources have entered into an Agreement that specifies the operational and maintenance responsibilities for co-locating the proposed desalination plant adjacent to the existing power plant.

To date, Poseidon Resources has received non-binding Letters of Intent (LOI) from 17 local cities and water agencies to receive desalinated water from the Huntington Beach desalination plant. The municipalities include the Cities of Huntington Beach, Newport Beach, Anaheim, Garden Grove, Santa Ana, Seal Beach, Fullerton, and Fountain Valley. The water agencies include the Municipal Water District of Orange County, the Santa Margarita Water District, Laguna Beach County Water District, and Irvine Ranch Water District. The LOIs total 80,960 acre feet of water, which represents demand in excess of what the desalination plant will actually produce.

CALENDAR ITEM NO **62** (CONT'D)

**2) CITY OF HUNTINGTON BEACH – ENVIRONMENTAL IMPACT REPORT**

On September 7, 2010, the City, acting as the Lead Agency under the California Environmental Quality Act ("CEQA") (Public Resources Code § 21000 *et seq.*) and the State CEQA Guidelines (California Code of Regulations § 15000 *et seq.*), certified a Subsequent Environmental Impact Report ("SEIR") (State Clearinghouse No. 2001051092) and adopted CEQA Findings of Fact, a Statement of Overriding Considerations and a Mitigation Monitoring and Reporting Program for the Project. The City found that the preparation and certification of the SEIR was appropriate because changes to the Project and the circumstances surrounding the Project had occurred and new information had become available since the City certified the Final Recirculated Environmental Impact Report ("REIR") for the Project on September 6, 2005 ("2005 REIR").

The CSLC will be acting as a Responsible Agency under CEQA and, as such, must generally use the SEIR certified by the Lead Agency. Section 15096 of the CEQA Guidelines requires a Responsible Agency to consider the environmental effects of the project as shown in the EIR prepared by the Lead Agency and reach its own conclusions on whether and how to approve the project involved, based upon that previously certified EIR. Section 15162 of the CEQA Guidelines provides the only criteria under which a Responsible Agency may prepare a subsequent or supplemental EIR, and those relate essentially to major changes in the project or in the circumstances under which the project is built or to address new information of substantial importance. In this case, SEIR 10-001 did address impacts in the event that the co-located power plant no longer needed cooling water and that the proposed desalination project is to draw directly all the seawater it needs. CSLC staff is not aware of any changes in the project, in circumstances under which the project would be built, or in information of substantial importance concerning the project subsequent to the City's certification of the SEIR. Preparation of a supplemental or subsequent EIR by the CSLC would therefore not appear to be permitted under Section 15162 of the CEQA Guidelines. After considering the City's SEIR, the CSLC is required under 15096(a) to reach its own conclusion on whether and how to approve the proposed project.

**3) DESALINATION BACKGROUND INFORMATION**

Desalination is a process that removes dissolved minerals (including, but not limited to, salt) from seawater, brackish water, or treated wastewater. A number of technologies have been developed for desalination, including reverse osmosis (RO), distillation, electrodialysis, and vacuum freezing. The proposed Poseidon Resources desalination project utilizes the RO process. In the RO process, ocean water is pretreated to remove particles and then pumped at high pressure

## CALENDAR ITEM NO 62 (CONT'D)

through permeable membranes to separate the salts from the water. The quality of the water produced depends on the pressure, the concentration of salts in the water, and the salt permeation constant of the membranes. Product water quality can be improved by forcing water through the membranes twice.

### **4) ONCE-THROUGH COOLING BACKGROUND INFORMATION**

If the desalination facility were operated separately from the power plant, it would require substantial volumes of water to be drawn directly from the ocean. In many respects, use of seawater directly for the proposed facility would be very similar in effect to once-through-cooling operations at the coastal power plants. "Once-through cooling" (OTC) is the process wherein ocean water is pumped through power plants for cooling and then discharged back into the ocean. Environmental impacts from OTC include the potential for marine organisms to be impinged and entrained as a result of the large volume of seawater intake required for cooling. Impingement occurs when marine organisms are trapped against components of the cooling water system, such as screens, where they die. Entrainment is the induction of smaller marine organisms into and through the cooling water system where most, if not all, of the organisms are destroyed by mechanical systems, temperature increases, or toxic stress. In addition, OTC results in biological impacts through thermal discharge. Thermal discharge refers to the release of cooling water at temperatures above ambient conditions resulting in elevation of the temperature of marine waters in the immediate vicinity of the outfall. These effects adversely impact coastal and ocean resources and uses as well as public trust resources that are within the jurisdiction of the Commission.

On February 5, 2007, the Commission authorized a 20-year General Lease – Industrial Use No. PRC1980.1 to AES for the continued use and maintenance of existing intake and outfall structures, for the use as components of an OTC system associated with the upland Huntington Beach Generating Station. As a result of the Commission's concerns over the impacts of OTC, AES's lease contains special language that assures that AES will be in compliance with various regulations governing the use of facilities involving intake of seawater, including but not limited to, the Clean Water Act Section 316 (b) and federal and state regulations. The existing lease allows the Commission to modify the terms and conditions of the lease should that become necessary based on changes to the technology of cooling for power plants that may be required in their authorized capacities by other governmental regulatory agencies.

## CALENDAR ITEM NO 62 (CONT'D)

### **5) RELATIONSHIP OF DESALINATION TO OTC**

As stated, OTC impacts for power plant operations and desalination operations are similar, but not exactly the same. Seawater intake for desalination purposes, in some cases, results in less mortality of aquatic organisms impinged on the intake screens due to lower flow rates, but may increase effects on aquatic organisms due to higher rates of salt brine in the discharge water. Both operations are similar in that organisms will be impinged and entrained within the system. The extent of the impacts of each operation are primarily dependent upon flow rates, water temperatures used for cooling the power generators and water temperatures used in cleaning organisms attached to the interior walls of the pipes utilized for intake, process and discharge of seawater.

The benefit afforded to desalination projects co-located with power plants comes from use of the power plants discharged cooling water. The desalination facility operator does not have to construct new intake and discharge facilities. Feed water has already been pumped out of the ocean by the power plant. Most importantly, the desalination facility is not imposing an additional entrainment and impingement impact when it uses only water discharged by a power plant.

In May 2010, the State Water Resources Control Board adopted a statewide policy on the use of coastal and estuarine waters for power plant cooling (Once-Through-Cooling (OTC); Title 23, Section 2922). The policy became effective October 1, 2010. This policy and anticipated new regulations adopted by both state and federal agencies, along with the trend towards repowering existing power plants with new technology, is likely to reduce or eliminate the use of OTC. Should the Poseidon Huntington Beach desalination facility be successful, many more such facilities could be proposed. If power plants no longer use OTC, the desalination facilities will have to operate independently, and entrainment and impingement would therefore continue. The State Water Resources Control Board's OTC policy, however, does not currently apply to seawater desalination plants. Because the project would use Public Trust resources on sovereign lands affected by entrainment and impingement during stand-alone operations, Poseidon has agreed, as compensation for that use, to assume the maintenance obligations for the existing entrainment and impingement mitigation program currently being maintained by AES.

### **6) GREENHOUSE GAS EMISSIONS (GHG) ASSOCIATED WITH THE PROJECT**

As part of its August 2008 approval of Poseidon's desalination facility in the City of Carlsbad, San Diego County, the Commission added lease conditions to ensure that Poseidon would offset all direct GHG emissions generated during construction and operation, including construction materials, transportation and

## CALENDAR ITEM NO 62 (CONT'D)

equipment, as well as emissions generated indirectly through energy consumed during all aspects of the facilities operations. With these conditions, Poseidon could meet its announced objective that its project would be "carbon neutral."

Commission staff has reviewed the analysis of GHG emissions contained in SEIR 10-001, certified by the City of Huntington Beach on September 7, 2010, for the proposed Poseidon Huntington Beach desalination facility, and the GHG Plan adopted by the city on September 20, 2010. It is Commission staff's opinion that these documents do address GHG emissions from both construction and operation of the facility and ancillary impacts. The information provided in these documents may be subject to subsequent review by any and all applicable regulatory authorities, including but not limited to, the California Coastal Commission and the South Coast Air Quality Management District. Therefore, staff recommends that the Poseidon's lease include a condition that would authorize the Executive Officer to incorporate any new terms lawfully imposed on the GHG Plan by any and all applicable regulatory authorities.

### **OTHER PERTINENT INFORMATION:**

Poseidon Resources has agreed to provide, in addition to the \$500,000 bond already posted by AES, a Performance Deposit in the amount of \$500,000 that will ensure the financial wherewithal to accomplish restoration of the lease premises in the event that the facilities are no longer being used and to ensure compliance with all of the terms of the lease. This includes removal of the seawater intake and outfall pipelines. Additionally, a parent guaranty must be provided by Poseidon Water LLC to ensure Poseidon Resources' compliance with the terms of the lease. The amendment would not be executed by Lessor until after those items are provided.

Commission staff has received many letters of support for favorable consideration of the proposed desalination project from a variety of sources including, but not limited to, five State Senators, nine State Assemblymembers, the Secretary for the California Natural Resources Agency, union representatives, members of the Huntington Beach Chamber of Commerce, a local trade council, a taxpayers association, and private citizens.

In addition, Commission staff has received a letter in opposition, in 2007, to the project from the Coast Law Group on behalf of the Surfrider Foundation.

### **Salinity**

The City's SEIR identifies a concentrated brine discharge stream, but states that the environmental impacts from this discharge are not significant. However, not



CALENDAR ITEM NO **62** (CONT'D)

addressed was the use of Public Trust resources that would result from increased salinity offshore of the outfall. According to the SEIR, elevated salinity, while not environmentally significant, would affect an area from seven to 20 acres, an area that marine life is likely to avoid. The project is therefore expected to use an area of at least seven acres of sovereign tide and submerged lands, although the actual area occupied may ultimately prove different. As a consequence, Poseidon has agreed to pay annual rent, commencing with the start of the desalination operation, in the amount of \$115,500 for the use of these lands, based upon the value of seven acres expected to be occupied. After two years of monitoring, if it is determined that the area is not so affected or if the area affected is different, then Poseidon may apply to the Commission for elimination or modification of that rent.

**Commission Staff Review and Recommendations**

Commission staff has reviewed SEIR 10-001 certified by the City of Huntington Beach, the NPDES permit issued by the Santa Ana Regional Water Quality Control Board, and subsequent reports provided by Poseidon Resources. As a result, Commission staff recommends approval of the proposed lease amendment.

A Mitigation Monitoring and Reporting Program in conformance with State CEQA Guidelines (Title 14, California Code of Regulations, section 15097) is attached as Exhibit B.

Findings made in conformance with State CEQA Guidelines (Title 14, California Code of Regulations, sections 15091 and 15096) are attached as Exhibit C.

A Statement of Overriding Considerations made in conformance with State CEQA Guidelines (Title 14, California Code of Regulations, section 15093) is attached as Exhibit C.

This activity involves lands identified as possessing significant environmental values pursuant to public Resources Code sections 6370, et seq. Based upon the Staff's consultation with the persons nominating such lands and through the CEQA review process, it is staff's opinion that the project, as proposed, is consistent with its use classification.

**APPROVALS OBTAINED:**

City of Huntington Beach  
Santa Ana Regional Water Quality Control Board  
California Department of Public Health

CALENDAR ITEM NO 62 (CONT'D)

**FURTHER APPROVALS REQUIRED:**

California Coastal Commission

**EXHIBITS:**

- A. Site and Location Map
- B. Mitigation Monitoring and Reporting Program
- C. CEQA Findings, Statement of Overriding Considerations

**RECOMMENDED ACTION:**

It is recommended that the Commission:

**CEQA FINDING:**

Find that a Subsequent EIR SCH# 2001051092 was prepared for this project by the City of Huntington Beach and certified on September 7, 2010 and that the Commission has reviewed and considered the information contained therein and reached its own conclusion regarding approval of the project.

Adopt Mitigation Measures, as stated in the Mitigation Monitoring and Reporting Program, as attached in Exhibit B.

Adopt the Findings made in conformance with Title 14, California Code of Regulations, Sections 15091 and 15096(h), as attached in Exhibit C.

Adopt the Statement of Overriding Considerations made in conformance with Title 14, California Code of Regulations, Section 15093 and 15096, included in Exhibit C.

**SIGNIFICANT LANDS INVENTORY FINDING:**

Find that this activity is consistent with the use classification designated by the Commission for the land pursuant to Public Resources Code Sections 6370, et seq.

**AUTHORIZATION:**

Authorize the amendment of Lease No. PRC 1980.1, a General Lease – Industrial Use, issued to AES Huntington Beach LLC to include Poseidon Resources (Surfside) LLC as a Co-Lessee and certain provisions pertaining to the operation of the desalination facility, of lands shown on Exhibit A attached (for reference purposes only), effective October 29, 2010; all other terms and conditions of the lease will remain in effect without amendment.

# APPENDIX H

# **W 19a & W 20a**

**A-5-HNB-10-225 / E-06-007**

**Poseidon Water**

## **CORRESPONDENCE PACKET**

### **A. EX PARTE COMMUNICATIONS**

### **B. SUPPORT / OPPOSITION LETTERS**

- **Federal Agencies**
- **State Agencies**
- **Local Government**
- **Private Organizations / Agencies**
- **Letters / E-mails to CCC  
Commissioners / Staff**

# **EX PARTE COMMUNICATIONS**

# FORM FOR DISCLOSURE OF EX PARTE COMMUNICATIONS

Name or description of project, LPC, etc.:

Application No. E-06-007 (Poseidon, Huntington Beach) Poseidon Resources application for construction and operation of a desalination facility on the site of the AES Power Plant, 21730 Newland Avenue, Huntington Beach, Orange County.

Date and time of receipt of communication: October 9, 2013 at 6:00 pm

Location of communication: San Diego, CA

Type of communication (letter, facsimile, etc.): In person meeting

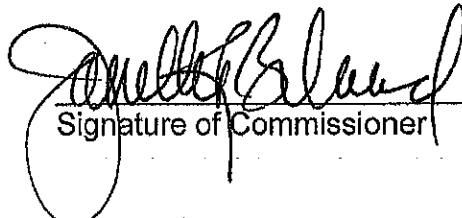
Person(s) initiating communication: Scott Maloni and Susan McCabe

Detailed substantive description of content of communication:

(Attach a copy of the complete text of any written material received.)

I received a briefing from the applicant's representatives in which we discussed the completeness of the application, issues being discussed with CCC staff and the timing of the project. The applicant indicated they are continuing to work with staff and anticipates a November hearing. The applicant provided support letters from the Resources Agency to State Lands Commission (dated October 14, 2010), a letter from several members of the legislature to Chair Shallenberger (dated August 1, 2013) and a letter from Senator Steinberg to Chair Shallenberger (dated April 26, 2013). These letters are attached. We discussed whether or not other Natural Resources Agency entities (departments, boards, etc.) would be sending letters regarding the project and that I would inquire with our entities to determine whether letters are being drafted.

10/25/2013  
Date

  
Signature of Commissioner

If the communication was provided at the same time to staff as it was provided to a Commissioner, the communication is not ex parte and this form does not need to be filled out.

If communication occurred seven or more days in advance of the Commission hearing on the item that was the subject of the communication, complete this form and transmit it to the Executive Director within seven days of the communication. If it is reasonable to believe that the completed form will not arrive by U.S. mail at the Commission's main office prior to the commencement of the meeting, other means of delivery should be used, such as facsimile, overnight mail, or personal delivery by the Commissioner to the Executive Director at the meeting prior to the time that the hearing on the matter commences.

If communication occurred within seven days of the hearing, complete this form, provide the information orally on the record of the proceeding and provide the Executive Director with a copy of any written material that was part of the communication.

## DISCLOSURE OF EX PARTE COMMUNICATIONS

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**Name or description of project:**

Poseidon Resources' coastal development permit on appeal for a desalination plant in Huntington Beach.

**Date and time of receipt of communication:**

October 23, 2013 at 4:30pm

**Location of communication:**

San Diego

**Type of communication:**

Brief phone call

**Person(s) in attendance at time of communication:**

Scott Maloni of Poseidon Resources

**Person(s) receiving communication:**

Greg Murphy for Greg Cox

**Detailed substantive description of the content of communication:  
(Attach a copy of the complete text of any written material received.)**

Greg Murphy on my staff had a brief phone conversation with Scott Maloni to confirm an upcoming meeting date and time, and over the course of the conversation, Scott went into brief detail about Poseidon Resources' project in Huntington Beach. Scott said the proposed development has approvals from the local city council and the regional water board, and is now hoping to gain approval from the Coastal Commission in November. He highlighted that staff has mentioned subsurface seawater intake as alternative to open-ocean intake to minimize impacts of entrainment. Scott said this alternative intake is infeasible for a project this size and that Poseidon could not get the project financed until this alternative intake.

**Date:** 10/24/13

**Signature of Commissioner:** \_\_\_\_\_

*Greg Cox*

## DISCLOSURE OF EX PARTE COMMUNICATIONS

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**Name or description of project:**

Poseidon Resources' coastal development permit on appeal for a desalination plant in Huntington Beach.

**Date and time of receipt of communication:**

October 28, 2013 at 3:00pm

**Location of communication:**

San Diego

**Type of communication:**

In-person briefing

**Person(s) in attendance at time of communication:**

Scott Maloni

**Person(s) receiving communication:**

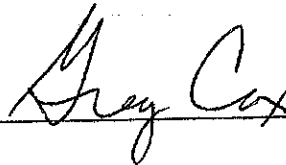
Greg Murphy for Greg Cox

**Detailed substantive description of the content of communication:  
(Attach a copy of the complete text of any written material received.)**

Greg Murphy on my staff met with Scott Maloni to discuss the CDP application for Poseidon Resources' proposed desalination plant in Huntington Beach. Scott briefed Greg on the history of the project, reviewed a briefing packet that was previously provided to Commission staff and discussed a few issues related to the proposed development. Scott focused on staff's insistence to do a sub-surface intake system, which he said is infeasible. Instead, Poseidon is proposing to take advantage of the existing 14' diameter intake/outtake pipeline that the co-located power plant is currently permitted to use. Scott said that the desalination plant approved for Carlsbad provides the precedent by which Poseidon has used as a benchmark in proposing a desalination plant in Huntington Beach, and he hopes for Commission approval in November.

**Date:** 10/29/13

**Signature of Commissioner:** \_\_\_\_\_





**From:** Scott Maloni [<mailto:SMaloni@poseidon1.com>]  
**Sent:** Tuesday, October 29, 2013 9:56 AM  
**To:** Murphy, Greg  
**Subject:** Poseidon HB

Greg - I realized that I left yesterday with the PowerPoint presentation materials. Let me know if you want a copy and I'll try to send to you. They are large files. In the meantime, attached is the Marine Life Mitigation Plan (MLMP) that we discussed yesterday. This plan has been submitted to the Coastal Commission and we are proposing to make it a special condition of the CDP approval in order to address the project's entrainment effects once the power plant decommissions its cooling water system and we are operating the intake for our exclusive use.

I'm also attaching a technical memo we sent CCC staff last week that provides a peer review of an academic article that the CCC staff believes supports the argument that subsurface intakes are being utilized around the world. At the end of this technical memo is a chart listing the largest desalination plants that use one form or another of subsurface intake. Bottom line, there are no facilities the industry considers "large-scale" that use subsurface intakes. The largest is less than half the size of our project.

**Scott Maloni**  
*Vice President*

**Poseidon Water**

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Direct: 760-655-3996

Mobile: 858-663-8838

Email: [smaloni@poseidon1.com](mailto:smaloni@poseidon1.com)

Web: [www.poseidonwater.com](http://www.poseidonwater.com)






## TECHNICAL MEMORANDUM

### Water Globe Consulting

TO: Scott Maloni, Josie McKinley, Poseidon Water, LLC

COPY: File

FROM: Nikolay Voutchkov, PE, DEE, Water Globe Consulting, LLC 

PROJECT: Seawater Desalination Project at Huntington Beach

PROJECT NO: 0007-2009-0002

SUBJECT: Critical Review of 2013 Desalination Journal Publication on Subsurface Intakes

DATE: 10-21-2013

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#### INTRODUCTION

This technical memorandum provides a peer review of the technical publication entitled "*Subsurface Intakes for Seawater Reverse Osmosis Facilities: Capacity Limitation, Water Quality Improvement, and Economics*", authored by Thomas M. Missimer, Noreddine Ghaffour, Abdullah H. A. Dehwah, and Rinaldi Rachman, Robert G. Maliva and Gary Amy and published in the Journal of Desalination, vol. 322, 2013, pp. 37-51, 2013. This article discusses the use of subsurface intakes for what the authors consider relatively large desalination plants and provides examples of such facilities. The article is prepared by researchers from the Water Desalination and Reuse Center of the King Abdullah University of Science and Technology in Saudi Arabia and by Schlumberger Water Services, a US company that's commercial practice includes the engineering and construction of subsurface intakes.

This peer review is developed to evaluate the accuracy of the information contained in the referenced article and the applicability for the site specific conditions of the proposed 50 Million Gallon per Day ("MGD") Huntington Beach Seawater Desalination Project.

#### GENERAL PUBLICATION OVERVIEW

The above-referenced publication provides general information on the use and feasibility of various types of subsurface intakes for seawater desalination plants. The work is developed by scientists, researchers and private consultants with exclusive focus on the design and construction of subsurface intakes, and aims to provide a general understanding of the potential benefits of the use of subsurface intakes as compared to open intakes, such as that proposed for the 50 MGD Huntington Beach Seawater Desalination Project.

## TECHNICAL MEMORANDUM

October 21, 2013

Page 2

As stated on page 38, Section 2 "*Materials and methods*", of the article, the presented information is based on "*a general survey*" of seawater reverse osmosis (SWRO) plants currently using subsurface intakes and information published in this paper "*was obtained from databases, books, and peer-reviewed publications on desalination*".

It appears that the information provided in the referenced article is a compilation of third party information sources and interpretation of the reviewed sources rather than original scientific data produced by the article's authors based on actual direct experience with the facilities described in the article.

It also does not appear that the owners and operators of the desalination facilities referenced in the article were consulted prior to publication of the article. This type of compilation, while useful for general educational purposes, has very little value from a point of view of direct applicability for specific projects, such as the Huntington Beach desalination project.

Based on the information contained in the article, the following are the general observations related to the use of subsurface intakes:

1. Subsurface intakes have been applied for only six relatively large desalination plants worldwide with fresh water capacity of 12 to 21 MGD (intake capacity of 90,000 to 160,000 m<sup>3</sup>/day and 50 % recovery), all of which are less than half of the fresh water production capacity of the Huntington Beach project (50 MGD – intake capacity of 127 MGD/480,695 m<sup>3</sup>/day) – see Table 2 on page 40 of the article. The six existing largest plants shown in Table 2 are located in only three countries – Oman, Spain and Malta. None of them is located in California or elsewhere in the US and have been through the permitting review process applied in California and therefore, their actual environmental feasibility and impacts have never been reviewed applying regulations applicable in California.
2. A common feature for the intake conditions of all of the existing desalination plants considered "large" by the authors and shown in Table 2 of the article is that they are located in coastal aquifers which mainly consist of high permeability limestone soils, which do not exist along the California coast. None of the referenced "large" facilities has subsurface intake conditions which match these along the shoreline of Huntington Beach.

## TECHNICAL MEMORANDUM

October 21, 2013

Page 3

3. Page 40, second paragraph of the referenced article clearly states that the feasibility of subsurface intakes is very dependent on the site geology – *“The site geology must be adequate to allow individual well yields to be high enough so that the number of production wells needed to meet the required raw water supply is reasonable or cost-competitive with other supply options”*. Site-specific studies completed for the proposed Huntington Beach desalination project first by PSOMAS and most recently by Geosyntec Consultants, Inc., indicate that the geology along the coast and offshore of the project site is inadequate for the construction of large subsurface intake system. For comparison, the articles quoted in this publication indicate that the referenced six “large” SWRO desalination projects with subsurface intakes have very favorable and quite unique geology suitable for this type of intakes.
4. It should be pointed out that out of over 14,000 desalination plants worldwide, the article identifies only six relatively “large” plants with subsurface intakes and 30 plants in total (Table 2) having such type of intakes. This fact indicates the obvious observation that the vast majority of desalination plants worldwide do not have subsurface intakes, and underlines the importance of site-specific conditions for subsurface intake feasibility.
5. Most of the plants with subsurface intakes listed in Table 2 are located in very small and focused geographic areas of the world with favorable geology – Oman, Spain, Malta and Grand Cayman. The only two US SWRO plants referenced in the article are Morro Bay/Morro Beach in California (see Table 2 and page 41, first paragraph) and Flagler County, Florida. Both plants are referenced in a negative connotation – i.e., unsuccessful operational experience. On page 40/41 Morro Beach is referenced as a plant that has induced collection of fresh water from adjacent aquifers – *“Induced seaward movement of water has been known to draw contaminated groundwater or water with high concentrations of dissolved iron or manganese into beach wells (e.g. Morro Beach, California beach well system) [29].”*
6. On article page 41, the paragraph below Table 3 clearly states the potential negative impact of subsurface intakes on adjacent wetlands – *“Wells located at significant distances from the shoreline can also cause adverse impacts to wetlands or produce water that has salinity higher than that in the adjacent sea (Flagler County, Florida)”*. As indicated in previous studies of the feasibility of subsurface intakes for the site-specific conditions of the Huntington Beach Desalination Project, if subsurface intakes are used, they will drain the Magnolia Wetlands located adjacent to the plant site and intake area.

## TECHNICAL MEMORANDUM

October 21, 2013

Page 4

7. On page 41, the second paragraph clearly discloses that the limited feasibility of the use of subsurface intakes for large desalination plants – *“While conventional wells can meet the feed water requirements of small to intermediate capacity SWRO facilities, there is a limit on the use of wells for large-capacity facilities.”* Existing experience with relatively large SWRO plants listed in Table 2 clearly indicates that this limit is 80,000 m<sup>3</sup>/day (21 MGD) – there are no plants at present that have production capacities that are comparable to that of the capacity of the Huntington Beach desalination project (50 MGD). In fact, the quoted “capacity” of the Sur, Oman plant of 160,000 m<sup>3</sup>/day is misleading – the term “capacity” refers to the capacity of the intake itself – not the fresh water production capacity of the plant. The footnote in Table 2 discloses that the data in this table are “approximated” rather than actual numbers and are calculated for 50 % recovery – i.e., the intake volume is two times bigger than the production capacity of the plant. As quoted in BBC news source of October 19, 2013, the production capacity of the Sur plant is only 80,000 m<sup>3</sup>/day (21 MGD) - <http://www.muscatdaily.com/Archive/Oman/Sur-desalination-plant-produces-40mn-m3-drinking-water>, which is less than 50 % of the desalination plant planned for Huntington Beach.

Enclosed **Attachment A** is a table listing the largest capacity seawater desalination plants operating around the world today that utilize various types of subsurface intakes (i.e., wells and galleries). The table lists both the design capacity and the production capacity. The information in this table is based on direct involvement and/or observations of the author with the referenced project rather than on literature review or data interpretation.

Note that none of the largest seawater desalination plants around the world that have a subsurface intake system utilize a Deep Infiltration Gallery (a “DIG” is a tunnel underneath the seafloor extending offshore connecting a series of offshore vertical wells).

### REFERENCES TO SEABED GALLERIES

On page 44 of the referenced article, the authors of the article have referred to the Fukuoka desalination plant which is the only SWRO plant in the world with such type of intake. While the authors of the article accurately state that the original capacity of the plant infiltration gallery is 103,000 m<sup>3</sup>/day (27.2 MGD) corresponding to plant fresh product water capacity of 13.6 MGD, since 2011, based on the direct observation of the author of this technical memorandum (N. Voutchkov) of the Fukuoka plant observations during numerous plant visits over the last several years, the plant is actually operating at only 75 % of its original capacity – i.e., 10 MGD due to irreversible biological fouling of the plant intake. Such biofouling impact of the intake limiting the actual plant production capacity was observed approximately 5 years after the initiation of the intake operations.

## TECHNICAL MEMORANDUM

October 21, 2013

Page 5

This fact is not reflected in the article, and could create the misleading conclusion that the use of seabed galleries in large-scale SWRO plants is viable in a long term.

The authors of the referenced article also indicated that another seabed gallery has been designed and constructed at the City of Long Beach, California, which is correct but not clarifying that the referenced seabed gallery was only a very small pilot test system which operated over a very short period of time and was closed down. During its operation the intake created very heavily fouling seawater which was causing the cartridge filters of the pilot plant to expire every week (normal replacement rate of such filters is 6 to 8 weeks). Such heavy biofouling (see Figure 1) does not allow for sustainable desalination by reverse osmosis.



**Figure 1 – Heavy Fouling of Cartridge filter at Long Beach pilot SWRO plant with Seabed Gallery**

## TECHNICAL MEMORANDUM

October 21, 2013

Page 6

Subsequently, the City of Long Beach has abandoned their plans to construct full-scale SWRO desalination plant.

The authors of the article make a valid point that the *“large-scale seabed galleries can be technically complex to construct”*. Based on discussion with Fukuoka plant staff, the time and capital expenditures needed to construct the infiltration gallery was approximately the same as that for construction of the desalination plant itself. This explains the fact that no other SWRO desalination plant in the world was ever constructed using seabed gallery after the Fukuoka plant was constructed.

### CONFUSING AND INACCURATE REPRESENTATION OF PLANT CAPACITY

Table 2 of the referenced article presents information that may be misleading for the casual reader. The “Capacity” listed in Table 2, is the intake system capacity rather than the desalination plant fresh water production capacity. Typically, when a desalination plant capacity is referenced in technical literature the term “capacity” refers to the fresh water production capacity of the plant, not the actual flow collected by the intake facilities – this representation is misleading and not consistent with industry accepted good engineering practices.

Furthermore, the intake capacity information presented in Table 2 is not based on actual data – *“it is approximated based on published reports or estimated based on the reported capacity of the plant divided by the reported recovery rate or a maximum of 50 % recovery rate where it is not reported.”* – see the footnote at the bottom of Table 2. The qualifying footnote quoted herein indicates one of the fatal flaws of the article – rather than using real data and information, the authors are “approximating” the data. This type of “approximation” approach of data interpretation undermines the validity of the presented information and introduces a great level of inaccuracy.

An illustrative example is the capacity of the Tordera plant in Blanes, Spain shown in Table 2 of the article to have an intake capacity of 128,000 m<sup>3</sup>/day (34 MGD). A reputable source of information for plant capacity recognized by the industry is the *International Desalination Association (IDA) publication entitled “IDA Desalination Yearbook 2013-2014”*. This undisputed publication states that this plant has a production capacity of 28,800 m<sup>3</sup>/day (7.6 MGD). Using the “approximation” approach of the authors – this plant would have production capacity of  $0.5 \times 128,000 \text{ m}^3/\text{day} = 64,000 \text{ m}^3/\text{day}$  (17 MGD) – which is more than two times larger than the actual plant production capacity.

Similarly, the Pembroke desalination plant in Malta is quoted to have an intake of 120,000 m<sup>3</sup>/day (32 MGD). Applying a 50 % recovery assumption corresponds to plant production

## TECHNICAL MEMORANDUM

October 21, 2013

Page 7

capacity of 16 MGD (60,000 m<sup>3</sup>/day). Data published on the internet site of the public water supply agency in Malta which owns and operates the Pembroke plant and is responsible for publishing the referenced site shows that the actual production capacity of this plant is 27,680 m<sup>3</sup>/day (7.3 MGD) - [http://www.wsc.com.mt/sites/default/files/Desalination\\_services.pdf](http://www.wsc.com.mt/sites/default/files/Desalination_services.pdf)

### INFLATED REPRESENTATION OF NUMBER OF PLANTS WITH WELLS

On page 40, paragraph 2, the authors indicate that *"Well intake systems have been successfully used at hundreds of SWRO facilities worldwide with capacities up to 160,000 m<sup>3</sup>/day (Table 2)."* However, Table 2 identifies only 30 "selected seawater RO facilities using well intake systems", rather than "hundreds" of plants and Table 2 lists only one plant with an intake capacity of 160,000 m<sup>3</sup>/day. The generic nature of such statements only misleads the reader and creates an inflated feeling of "widespread" use of subsurface intakes, which is not commensurate with reality.

### STATEMENTS UNSUPPORTED BY FACTUAL INFORMATION

There are numerous statements and conclusions in the article that are not supported by factual information, and in some cases the article's statements and conclusion are contradicted within. For example, on page 38 (last paragraph) & 39 (first paragraph) the statement *"Many locations worldwide have local hydrogeological conditions sufficient to develop one or more different types of subsurface intakes while other locations do not have subsurface intake feasibility"* is not supported in the article with actual factual data. The information on Table 2 indicates that over 80 % of these plants are sited only in four locations - Oman, Spain, Malta, and Grand Cayman – such number could hardly be referenced as "many".

Also, on page 40, paragraph 3, the authors make the statement *"Well intake systems have proven to be a reliable means of providing feed water with positive impact on water quality [27-35]."* This is not a scientifically justifiable statement and it's undermined by published literature cited in the article. Specifically, one of the cited papers [Reference 29] entitled *"Thorough study is key to large beach-well intakes,"* Desalination and Water Reuse, Q, 14 (1) (2005) 16-20 is authored by N. Voutchkov (the author of this technical memorandum). The referenced article reaches conclusions that contradict the article of Missimer et al., and shows that the feasibility of subsurface intake systems is very site specific and larger installations are not common.

### CONCLUSION

Worldwide experience with seawater desalination facilities reveals that subsurface intakes are limited to unique areas with optimal geological conditions. As such, seawater desalination facilities with subsurface intakes are uncommon and they have never been demonstrated to be feasible for plants considered by the industry to be large-scale (i.e. greater than 21 MGD



## TECHNICAL MEMORANDUM

October 21, 2013

Page 8

production capacity). The peer reviewed technical publication entitled "*Subsurface Intakes for Seawater Reverse Osmosis Facilities: Capacity Limitation, Water Quality Improvement, and Economics*" relies heavily on third party literature as opposed to direct consultation with desalination plant owners and operators. Moreover the conclusions in the article are at best dated and in too many cases inaccurate. Furthermore, the manner in which the authors chose to report the capacity of seawater desalination facilities does not follow the industry's standard for best practices and leads the casual observer to be misinformed about the true production capacity of seawater desalination plants using subsurface intakes. The information in this article does not support the article's abstract and the article's conclusions are almost entirely unsupported by real-world seawater desalination plant operating experience, particularly experience with larger-scale plants. Consequently, the article does not include factual information that is germane to the proposed Huntington Beach Desalination Project.

## TECHNICAL MEMORANDUM

October 21, 2013

Page 9

### Attachment A - Overview of SWRO Desalination Plants with Large Subsurface Intakes

Desalination Plant Name/Location	Plant Design Capacity (MGD)	Plant Actual Capacity (MGD)	Notes
Sur SWRO Plant,  City of Sur, Oman In Operation since 2010	21	15-18	Largest SWRO Plant with Vertical Intake Wells Well field includes 32 duty + 8 Standby wells Soil Conditions – High Permeability Limestone
Alicante (Cartagena Canal SWRO Plant)  City of San Pedro de Pinatar, Spain In Operation since 2008	17.0	10 - 12	Largest SWRO Plant with Horizontal Directionally Drilled Wells in the World – 20 Wells Plant lost (four wells) 20 % of installed wells due to irreversible plugging within first 9 months of operation
Salina Cruz SWRO Plant  City of Salina Cruz, Mexico In Operation since 2004	4.0	2.5 – 3.0	Largest SWRO Plant with Ranney-type Horizontal Intake wells. 3 (2+1) Wells at 3.8 MGD Each. Plant intake drained over 20 acres of natural coastal wetlands within 3 years of initiation of operation.
Fukuoka SWRO Plant  City of Fukuoka, Japan In Operation since 2002	13.6	8 - 10	Largest SWRO Plant with Infiltration Gallery Plant lost productivity over time due to infiltration gallery plugging. Infiltration Bed Size – 5 acres
Sand City SWRO Plant Sand City, California In operation since 2010	0.3	0.1 – 0.3	Largest Continuously Operational SWRO Plant with Wells in California. Has 4 Shallow Coastal Wells.

**POSEIDON RESOURCES  
HUNTINGTON BEACH MARINE LIFE MITIGATION PLAN**

**INTRODUCTION**

Poseidon's Huntington Beach desalination facility will be co-located with the AES Huntington Beach power plant and will use the power plant's once-through cooling intake and outfall structures. The desalination facility is expected to use an approximate annual average of 126.7 million gallons per day (mgd) of seawater drawn through the structure. The facility will operate both when the power plant is using its once-through cooling system and when it is not.

This Marine Life Mitigation Plan (the Plan) will result in mitigation necessary to address the potential entrainment impacts caused by the facility's use of Pacific Ocean seawater during the Project's long term stand-alone operations. The Plan includes 11.8 acres of coastal wetland restoration, as described below.

Data from an Impingement Mortality and Entrainment (IM&E) Characterization Study (MBC and Tenera Environmental 2005) collected in 2003-2004 to evaluate the entrainment losses due to the operation of the cooling water intake system of the Huntington Beach Generating Station (HBGS) were used to calculate entrainment losses associated with the intake flow from the 127 MGD stand-alone operation of the Huntington Beach Desalination Project. The calculations of Area of Production Foregone (APF) for determining an appropriate mitigation used data from a suite of species collected from the site-specific studies at the location of Poseidon's Huntington Beach desalination facility (**Appendix A**).

**CONDITION A: WETLAND RESTORATION MITIGATION**

The permittee shall develop, implement and fund a wetland restoration project that compensates for marine life impacts from Poseidon's Huntington Beach desalination facility.

**1.0 IMPLEMENTATION**

Poseidon is to provide 11.8 acres of coastal wetland restoration. Within three years of issuance of the desalination facility's coastal development permit (CDP), Poseidon is to submit a complete CDP application for a proposed restoration project, as described below.

**2.0 SITE SELECTION**

In consultation with Commission staff, the permittee shall select a wetland restoration site or sites for mitigation in accordance with the following process and terms.

Within 12 months of the effective date of this permit, the permittee shall submit the proposed site(s) and preliminary wetland restoration plan to the Commission for its review and approval or disapproval.

The location of the wetland restoration project(s) shall be within the Southern California Bight. The permittee shall select from sites including, but not limited to, the following sites: Tijuana Estuary in San Diego County, San Diego Bay National Wildlife Refuge in San Diego County (Otay River Floodplain and salt evaporator restoration), D Street Fill at Sweetwater River in San

Diego County, San Elijo Lagoon in San Diego County, Big Canyon Creek in Orange County, Huntington Beach Wetlands in Orange County, Los Cerritos Wetlands in Los Angeles County, Colorado Lagoon in Los Angeles County, Ballona Wetlands in Los Angeles County. The permittee may also consider any sites that may be recommended by the California Department of Fish & Game as high priority wetlands restoration projects. Other sites proposed by the permittee may be added to this list with the Executive Director's approval.

The basis for the selection shall be an evaluation of the site(s) against the minimum standards and objectives set forth in subsections 3.1 and 3.2 below. The permittee shall take into account and give serious consideration to the advice and recommendations of the Scientific Advisory Panel (SAP) established and convened by the Executive Director pursuant to Condition B.1.0. The permittee shall select the site(s) that meets the minimum standards and best meets the objectives.

### **3.0 PLAN REQUIREMENTS**

In consultation with Commission staff, the permittee shall develop a wetland restoration plan for the wetland site(s) identified through the site selection process. The wetland restoration plan shall meet the minimum standards and incorporate as many as feasible of the objectives in subsections 3.1 and 3.2, respectively.

#### **3.1 Minimum Standards**

The wetland restoration project site(s) and preliminary plan(s) must meet the following minimum standards:

- a. Location within Southern California Bight;
- b. Potential for restoration as tidal wetland, with extensive intertidal and subtidal areas;
- c. Creates or substantially restores a minimum of 11.8 acres of habitat similar to the affected habitats, excluding buffer zone and upland transition area;
- d. Provides a buffer zone of a size adequate to ensure protection of wetland values, and at least 100 feet wide, as measured from the upland edge of the transition area.
- e. Any existing site contamination problems would be controlled or remediated and would not hinder restoration;
- f. Site preservation is guaranteed in perpetuity (through appropriate public agency or nonprofit ownership, or other means approved by the Executive Director), to protect against future degradation or incompatible land use;
- g. Feasible methods are available to protect the long-term wetland values on the site(s), in perpetuity;
- h. Does not result in a net loss of existing wetlands; and

- i. Does not result in an adverse impact on endangered animal species or an adverse unmitigated impact on endangered plant species.

### **3.2 Objectives**

The following objectives represent the factors that will contribute to the overall value of the wetland. The selected site(s) shall be determined to achieve these objectives. These objectives shall also guide preparation of the restoration plan.

- a. Provides maximum overall ecosystem benefits, e.g. maximum upland buffer, enhancement of downstream fish values, provides regionally scarce habitat, potential for local ecosystem diversity;
- b. Provides substantial fish habitat compatible with other wetland values at the site(s);
- c. Provides a buffer zone of an average of at least 300 feet wide, and not less than 100 feet wide, as measured from the upland edge of the transition area.
- d. Provides maximum upland transition areas (in addition to buffer zones);
- e. Restoration involves minimum adverse impacts on existing functioning wetlands and other sensitive habitats;
- f. Site selection and restoration plan reflect a consideration of site specific and regional wetland restoration goals;
- g. Restoration design is that most likely to produce and support wetland-dependent resources;
- h. Provides rare or endangered species habitat;
- i. Provides for restoration of reproductively isolated populations of native California species;
- j. Results in an increase in the aggregate acreage of wetland in the Southern California Bight;
- k. Requires minimum maintenance;
- l. Restoration project can be accomplished in a reasonably timely fashion; and,
- m. Site(s) in proximity to the Huntington Beach desalination facility.

### **3.3 Restrictions**

- a. The permittee may propose a wetland restoration project larger than the minimum necessary size specified in subsection 3.1(c) above, if biologically appropriate for the site(s), but the additional acreage must (1) be clearly identified, and (2) must not be the portion of the project best satisfying the standards and objectives listed above.

- b. If the permittee jointly enters into a restoration project with another party: (1) the permittee's portion of the project must be clearly specified, (2) any other party involved cannot gain mitigation credit for the permittee's portion of the project, and (3) the permittee may not receive mitigation credit for the other party's portion of the project.
- c. The permittee may propose to divide the mitigation requirement between a maximum of two wetland restoration sites, unless there is a compelling argument, approved by the Executive Director, that the standards and objectives of subsections 3.1 and 3.2 will be better met at more than two sites.

#### **4.0 PLAN IMPLEMENTATION**

##### **4.1 Coastal Development Permit Applications**

The permittee shall submit a complete Coastal Development Permit application for the restoration plan(s) that shall include CEQA documentation and local or other state agency approvals. The CDP application shall be submitted within 36 months following the issuance of the Coastal Development Permit for the Huntington Beach desalination facility. The Executive Director may grant an extension to this time period at the request of and upon a demonstration of good cause by the permittee. The restoration plans shall substantially conform to Section 3.0 above and shall include, but not be limited to the following elements:

- a. Detailed review of existing physical, biological, and hydrological conditions; ownership, land use and regulation;
- b. Evaluation of site-specific and regional restoration goals and compatibility with the goal of mitigating for Poseidon's marine life impacts;
- c. Integrate climate change and sea level rise into restoration design;
- d. Identification of site opportunities and constraints;
- e. Schematic restoration design, including:
  - 1. Proposed cut and fill, water control structures, control measures for stormwater, buffers and transition areas, management and maintenance requirements;
  - 2. Planting program, including removal of exotic species, sources of plants and or seeds (local, if possible), protection of existing salt marsh plants, methods for preserving top soil and augmenting soils with nitrogen and other necessary soil amendments before planting, timing of planting, plans for irrigation until established, and location of planting and elevations on the topographic drawings;
  - 3. Proposed habitat types (including approximate size and location);
  - 4. Assessment of significant impacts of design (especially on existing habitat values) and net habitat benefits;
  - 5. Location, alignment and specifications for public access facilities, if feasible;
  - 6. Evaluation of steps for implementation e.g. permits and approvals, development agreements, acquisition of property rights;
  - 7. Cost estimates;

8. Topographic drawings for final restoration plan at 1" = 100 foot scale, one foot contour interval; and
  9. Drawings shall be directly translatable into final working drawings.
- g. Detailed information about how monitoring and maintenance will be implemented;
  - h. Detailed information about construction methods to be used;
  - i. Defined final success criteria for each habitat type and methods to be used to determine success;
  - j. Detailed information about how Poseidon will coordinate with the Scientific Advisory Panel including its role in independent monitoring, contingency planning review, cost recovery, etc.;
  - k. Detailed information about contingency measures that will be implemented if mitigation does not meet the approved goals, objectives, performance standards, or other criteria; and,
  - l. Submittal of "as-built" plans showing final grading, planting, hydrological features, etc. within 60 days of completing initial mitigation site construction.

#### **4.2 Wetland Construction Phase**

Within 6 months of approval of the restoration plan, subject to the permittee's obtaining the necessary permits, the permittee shall commence the construction phase of the wetland restoration project. The permittee shall be responsible for ensuring that construction is carried out in accordance with the specifications and within the timeframes specified in the approved final restoration plan and shall be responsible for any remedial work or other intervention necessary to comply with final plan requirements.

#### **4.3 Timeframe for Resubmittal of Project Elements**

If the Commission does not approve any element of the project (i.e. site selection, restoration plan), the Commission will specify the time limits for compliance relative to selection of another site or revisions to the restoration plan.

### **5.0 WETLAND MONITORING, MANAGEMENT AND REMEDIATION**

Monitoring, management (including maintenance), and remediation shall be conducted over the "full operating life" of Poseidon's desalination facility, which shall be 30 years from the date "as-built" plans are submitted pursuant to subsection 4.1(1).

The following section describes the basic tasks required for monitoring, management and remediation. Condition B specifies the administrative structure for carrying out these tasks, including the roles of the permittee and Commission staff.

#### **5.1 Monitoring and Management Plan**

A monitoring and management plan will be developed in consultation with the permittee and appropriate wildlife agencies, concurrently with the preparation of the restoration plan to provide an overall framework to guide the monitoring work. It will include an overall description of the studies to be conducted over the course of the monitoring program and a description of management tasks that are anticipated, such as trash removal. Details of the monitoring studies and management tasks will be set forth in a work program (see Condition B).

## **5.2 Pre-restoration site monitoring**

Pre-restoration site monitoring shall be conducted to collect baseline data on the wetland attributes to be monitored. This information will be incorporated into and may result in modification to the overall monitoring plan.

## **5.3 Construction Monitoring**

Monitoring shall be conducted during and immediately after each stage of construction of the wetland restoration project to ensure that the work is conducted according to plans.

## **5.4 Post-Restoration Monitoring and Remediation**

Upon completion of construction of the wetland(s), monitoring shall be conducted to measure the success of the wetland(s) in achieving stated restoration goals (as specified in the restoration plan(s)) and in achieving performance standards, specified below. The permittee shall be fully responsible for any failure to meet these goals and standards during the facility's full operational years. Upon determining that the goals or standards are not achieved, the Executive Director shall prescribe remedial measures, after consultation with the permittee, which shall be immediately implemented by the permittee with Commission staff direction. If the permittee does not agree that remediation is necessary, the matter may be set for hearing and disposition by the Commission.

Successful achievement of the performance standards shall (in some cases) be measured relative to approximately four reference sites, which shall be relatively undisturbed, natural tidal wetlands within the Southern California Bight. The Executive Director shall select the reference sites. The standard of comparison, i.e., the measure of similarity to be used (e.g., within the range, or within the 95% confidence interval) shall be specified in the work program.

In measuring the performance of the wetland project, the following physical and biological performance standards will be used:

- a. **Longterm Physical Standards.** The following long-term standards shall be maintained over the full operative life of the desalination facility:
  1. **Topography.** The wetland(s) shall not undergo major topographic degradation (such as excessive erosion or sedimentation);
  2. **Water Quality.** Water quality variables [to be specified] shall be similar to reference wetlands;
  3. **Tidal prism.** If the mitigation site(s) require dredging, the tidal prism shall be maintained and tidal flushing shall not be interrupted; and,



4. **Habitat Areas.** The area of different habitats shall not vary by more than 10% from the areas indicated in the restoration plan(s).
- b. **Biological Performance Standards.** The following biological performance standards shall be used to determine whether the restoration project is successful. Table 1, below, indicates suggested sampling locations for each of the following biological attributes; actual locations will be specified in the work program:
  1. **Biological Communities.** Within 4 years of construction, the total densities and number of species of fish, macroinvertebrates and birds (see Table 1) shall be similar to the densities and number of species in similar habitats in the reference wetlands;
  2. **Vegetation.** The proportion of total vegetation cover and open space in the marsh shall be similar to those proportions found in the reference sites. The percent cover of algae shall be similar to the percent cover found in the reference sites;
  3. **Spartina Canopy Architecture.** The restored wetland shall have a canopy architecture that is similar in distribution to the reference sites, with an equivalent proportion of stems over 3 feet tall;
  4. **Reproductive Success.** Certain plant species, as specified by in the work program, shall have demonstrated reproduction (i.e. seed set) at least once in three years;
  5. **Food Chain Support.** The food chain support provided to birds shall be similar to that provided by the reference sites, as determined by feeding activity of the birds; and
  6. **Exotics.** The important functions of the wetland shall not be impaired by exotic species.

**Table 1: Suggested Sampling Locations**

	Salt Marsh			Open Water		Mudflat	Tidal Creeks
	Spartina	Salicornia	Upper	Lagoon	Eelgrass		
1) Density/spp:							
– Fish				X	X	X	X
– Macroinvert- ebrates				X	X	X	X
– Birds	X	X	X	X		X	X
2) % Cover							
Vegetation	X	X	X		X		
algae	X	X				X	
3) Spartina architecture	X						
4) Reproductive success	X	X	X				
5) Bird feeding				X		X	X

6) Exotics	X	X	X	X	X	X	X
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## 6.0 ALTERNATIVE MITIGATION

Poseidon may propose in its CDP application alternatives to reduce or eliminate the required 11.8 acres of mitigation. The alternative mitigation proposed may be in the form of implementing new entrainment reduction technology that could reduce or eliminate the 11.8 acres of mitigation.

### CONDITION B: ADMINISTRATIVE STRUCTURE

#### 1.0 ADMINISTRATION

Personnel with appropriate scientific or technical training and skills will, under the direction of the Executive Director, oversee the mitigation and monitoring functions identified and required by Condition A. The Executive Director will retain scientific and administrative support staff needed to perform this function, as specified in the work program.

This technical staff will oversee the preconstruction and post-construction site assessments, mitigation project design and implementation (conducted by permittee), and monitoring activities (including plan preparation); the field work will be done by contractors under the Executive Director's direction. The contractors will be responsible for collecting the data, analyzing and interpreting it, and reporting to the Executive Director.

The Executive Director shall convene a Scientific Advisory Panel to provide the Executive Director with scientific advice on the design, implementation and monitoring of the wetland restoration. The panel shall consist of recognized scientists, including a marine biologist, an ecologist, a statistician and a physical scientist.

#### 2.0 BUDGET AND WORK PROGRAM

The funding necessary for the Commission and the Executive Director to perform their responsibilities pursuant to these conditions will be provided by the permittee in a form and manner reasonably determined by the Executive Director to be consistent with requirements of State law, and which will ensure efficiency and minimize total costs to the permittee. The amount of funding will be determined by the Commission on a biennial basis and will be based on a proposed budget and work program, which will be prepared by the Executive Director in consultation with the permittee, and reviewed and approved by the Commission in conjunction with its review of the restoration plan. If the permittee and the Executive Director cannot agree on the budget or work program, the disagreement will be submitted to the Commission for resolution.

The budget to be funded by the permittee will be for the purpose of reasonable and necessary costs to retain personnel with appropriate scientific or technical training and skills needed to assist the Commission and the Executive Director in carrying out the mitigation and lost resource compensation conditions. In addition, reasonable funding will be included in this budget for

necessary support personnel, equipment, overhead, consultants, the retention of contractors needed to conduct identified studies, and to defray the costs of members of any scientific advisory panel(s) convened by the Executive Director for the purpose of implementing these conditions.

Costs for participation on any advisory panel shall be limited to travel, per diem, meeting time and reasonable preparation time and shall only be paid to the extent the participant is not otherwise entitled to reimbursement for such participation and preparation. The amount of funding will be determined by the Commission on a biennial basis and will be based on a proposed budget and work program, which will be prepared by the Executive Director in consultation with the permittee, and reviewed and approved by the Commission in conjunction with its review of the restoration plan. If the permittee and the Executive Director cannot agree on the budget or work program, the disagreement will be submitted to the Commission for resolution. Total costs for such advisory panel shall not exceed \$100,000 per year adjusted annually by any increase in the consumer price index applicable to California.

The work program will include:

- a. A description of the studies to be conducted over the subsequent two year period, including the number and distribution of sampling stations and samples per station, methodology and statistical analysis (including the standard of comparison to be used in comparing the mitigation project to the reference sites);
- b. A description of the status of the mitigation projects, and a summary of the results of the monitoring studies to that point;
- c. A description of four reference sites;
- d. A description of the performance standards that have been met, and those that have yet to be achieved;
- e. A description of remedial measures or other necessary site interventions;
- f. A description of staffing and contracting requirements; and,
- g. A description of the Scientific Advisory Panel's role and time requirements in the two year period.

The Executive Director may amend the work program at any time, subject to appeal to the Commission.

### **3.0 ANNUAL REVIEW AND PUBLIC WORKSHOP REVIEW**

The permittee shall submit a written review of the status of the mitigation project to the Executive Director no later than April 30 each year for the prior calendar year. The written review will discuss the previous year's activities and overall status of the mitigation project, identify problems and make recommendations for solving them, and review the next year's program.

To review the status of the mitigation project, the Executive Director will convene and conduct a duly noticed public workshop during the first year of the project and every other year thereafter unless the Executive Director deems it unnecessary. The meeting will be attended by the contractors who are conducting the monitoring, appropriate members of the Scientific Advisory Panel, the permittee, Commission staff, representatives of the resource agencies (CDFG, NMFS, USFWS), and the public. Commission staff and the contractors will give presentations on the previous biennial work program's activities, overall status of the mitigation project, identify problems and make recommendations for solving them, and review the next upcoming period's biennial work program.

The public review will include discussions on whether the wetland mitigation project has met the performance standards, identified problems, and recommendations relative to corrective measures necessary to meet the performance standards. The Executive Director will use information presented at the public review, as well as any other relevant information, to determine whether any or all of the performance standards have been met, whether revisions to the standards are necessary, and whether remediation is required. Major revisions shall be subject to the Commission's review and approval.

The mitigation project will be successful when all performance standards have been met each year for a three-year period. The Executive Director shall report to the Commission upon determining that all of the performance standards have been met for three years and that the project is deemed successful. If the Commission determines that the performance standards have been met and the project is successful, the monitoring program will be scaled down, as recommended by the Executive Director and approved by the Commission. A public review shall thereafter occur every five years or sooner if called for by the Executive Director. The work program shall reflect the lower level of monitoring required. If subsequent monitoring shows that a standard is no longer being met, monitoring may be increased to previous levels, as determined necessary by the Executive Director.

The Executive Director may make a determination on the success or failure to meet the performance standards or necessary remediation and related monitoring at any time, not just at the time of the workshop review.

#### **4.0 ADDITIONAL PROCEDURES**

##### **4.1 Dispute Resolution**

In the event that the permittee and the Executive Director cannot reach agreement regarding the terms contained in or the implementation of any part of this Plan, the matter may be set for hearing and disposition by the Commission.

##### **4.2 Extensions**

Any of the time limits established under this Plan may be extended by the Executive Director at the request of the permittee and upon a showing of good cause.

#### **CONDITION C: SAP DATA MAINTENANCE**

The permittee shall make available on a publicly-accessible website all scientific data collected as part of the project. The website and the presentation of data shall be subject to Executive Director review and approval.

# FEDERAL AGENCIES

**KEN CALVERT**

44TH DISTRICT, CALIFORNIA

**COMMITTEE ON APPROPRIATIONS**

**SUBCOMMITTEES:**

**SELECT INTELLIGENCE OVERSIGHT PANEL  
RANKING MEMBER**

**INTERIOR, ENVIRONMENT AND RELATED AGENCIES**

**ENERGY AND WATER DEVELOPMENT**

**HOMELAND SECURITY**

<http://www.house.gov/calvert>



**Congress of the United States**

**House of Representatives**

**Washington, DC 20515-0544**

**October 26, 2009**

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(949) 888-8488

Ms. Bonnie Neely  
Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105

Dear Chairwoman Neely:

I represent thousands of Orange County residents in the southernmost section of the County, including the cities of San Clemente and San Juan Capistrano along with many of the unincorporated communities such as Ladera Ranch and Coto de Caza. This area of South Orange County is almost entirely reliant upon imported water.

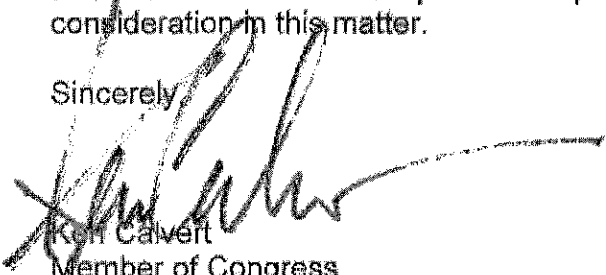
With the water crisis we're currently facing, it is imperative that Southern California become more self-reliant and develop new water sources. Through a public-private partnership that will not put any taxpayer dollars at risk, Orange County has the chance to quench its thirst through the construction of the largest seawater desalination facility in the Western United States.

This water purification project will provide Orange County with eight percent of its annual drinking water supply, which will serve about 300,000 residents. Perhaps most importantly, this project will relieve the growing pressure on the Bay Delta and protect both environmental and agricultural needs by freeing up that imported water for other uses.

Not to be underestimated, this desalination project will also create more than 2,000 construction jobs, which our state sorely needs at this time.

On behalf of my constituents I respectfully request for approval of the necessary permit to allow this needed water purification project to move forward. Thank you for your consideration in this matter.

Sincerely,

  
Ken Calvert  
Member of Congress

DANA ROHRABACHER

48th District, California

WASHINGTON OFFICE:

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Washington, DC 20515-0548  
(202) 225-2415

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Huntington Beach, CA 92648-8118  
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**Congress of the United States**  
**House of Representatives**

Committees:

FOREIGN AFFAIRS

Chairman, Subcommittee on  
Europe, Eurasia, and Emerging Threats  
Subcommittee on Asia and the Pacific

SCIENCE, SPACE, AND TECHNOLOGY  
(VICE CHAIRMAN)

Subcommittee on Space  
Subcommittee on Environment

June 25, 2013

Ms. Mary Shallenberger  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Dear Chairman Shallenberger:

As the Poseidon Resources' Huntington Beach Seawater Desalination facility moves toward its final regulatory approval, I join my Orange County Congressional delegation colleagues in supporting the project. We have long-sought collaborative support for the Poseidon Resources' Huntington Beach Seawater Desalination facility. May I encourage your granting a Coastal Development Permit when the project is considered by the Coastal Commission later this year?

The Huntington Beach facility will provide 50 million gallons of drinking water each day and will also provide more than 2,000 jobs during the construction of this plant. This privately-funded project will provide water exclusively to Orange County reducing demand on water imported into Southern California through the Sacramento San Joaquin Bay Delta. The desalination plant is critical to statewide water supply goals and is specifically identified in the California Water Plan Update as one project that is anticipated to help expand the state's water supply.

I advocate in the House of Representatives for innovative technologies that improve our life quality and invigorate our resources infrastructure. The Huntington Beach Desalination facility accomplishes this – it will supply clean water, improve our local water supply reliability and does so with private investment.

May I encourage you to ensure that the Poseidon Resources' Huntington Beach Seawater Desalination facility becomes a fundamental part of our water supply portfolio.

Sincerely,

A handwritten signature in dark ink that reads "Dana Rohrabacher".

Dana Rohrabacher  
Member of Congress  
48<sup>th</sup> Congressional District





**DEPARTMENT OF THE ARMY**

LOS ANGELES DISTRICT CORPS OF ENGINEERS  
P.O. BOX 532711  
LOS ANGELES, CALIFORNIA 90053-2325

REPLY TO  
ATTENTION OF

October 25, 2013

Office of the Chief  
Regulatory Division

Dr. Charles Lester  
Executive Director  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, California 94105

Dear Dr. Lester:

It is my understanding that the California Coastal Commission (CCC) may be scheduling a meeting in the coming months where Poseidon Water, Surfside L.L.C. ("applicant"), the proponent of a new desalination project in the city of Huntington Beach, is seeking a Coastal Development Permit from the CCC for the construction and operation of the facility. Moreover, I understand your agency has been approached by a third party and asked to consider requiring an in-lieu fee payment to the California State Lands Commission directed to benefit the continuing restoration and management of the nearby Bolsa Chica wetland site in Huntington Beach.

As you may know, our Regulatory Division received and processed an application (SPL-2012-00684-CJF), dated January 18, 2013, for a Department of the Army permit to construct the project. Upon review of the project, we determined the construction of the Huntington Beach Seawater Desalination Project would involve work in or affecting navigable waters of the United States and would require a Department of the Army permit pursuant to section 10 of the Rivers and Harbors Act of 1899. Specifically, the Corps' authority involved the installation of a 54-inch diameter utility pipeline that would cross under two tidally influenced channels, i.e., the Talbert Flood Control Channel at Hamilton Avenue and the Huntington Flood Control Channel at Newland Street. Should the alignment extend under the Santa Ana River, a federally constructed flood management facility, additional authorization from the Corps would be required. The applicant informed us that no work would occur within any other navigable water of the United States.

After our review, a provisional nationwide permit (NWP) 12 for utility line activities was issued on April 22, 2013, pending a federal consistency determination of compliance with the Coastal Zone Management Act. Upon receipt of such a determination from your agency, we would issue a final verification letter. Given the limited nature of the regulated activities and their minimal anticipated impacts to navigable waters of the United States, we did not require compensatory mitigation. Nevertheless, we understand your agency's responsibility and authority over the project is broader. Consequently, we acknowledge you may require compensatory mitigation to offset any adverse impact to coastal resources.

In addition, as you may know, through past, unrelated permit decisions, we established a mitigation bank at the Bolsa Chica Wetlands. We would consider any such in-lieu fee payment to the California State Lands Commission for the desalination plant outside the scope of and separate from the existing Corps-approved mitigation bank. Nevertheless, we would have no objection should your agency determine such an in-lieu fee payment appropriate to offset adverse impacts to coastal resources associated with issuance of any coastal development permit for the proposed project.

Should you have any questions about this matter, please do not hesitate to contact me at 805-585-2141 or [david.j.castanon@usace.army.mil](mailto:david.j.castanon@usace.army.mil). Alternatively, your staff may contact Ms. Therese Bradford, the South Coast Branch Chief at 760-602-4850 or by email at [therese.o.bradford@usace.army.mil](mailto:therese.o.bradford@usace.army.mil).

Sincerely,

A handwritten signature in black ink, appearing to read "David J. Castanon", with a long horizontal flourish extending to the right.

David J. Castanon  
Chief, Regulatory Division

# STATE AGENCIES

---

**CALIFORNIA STATE  
LANDS COMMISSION**Our 75<sup>th</sup> Year

1938 - 2013

EXECUTIVE OFFICE  
100 Howe Avenue, Suite 100-South  
Sacramento, CA 95825-8202JENNIFER LUCCHESI, Executive Officer  
(916) 574-1800 Fax (916) 574-1810  
California Relay Service TDD Phone 1-800-735-2929  
Voice Phone 1-800-735-2922

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SEP 10 2013

CALIFORNIA  
COASTAL COMMISSION

September 3, 2013

Charles Lester  
Executive Director  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Dear Mr. Lester:

We understand that the California Coastal Commission (CCC) may be scheduling a meeting in the coming months where Poseidon Water, the proponent of a desalination project in Huntington Beach, is seeking a Coastal Development Permit from the CCC for the construction and operation of the facility. Should the CCC determine that this project is consistent with the Coastal Act, habitat mitigation to offset operational impacts is likely to be a component of that permit. In the past, the CCC has required habitat compensation from similar projects where the use or intake of ocean water would result in impingement or entrainment of marine fish, eggs, and/or larvae. In addition, desalination facilities may also result in habitat degradation from brine discharges.

For these types of habitat impacts, the CCC has required the restoration of coastal wetlands as an offsetting measure. Given the historic losses of this habitat type in southern California, the State Lands Commission has been very supportive of this form of mitigation. Tidal coastal wetlands are critically important for a wide variety of species.

However, the State Lands Commission staff feels there is an equally important need to ensure the preservation of coastal wetland systems that have been restored through prior actions. In particular, many of these tidal wetland systems, such as the Bolsa Chica Lowlands Restoration, were underfunded and have insufficient funds to preserve and maintain the full tidal range the restoration was designed to achieve. This is the situation at Bolsa Chica. As a result of sand accumulating in the ocean inlet area, tidal muting has occurred. If prolonged, this can result in the loss of marsh vegetation and degradation of other habitat areas; or, in a worst-case scenario, the system may close to tidal action. Should a closure occur, it is likely to have a severe impact on many of the species that now utilize the wetland system. Without the implementation of corrective actions such as dredging to offset this condition, the high quality habitat created at Bolsa Chica is threatened.

Mr. Charles Lester  
September 3, 2013  
Page 2

As a consequence, we now believe that priority should be placed on ensuring that existing wetland systems continue to function at a high level through mitigation funding augmentation as well as continuing to pursue restoration of other historic wetland areas on a case-by-case basis. The Bolsa Chica wetland site in Huntington Beach is an example of an underfunded restoration project in need of additional funds to maintain the high value habitat that was created. Given its close proximity to the proposed desalination project area, it would be an ideal candidate for this type of mitigation derived funding augmentation.

We would appreciate the opportunity to discuss this concept in greater detail with you and your staff. Please contact Jim Trout at [jim.trout@slc.ca.gov](mailto:jim.trout@slc.ca.gov) at your convenience.

Sincerely,

  
JENNIFER LUCCHESI  
Executive Officer

cc: Hope Schmeltzer, Chief Counsel, CCC  
Tom Luster, Staff Environmental Scientist, CCC  
Jim Trout



# California Legislature



Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

August 1, 2013

**Re: *SUPPORT - Huntington Beach Desalination Project***

Dear Chairwoman Shallenberger:

As Orange County's bipartisan Sacramento legislative delegation, we are unanimously writing to urge the California Coastal Commission's approval of the Huntington Beach Desalination Project. The Project's permit application is anticipated to be on the Commission's meeting calendar this fall and your approval will move this critical water infrastructure project one step closer to construction.

Today, due to enhanced conservation efforts, the County's three million-plus residents are using less water per capita than at anytime in recent history. These conservation efforts coupled with our internationally-renowned Groundwater Replenishment System have made Orange County a leader in sustainable water reliability practices. Still, Orange County must import 50 percent of its water from the Colorado River and the State Water Project in order to meet the demands of our constituents and to keep our economy strong.

The Municipal Water District of Orange County's (MWDOC) Urban Water Management Plan identifies seawater desalination as a critical component of its plan to diversify the County's water supply and reduce demand on imported water. The Huntington Beach desalination Project has undergone more than 10 years of planning and research. On September 7, 2010 the City of Huntington Beach certified the Project's Environmental Impact Report and approved Coastal Development Permit (CDP) 10-014, concluding there are no significant impacts for both the construction and operation of the project related to thirteen different areas studied, including coastal and marine impacts. On October 29, 2010 the California State Lands Commission unanimously approved the project through a land lease agreement. And on February 10, 2012 the Santa Ana Regional Water Quality Control Board unanimously approved the project's National Pollutant Discharge Elimination System (NPDES) permit.

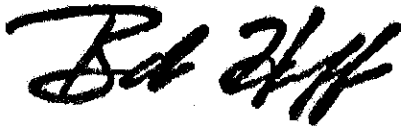
The Project will not only provide Orange County with a new, drought-proof water supply, it will also create over 2,000 jobs during construction while providing approximately \$500 million in local economic stimulus. All of the water will be appropriated for public use through a long-term water purchase agreement with one or more public water agencies. The water purchase agreement will provide important ratepayer protections by guaranteeing the quantity, quality, reliability and price of the water.

In conclusion, in 2007 the California Coastal Commission voted to approve Poseidon Resources' seawater desalination project in the city of Carlsbad, CA. Orange County deserves the same opportunity granted to San Diego County to address drought conditions and regulatory constraints on imported water by building a locally-controlled seawater desalination plant.

The Huntington Beach Desalination Project is a critically-needed and environmentally-responsible solution to the County's water supply needs. We urge your immediate approval.

*California Coastal Commission staff has received a copy of this communications*

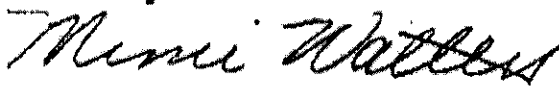
Sincerely,



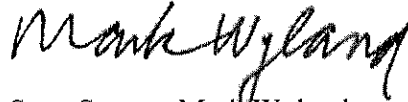
State Senator Robert Huff  
29<sup>th</sup> District




State Senator Lou Correa  
34<sup>th</sup> District



State Senator Mimi Walters  
37<sup>th</sup> District



State Senator Mark Wyland  
38<sup>th</sup> District



State Assemblyman Curt Hagman  
55<sup>th</sup> District



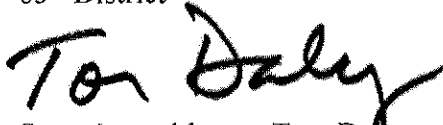
State Assemblyman Allan Mansoor  
74<sup>th</sup> District



State Assemblywoman Sharon Quirk-Silva  
65<sup>th</sup> District



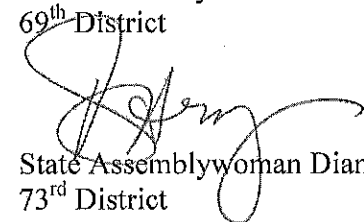
State Assemblyman Don Wagner  
68<sup>th</sup> District



State Assemblyman Tom Daly  
69<sup>th</sup> District



State Assemblyman Travis Allen  
72<sup>nd</sup> District



State Assemblywoman Diane Harkey  
73<sup>rd</sup> District

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Mr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

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FAX: (916) 327-8754

# California State Senate

SENATOR  
**DARRELL STEINBERG**  
PRESIDENT PRO TEMPORE  
SIXTH SENATE DISTRICT

STANDING COMMITTEES  
SENATE RULES  
CLERK  
APPROPRIATIONS  
PUBLIC SAFETY



April 26, 2013

Ms. Mary Shallenberger  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

***RE: Huntington Beach Seawater Desalination Project***

Dear Chair Shallenberger:

I am writing to express my continued support for Poseidon Resources' proposed seawater desalination project in the city of Huntington Beach. I originally wrote the Commission in 2007 to offer my support for this project and it is my understanding that a hearing may be scheduled this year to consider issuing a Coastal Development Permit.

As the Senate President pro Tem, former Chairman of the Senate Natural Resources and Water Committee, and as a representative of the Sacramento area, I know firsthand the incredible strain placed on the Sacramento-San Joaquin Delta Bay, and have long advocated the need to diversify the state's water resources. The Huntington Beach desalination project will create jobs and a new supply of drinking water for Southern California that will help relieve the pressure on the Delta.

I recognize the importance of developing local water resources and the leading role of water conservation and reclamation. Together with brackish and seawater desalination, these concepts are necessary to meet the State Water Plan's water supply reliability goals.

I encourage your support for the Huntington Beach desalination project.

Sincerely,

A handwritten signature in black ink that reads "Darrell Steinberg".

**DARRELL STEINBERG**  
Senate President pro Tempore

DS:kl



DARRELL E. ISSA  
48TH DISTRICT, CALIFORNIA

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2347 RAYBURN HOUSE OFFICE BUILDING  
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FAX: (202) 225-3303

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VISTA, CA 92081  
(760) 699-6000  
FAX: (760) 699-1178  
SOUTHWEST RIVERSIDE COUNTY  
(951) 683-2447  
[www.issa.house.gov](http://www.issa.house.gov)



COMMITTEE ON OVERSIGHT AND  
GOVERNMENT REFORM

CHAIRMAN

COMMITTEE ON THE JUDICIARY

INTELLECTUAL PROPERTY  
SUBCOMMITTEE

Congress of the United States  
House of Representatives  
Washington, DC 20515-0549

August 6, 2012

Ms. Mary Shallenberger  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

***RE: Huntington Beach Seawater Desalination Project - SUPPORT***

Dear Chairman Shallenberger:

A safe and reliable water supply and jobs are two of the most crucial needs of the constituents in my district, which after the 2010 Census and congressional redistricting process now includes parts of Orange County. The Poseidon Resources' Huntington Beach Seawater Desalination facility can serve both needs and satisfy statewide water supply goals.

The Huntington Beach facility will also provide 50 million gallons of drinking water each day and will also provide more than 2,000 jobs during the construction of this plant. This privately-funded project will provide water exclusively to Orange County reducing demand on water imported into Southern California through the Sacramento San Joaquin Bay Delta. The desalination plant is critical to statewide water supply goals and is specifically identified in the California Water Plan Update as one project that is anticipated to help diversify the state's water supply.

This type of private investment in California infrastructure is crucial to the future success of our state and the vibrant economy that I'm confident can return to our region. While desalination is not the only solution to our water needs, it will be an integral part of our future water portfolio.

A Coastal Development Permit is the final state approval necessary before the project can be constructed. I am proud to join every member of Orange County's Sacramento legislative delegation in support of the Huntington Beach Desalination Project and I encourage your support when the project comes before the Coastal Commission later this year.

Sincerely,

Darrell Issa  
Congressional Representative



ARNOLD SCHWARZENEGGER, Governor  
LESTER A. SNOW, Secretary for Natural Resources

October 14, 2010

The Honorable State Controller John Chiang  
Chairman  
California State Lands Commission  
100 Howe Ave., Suite 100 South  
Sacramento, California 95825-8202

**Re: Support - Huntington Beach Desalination Project**

Dear Chairman Chiang:

On behalf of the California Natural Resources Agency, I am writing to ask you to approve the Huntington Beach Desalination Project at your October 29<sup>th</sup> Commission meeting.

In August 2008, the State Lands Commission unanimously approved the Carlsbad Desalination project, the first large-scale seawater desalination project proposed in California. I believe that the Huntington Beach project offers the same water reliability benefits as the Carlsbad project. Orange County, like San Diego County, should be commended for initiating the development of a new local, drought-proof water supply.

The Department of Water Resources, within the Natural Resources Agency, administers the California Water Plan (CWP), which identifies seawater desalination as a critical component of the state's future water supply. The California Water Plan Update 2009 was recently completed and released in March 2010.

Seawater desalination, water recycling, groundwater recovery and conservation are all local water supply strategies identified in the plan update that will be necessary to meet the state's future water needs. More than 300,000 acre feet of desalinated water is already under development in California and the plan update specifically identifies the Huntington Beach Desalination Project as one of prospective sources of desalinated water.

The Huntington Beach Desalination Project will produce 56,000 acre feet per year of local drinking water, enough to supply 300,000 Orange County residents. This local, drought-proof water supply reduces the county's dependence on imported water, and will contribute to a stronger economy with new jobs and millions in tax revenues. In addition to providing improved water supply reliability, superior water quality and economic stimulus, the desalination facility will rely on modern reverse osmosis technology and incorporate a high energy efficient design.

1416 Ninth Street, Suite 1311, Sacramento, CA 95814 Ph. 916.653.5656 Fax 916.653.8102 <http://resources.ca.gov>

Baldwin Hills Conservancy • California Coastal Commission • California Coastal Conservancy • California Conservation Corps • California Tahoe Conservancy • Central Valley Flood Protection Board  
Coachella Valley Mountains Conservancy • Colorado River Board of California • Delta Protection Commission • Delta Stewardship Council • Department of Boating & Waterways • Department of Conservation  
Department of Fish & Game • Department of Forestry & Fire Protection • Department of Parks & Recreation • Department of Resources Recycling and Recovery • Department of Water Resources  
Energy Resources, Conservation & Development Commission • Native American Heritage Commission • Sacramento-San Joaquin Delta Conservancy • San Diego River Conservancy  
San Francisco Bay Conservation & Development Commission • San Gabriel & Lower Los Angeles Rivers & Mountains Conservancy • San Joaquin River Conservancy  
Santa Monica Mountains Conservancy • Sierra Nevada Conservancy • State Lands Commission • Wildlife Conservation Board



October 14, 2010  
The Honorable State Controller John Chiang  
Page 2 of 2

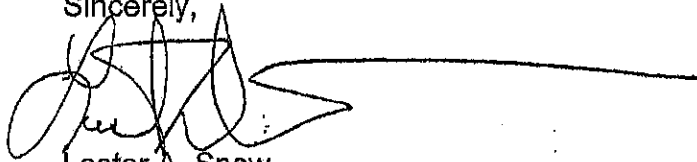
By directly replacing imported supplies from the State Water Project with a locally-produced product, the Huntington Beach facility will also offset the significant amount of energy used to pump and transport water over hundreds of miles to Southern California customers. This energy offset has been used in calculating the project's net indirect GHG emissions, which conforms to the carbon emissions guidelines stated in Chapter 9 of the CWP Update.

Finally, On September 20, 2010, the City of Huntington Beach certified the project's Subsequent Environmental Impact Report, which concludes that using the Huntington Beach Generating Station's existing seawater system is the environmental superior alternative and will avoid significant impacts to the coast environment and marine resources.

---

The Department of Water Resources respectfully requests the California State Lands Commission move this project forward.

Sincerely,

A handwritten signature in black ink, appearing to read 'Lester A. Snow', with a long horizontal line extending to the right.

Lester A. Snow.  
Secretary for Natural Resources

cc: Commissioner/Lieutenant Governor Abel Maldonado  
Commissioner Ana J Matosantos  
Mr. Paul Thayer  
Governor Arnold Schwarzenegger  
Assembly Speaker John A. Perez  
Senate President Pro Tem Darrell Steinberg  
U.S. Congressional Representative Dana Rohrabacher  
State Senator Robert Huff  
State Senator Tom Harman  
State Senator Mimi Walters  
State Senator Lou Correa  
State Senator Mark Wyland  
State Assemblyman Jim Silva  
State Assemblyman Van Tran  
State Assemblyman Jose Solorio  
State Assemblyman Chuck Devore  
State Assemblyman Curt Hagman  
State Assemblyman Jeff Miller  
State Assemblyman Chris Norby  
State Assemblywoman Diane Harkey  
State Assemblyman Tony Mendoza

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FAX (714) 672-4737

Assembly  
California Legislature



CHRIS NORBY  
ASSEMBLYMAN, SEVENTY-SECOND DISTRICT

COMMITTEES  
APPROPRIATIONS  
EDUCATION  
TRANSPORTATION  
JOINT LEGISLATIVE AUDIT

June 15, 2010

Ms. Bonnie Neely, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105

Dear Chairwoman Neely:

The water crisis that has gripped our state for much of the last decade is still very real despite the heavy snowfall we received this winter. Wet weather does not fix the problems that exist in the Delta. Both seismic issues as well as environmental challenges threaten the reliability of imported water from Northern California to Southern California.

Orange County leaders recognize the need to become more self-reliant by developing local water supplies. To that end, the Metropolitan Water District of Southern California asked its member agencies to develop a five year supply plan that focused on the development of new water supplies that would reduce the demand for imported water and benefit the region and the state. The Municipal Water District of Orange County identified various water recycling and seawater desalination projects that could provide 106,000 acre-feet of water per year, which is about 15 percent of Orange County's water supply. More than half of that annual total is expected to come from Poseidon Resources' Seawater Desalination Facility in Huntington Beach (56,000 acre-feet).

The high-quality desalinated product water can be produced in an environmentally-friendly and cost-effective way. Additionally, Poseidon has agreed to a green-house-gas reduction plan that will make the project "carbon-neutral" – one of the first major infrastructure projects in our state to voluntarily do so.

It is also important to note that the construction of this project will provide the region with more than 2,000 jobs at a time when job-creation is one of our state's top priorities.

I am supportive of businesses like Poseidon Resources who are willing to use their business acumen and private funding to develop a project that will add not only thousands of jobs, but a new water supply – both of which are in short supply right now in California. I fully endorse the Poseidon Resources Huntington Beach Seawater Desalination Facility and encourage you to provide the permit necessary for construction of this needed project to begin as soon as possible.

Sincerely,

A handwritten signature in black ink that reads "Chris Norby".

Chris Norby  
Assemblymember  
District 72

cc:

1

Vice Chairman Dr. William A. Burke  
Commissioner Ben Hueso  
Commissioner Steve Blank  
Commissioner Steve Kram  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
Commissioner Patrick Kruer  
Commissioner Dave Potter  
Commissioner James Wickett  
Commissioner April Vargas  
Commissioner Dan Secord  
Commissioner Adi Liberman  
Commissioner Sharon Wright  
Commissioner Steve Kinsey  
Commissioner Brooks Firestone  
Commissioner Suja Lowenthal  
Commissioner Deborah Schoenbaum  
Commissioner Mike Chrisman  
Commissioner Karen Scarborough  
Commissioner Paul Thayer  
Mr. Tom Luster  
Governor Arnold Schwarzenegger  
Assembly Speaker John A. Perez  
Senate President Pro Tem Darrel Steinberg  
U.S. Congressional Representative Ed Royce  
U.S. Congressional Representative Gary Miller  
U.S. Congressional Representative Ken Calvert  
U.S. Congressional Representative Dana Rohrabacher  
U.S. Congressional Representative Loretta Sanchez  
U.S. Congressional Representative John Campbell  
State Senator Tom Harman  
State Senator Mark Wyland  
State Senator Mimi Walters  
State Senator Lou Correa  
State Assemblyman Jim Silva  
State Assemblyman Van Tran  
State Assemblyman Jose Solorio  
State Assemblyman Chuck Devore  
State Assemblyman Curt Hagman  
State Assemblyman Jeff Miller  
State Assemblywoman Diane Harkey  
State Assemblyman Tony Mendoza

Orange County Chair Janet Nguyen  
Orange County Vice Chair Bill Campbell  
Orange County Supervisor John Moorlach  
Orange County Supervisor Pat Bates  
Orange County Supervisor Shawn Nelson  
HB Mayor Cathy Green  
HB Mayor Pro Tem Jill Hardy  
HB City Councilman Keith Bohr  
HB City Councilman Gil Coerper  
HB City Councilman Don Hansen  
HB City Councilman Joe Carchio  
HB City Councilman Devlin Dwyer  
Ms. Katie Coates-Ageson  
Mr. Brian Lochrie  
Mr. Scott Maloni

CAPITOL OFFICE  
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FAX (916) 324-0922

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20888 AMAR RD., SUITE 205  
WALNUT, CA 91789  
TEL (909) 598-3981  
FAX (909) 598-6459

WEBSITE  
WWW.SENATE.CA.GOV/HUFF

# California State Senate

SENATOR  
**BOB HUFF**

TWENTY-NINTH SENATE DISTRICT



COMMITTEES  
EDUCATION  
VICE-CHAIR  
TRANSPORTATION  
AND HOUSING  
VICE-CHAIR  
BUDGET AND FISCAL REVIEW  
NATURAL RESOURCES  
AND WATER  
PUBLIC SAFETY

October 19, 2009

Ms. Bonnie Neely  
Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105

Dear Chairwoman Neely:

The Governor, the Legislature and the people of California recognize that we are facing a monumental water crisis due to an ongoing drought as well as federal biological opinions that have significantly reduced the amount of imported water Southern California receives from the State Water Project.

Orange County leaders recognize the need to become more self-reliant by developing local water supplies. To that end, the Metropolitan Water District of Southern California asked its member agencies to develop a five year supply plan that focused on the development of new water supplies that would reduce the demand for imported water and benefit the region and the state. The Municipal Water District of Orange County identified various water recycling and seawater desalination projects that could provide 106,000 acre-feet of water per year, which is about 15 percent of Orange County's water supply. More than half of that annual total is expected to come from Poseidon Resources' Seawater Desalination Facility in Huntington Beach (56,000 acre-feet).

The high-quality desalinated product water can be produced in an environmentally-friendly and cost-effective way. Additionally, Poseidon has agreed to a green-house-gas reduction plan that will make the project "carbon-neutral" – one of the first major infrastructure projects in our state to voluntarily do so.

It is also important to note that the construction of this project will provide the region with more than 2,000 jobs at a time when job-creation is one of our state's top priorities.

Poseidon Resources is investing in California's future and will provide us with local water as well as jobs without any significant environmental impacts. I fully endorse the Poseidon Resources Huntington Beach Seawater Desalination Facility and encourage you to provide the permit necessary for construction of this needed project to begin as soon as possible.

Sincerely,

A handwritten signature in black ink, appearing to read "Bob Huff", written in a cursive style.

Bob Huff  
Senator, 29<sup>th</sup> District

cc:

Vice Chairman Dr. William A. Burke	Orange County Chair Patricia Bates
Commissioner Ben Hueso	Orange County Vice Chair Janet Nguyen
Commissioner Steve Blank	Orange County Supervisor John Moorlach
Commissioner Steve Kram	Orange County Supervisor Bill Campbell
Commissioner Khatchik Achadjian	Orange County Supervisor Chris Norby
Commissioner Sara Wan	HB Mayor Keith Bohr
Commissioner Mary Shallenberger	HB Mayor Pro Tem Cathy Green
Commissioner Mike Reilly	HB City Councilman Gil Coerper
Commissioner Larry Clark	HB City Councilman Don Hansen
Commissioner Patrick Kruer	HB City Councilman Joe Carchio
Commissioner Dave Potter	HB City Councilman Devin Dwyer
Commissioner James Wickett	Ms. Katie Coates-Ageson
Commissioner April Vargas	Mr. Brian Lochrie
Commissioner Dan Secord	Mr. Scott Maloni
Commissioner Adi Liberman	
Commissioner Sharon Wright	
Commissioner Steve Kinsey	
Commissioner Brooks Firestone	
Commissioner Suja Lowenthal	
Commissioner Deborah Schoenbaum	
Commissioner Mike Chrisman	
Commissioner Karen Scarborough	
Commissioner Paul Thayer	
Mr. Tom Luster	
Governor Arnold Schwarzenegger	
Assembly Speaker Karen Bass	
Senate President Pro Tem Darrel Steinberg	
U.S. Congressional Representative Ed Royce	
U.S. Congressional Representative Gary Miller	
U.S. Congressional Representative Ken Calvert	
U.S. Congressional Representative Dana Rohrabacher	
U.S. Congressional Representative Loretta Sanchez	
U.S. Congressional Representative John Campbell	
State Senator Tom Harman	
State Senator Mark Wyland	
State Senator Mimi Walters	
State Senator Lou Correa	
State Assemblyman Jim Silva	
State Assemblyman Van Tran	
State Assemblyman Jose Solorio	
State Assemblyman Chuck Devore	
State Assemblyman Curt Hagman	
State Assemblyman Jeff Miller	
State Assemblyman Mike Duvall	
State Assemblywoman Diane Harkey	
State Assemblyman Tony Mendoza	



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27126A PASO ESPADA  
SUITE 1821  
SAN JUAN CAPISTRANO, CA 92675  
(949) 489-9838  
(949) 489-8054 FAX

## California State Senate

SENATOR  
MARK WYLAND

THIRTY-EIGHTH SENATE DISTRICT



COMMITTEES  
VETERANS AFFAIRS  
CHAIR  
EDUCATION  
VICE-CHAIR  
LABOR & INDUSTRIAL  
RELATIONS  
VICE-CHAIR  
BUDGET AND FISCAL  
REVENUE  
HEALTH  
GOVERNMENTAL  
ORGANIZATION

May 7, 2007

Mr. Patrick Kruer  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

RE: Carlsbad and Huntington Beach Desalination Projects

Dear Chairman Kruer:

I am writing you regarding the seawater desalination plants proposed in the cities of Carlsbad and Huntington Beach. I understand that the Coastal Commission is currently reviewing these projects and may schedule a hearing this year to issue a Coastal Development Permit.

As a representative of the Southern California area, I know firsthand the incredible strain on California's water system and have long advocated the need to diversify the state's water resources. The Carlsbad and Huntington Beach desalination projects will create new supplies of drinking water for Southern California that will relieve pressure on the Delta and Colorado River. Unless we develop new water supplies we will continue to cause significant harm to our rivers, lakes, streams and wetlands and the precious habitat and wildlife that depend on these sources.

In an effort to reverse this trend, the most recent update of the California Water Plan (Department of Water Resources 2005) identifies a need for up to 500,000 acre-feet of desalinated water by 2030. The proposed Carlsbad and Huntington Beach desalination projects would provide meaningful progress toward meeting this goal and allow California to gain much needed experience in this area.

Developing new water supplies are only part of the solution. The state must also continue to make an on-going investment in water conservation and water recycling programs that complement new supplies of water that are developed in an environmentally responsible manner.

The Carlsbad and Huntington Beach seawater desalination projects are environmentally and socially responsible water supply solutions and will help reduce Southern

California's dependence on the state water project and imported sources. Overall, this effort will improve the health of the California's water system and have measurable environmental benefits.

I encourage your thoughtful consideration of the Carlsbad and Huntington Beach desalination projects.

Sincerely,

*Mark Wyland*  
Mark Wyland  
Senator, 38<sup>th</sup> District

Copies to:

Commissioner Meg Caldwell  
Commissioner Steve Kram  
Commissioner Bonnie Neely  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Relty  
Commissioner Larry Clark  
Commissioner William Burke  
Commissioner Dave Potter  
Commissioner Judy Biviano Lloyd  
Commissioner April Vargas  
Commissioner Dan Secord  
Commissioner Adl Liberman  
Commissioner Sharon Wright  
Commissioner Steve Kinsey  
Commissioner Brooks Firestone  
Commissioner Trent Orr  
Commissioner David Allgood  
Mr. Peter Douglas  
Mr. Tom Luster  
Governor Arnold Schwarzenegger  
Speaker Fabian Nunez  
Senate President Pro Tem Don Perata  
Secretary Mike Chrisman  
Director Lester Snow  
State Lands Commission  
Commissioner Michael Genest  
Commissioner Cindy Aronberg  
Commissioner Anne Sweeney  
Ms. Judy Brown

STATE CAPITOL  
ROOM 4085  
SACRAMENTO, CA 95814  
TEL (916) 651-4408  
FAX (916) 323-2263

DISTRICT OFFICE  
1020 N STREET ROOM 316  
SACRAMENTO, CA 95814  
TEL (916) 651-1521  
FAX (916) 327-8784

## California State Senate

SENATOR  
**DARRELL STEINBERG**  
SIXTH SENATORIAL DISTRICT



COMMITTEES  
NATURAL RESOURCES & WATER  
CHAIR

BUDGET & FISCAL REVIEW  
SUBCOMMITTEE NO. 2 ON  
RESOURCES, ENVIRONMENTAL  
PROTECTION & ENERGY  
ENVIRONMENTAL QUALITY  
JUDICIARY  
HEALTH

SELECT COMMITTEE  
HIGH SCHOOL GRADUATION

April 19, 2007

Mr. Patrick Kruer  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

RE: Carlsbad and Huntington Beach Desalination Projects

Dear Chairman Kruer:

I am writing you regarding the seawater desalination plants proposed in the cities of Carlsbad and Huntington Beach. I understand that the Coastal Commission is currently reviewing these projects and may schedule hearings this year to consider issuing Coastal Development Permits.

As Chairman of the Senate Natural Resources and Water Committee, and as a representative of the Sacramento area, I know firsthand the incredible strain placed on the Sacramento-San Joaquin Bay Delta, and have long advocated the need to diversify the state's water resources. The Carlsbad and Huntington Beach desalination projects will create new supplies of drinking water for Southern California that will help relieve pressure on the Delta and Colorado River.

On this issue I am in agreement with Senator Christine Kehoe, who wrote a letter last year to the San Diego Regional Water Quality Control Board about the importance of identifying local water sources and the concepts of water conservation and reclamation in regards to the desalination projects.

I encourage your thoughtful consideration of the Carlsbad and Huntington Beach desalination projects.

Sincerely,

A handwritten signature in dark ink, appearing to read "Darrell Steinberg", written over a horizontal line.

Senator Darrell Steinberg  
Chairman, Natural Resources and Water Committee

DS: jre

STATE CAPITOL  
P.O. BOX 943840  
SACRAMENTO, CA 95834-0075  
(916) 318-2075  
FAX (916) 318-2175

E-MAIL:  
assemblymember@plescia.ca.gov

Assembly  
California Legislature



GEORGE A. PLESCIA  
ASSEMBLY MEMBER, SEVENTY-FIFTH DISTRICT

DISTRICT OFFICE  
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SAN DIEGO, CA 92121  
(619) 594-6890  
FAX (619) 594-6288

WEBSITE  
<http://www.assembly.ca.gov/plescia>

March 29, 2007

Mr. Patrick Kruer  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

RE: Carlsbad and Huntington Beach Desalination Projects

Dear Chairman Kruer:

I am writing you regarding the seawater desalination plants proposed in the cities of Carlsbad and Huntington Beach. I understand that the Coastal Commission is currently reviewing these projects and may schedule a hearing this year to issue a Coastal Development Permit.

As a representative of the Southern California area, I know firsthand the incredible strain on California's water system and have long advocated the need to diversify the state's water resources. The Carlsbad and Huntington Beach desalination projects will create new supplies of drinking water for Southern California that will relieve pressure on the Delta and Colorado River.

Concerns about the impact global warming trends will have on our water supply and delivery systems are real. In this regard, the environmental benefits of diversifying our water resources cannot be ignored. Unless we develop new water supplies we will continue to cause significant harm to our rivers, lakes, streams and wetlands and the precious habitat and wildlife that depend on these sources.

In an effort to reverse this trend, the most recent update of the California Water Plan (Department of Water Resources 2005) identifies a need for up to 500,000 acre-feet of desalinated water by 2030. The proposed Carlsbad and Huntington Beach desalination projects would provide meaningful progress toward meeting this goal and allow California to gain much needed experience in this area.

Developing new water supplies are only part of the solution. The state must also continue to make an on-going investment in water conservation and water recycling programs that complement new supplies of water that are developed in an environmentally responsible manner.

March 31, 2007

**Southland's dry spell could get worse; Every place that supplies water to the region is dry -- a pattern that could eventually produce what researchers call the perfect drought**

By Bettina Boxall, staff writer

Nature is pulling a triple whammy on Southern California this year. Whether it's the Sierra, the Southland or the Colorado River Basin, every place that provides water to the region is dry.

It's a rare and troubling pattern, and if it persists it could thrust the region into what researchers have dubbed the perfect Southern California drought: when nature shortchanges every major branch of the far-flung water network that sustains 18 million people.

Usually, it's reasonably wet in at least one of those places. But not this year.

The mountain snowpack vital to water imports from Northern California is at the lowest level in nearly two decades. The Los Angeles area has received record low rainfall this winter, contributing to an early wildfire season that included Friday's blaze in the Hollywood Hills. And the Colorado River system remains in the grip of one of the worst basin droughts in centuries.

"I have been concerned that we might be putting all the pieces in place to develop a new perfect drought," said UCLA geography professor Glen MacDonald, who has researched drought patterns in California and the Colorado River Basin over the last 1,000 years.

"You have extreme to severe drought extending over Southern California and also along the east and west slopes of the Sierra, and then you have it in the Colorado [basin], particularly Wyoming."

That, coupled with wet winter weather patterns in the southern Great Lakes region and the Northeast, MacDonald said, "is extremely similar to the last time we had a perfect drought, which was the late 1980s, early 1990s."

Thanks to a bountiful Sierra snowpack in the spring of 2006, the state's reservoirs are in good shape. Southern California water managers say they have ample supplies in reserve and are better prepared for a prolonged dry spell than they were two decades ago.

"We're watching this. We're not pleased. We're not worried, either," said Jeffrey

Kightlinger, general manager of the Metropolitan Water District of Southern California, the region's major water wholesaler. "If it does continue, we have prepared ourselves for a multiple-year drought.

"It used to be we thought that geographic diversity was enough" protection, he added. "In 1990 or so, we realized it really wasn't."

Since then, the water district has constructed a large reservoir in Riverside County and is storing more water underground.

The region's water agencies have also promoted conservation and recycling during the last two decades, steps that have helped Los Angeles keep water demand relatively flat at the same time the city added 1 million more people.

"We believe we will be able to meet the needs of the city for the coming year and beyond," said Thomas Erb, director of water resources at the Los Angeles Department of Water and Power, which gets about half of its supplies from the Eastern Sierra.

The snowpack there is shaping up to be one of the lowest since the start of record-keeping in 1940. Twice during the 20th century — in the late 1950s and the early 1980s — drought strained all three regions that supply Southern California, said Scripps Institution of Oceanography hydrologist Hugo Hidalgo, who has studied drought patterns with MacDonald. "These events have been relatively rare."

They usually last for four or five years. But "the scary part," MacDonald said, is that ancient tree ring records indicate they can go on for a couple of decades — much longer than anything experienced in modern times.

"We believe that there were much more severe and prolonged simultaneous droughts in those regions during the period 1300 AD to about 900 AD," he added. "Once you start looking back in time, you realize that what we've seen in the historical record — the last 100, 150 years, where we have good measurements — that's really nothing compared to what nature can throw at us here."

MacDonald agreed that the state's large water districts "are actually doing a good job in terms of planning for a five- to seven-year drought."

But, he warned, "if you went into a decade or longer of persistent drought that affected the Sacramento [River Basin], the Los Angeles area and the Colorado, you would end up basically taxing all of the those water storage facilities, from the dams on the Colorado to what we have here, to beyond the breaking point."

The big reservoirs in the Colorado system, which last year provided the Metropolitan Water District with 30% of its deliveries, are roughly half empty as a result of a drought that began in 2000. Federal officials have said that within a few years they may be forced to cut Colorado deliveries; although Arizona and Nevada would be hit before California,

which has senior water rights in the lower basin.

As a result of this spring's skimpy Sierra snowpack — it's at 46% of the normal statewide average — the State Water Project will reduce deliveries of Northern California water to the central and southern parts of the state, but not dramatically.

"One year a drought does not make, especially the way our system is plumbed. We have ample storage," said Arthur Hinojosa, chief of the hydrology branch for the California Department of Water Resources.

But he acknowledged that if the Sierra snowpack is poor again next winter, that "would probably create a lot of angst."

Maury Roos, the state's chief hydrologist, said that both groundwater and surface reservoir supplies were currently above average because of recent wet years — 2004-05 was the second-wettest year on record in Los Angeles. However, that "cushion won't be there for next winter" if the dry spell continues, he added.

"These dry years come often in pairs," Roos said. "There is a reasonable chance of that happening. Hopefully not."

Bill Patzert, the climatologist at NASA's Jet Propulsion Laboratory in La Cañada Flintridge, has said the Pacific is in an "El Niño-repellent" pattern that will favor drought in Southern California for years.

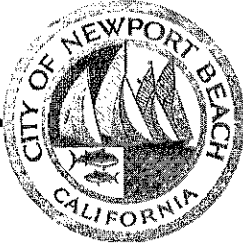
MacDonald said scientists have found that periods of simultaneous drought in Southern California, Northern California's Sacramento River Basin and the Colorado typically have been marked by cold water in the eastern Pacific off the North American coast — a condition that existed this winter.

A 2004 study by a team of researchers concluded that the western mega-droughts that occurred between 900 and 1300 took place during a warming period that drove up temperatures in the western Pacific, producing an upwelling of cool waters in the eastern Pacific that caused drier La Niña conditions to prevail. The researchers warned that global warming could promote severe drought in the West.

"This is the billion-dollar question," MacDonald said. "Will global warming push us into another prolonged perfect drought?" #

# LOCAL GOVERNMENT





# CITY OF NEWPORT BEACH

## Office of the City Manager

October 25, 2013

Ms. Mary K. Shallenberger, Chair  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**Re: Huntington Beach Seawater Desalination Project**

Dear Chair Shallenberger:

The City of Newport Beach looks forward to hosting you and your colleagues and staff members for your November 2013 meeting.

The City understands that the Commission's November agenda will include consideration of the Coastal Development Permit (CDP) for the proposed Huntington Beach Seawater Desalination project.

For the past five years, our City has participated in discussions with Poseidon and a host of Orange County cities and public water agencies regarding obtaining water from the project. Enclosed is a copy of the City's November 3, 2009 letter expressing our level of interest in purchasing water from the project, should it be approved and constructed.

We look forward to the Commission's discussion of this project's permit.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Kiff".

Dave Kiff  
City Manager

cc: Members of the Newport Beach City Council

Enclosure

## Attachment A

November 3, 2009

Mr. Andrew Kingman  
Chief Financial Officer  
Poseidon Resources  
501 W. Broadway Suite 2020  
San Diego, CA 92101

Re: Letter of Intent Regarding Potential Water Purchase Agreement

Dear Mr. Kingman:

The purpose of this letter (the "Letter of Intent") is to indicate the interest of the City of Newport Beach in the potential purchase of up to 8,000 acre-ft per year of desalinated water from a seawater desalination plant to be built by Poseidon Resources ("Poseidon") at its site in the City of Huntington Beach, and to set forth certain conditions for such purchase between the City of Newport Beach and Poseidon. .

1. Water Purchase Agreement. The City of Newport Beach along with, several other Orange County retail water agencies (the "Participating Retail Agencies"), and Poseidon have entered in a Memorandum of Understanding to review the Participating Retail Agencies interest in purchasing desalinated water from the Huntington Beach Project ("Project"). The City of Newport Beach has, and continues to be, interested in pursuing good faith negotiations to reach agreement on the terms to be set forth in a definitive water purchase agreement, based on and subject to the following key minimum conditions and other terms to be agreed upon by and between the City of Newport Beach and Poseidon.

2. No Liability. Except for the obligation to negotiate in good faith and for Section 3 below, the provisions of this Letter of Intent are non-binding and do not constitute and will not give rise to any legally binding obligation on the part of the Parties hereto. Nothing contained in this Letter of Intent (including the Term Sheet) shall be deemed or construed to be an agreement or obligation of either party to conclude negotiations by the execution of the Water Purchase Agreement. The provisions of this Letter of Intent (including the Term Sheet) do not create any rights on the part of either Party.

3. Costs. Except as otherwise agreed to, each of the Parties shall be responsible for its own costs and expenses relating to the review, negotiation and documentation and of a Water Purchase Agreement except as otherwise agreed in the Memorandum of Understanding.

4. Permitting. Poseidon and City of Newport Beach recognizes the potential for regional supply reliability benefits that ocean desalination projects offer to the City of

Newport Beach and other Orange County and Southern California agencies. To this extent, and with the understanding that this letter does not in any way commit the City of Newport Beach to purchase water from the project, the City of Newport Beach will cooperate as it deems appropriate with Poseidon in its efforts to obtain all necessary regulatory approvals and permits to enable the timely construction of the project.

5. Governing Law. This Letter of Intent shall be governed by and construed in accordance with the laws of the State of California without reference to its conflicts of laws principles.

6. Counterparts. This Letter of Intent may be executed in one or more counterparts, each of which, when executed and delivered, shall be an original, but all of which together shall constitute but one and the same instrument.

If this Letter of Intent properly reflects our understanding, please indicate by signing in the space provided below and returning a copy to the undersigned.

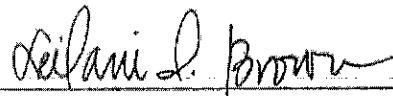
APPROVED AS TO FORM:  
OFFICE OF THE CITY ATTORNEY

By:  1/4/10  
Leonie H. Mulvihill,  
Assistant City Attorney

CITY OF NEWPORT BEACH,  
A Municipal Corporation

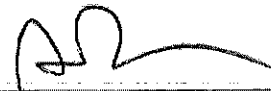
By:   
David Kiff,  
City Manager

ATTEST:

By:   
Leilani I. Brown,  
City Clerk



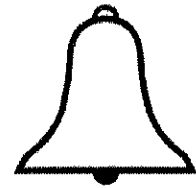
Agreed and Accepted:  
Poseidon Resources, LLC

By:   
Andrew Kingman,  
Chief Financial Officer

BOARD OF DIRECTORS

SAUNDRA F. JACOBS    BETTY H. OLSON, PH.D.  
CHARLES GIBSON      JUSTIN McCUSKER  
CHARLEY WILSON

DANIEL R. FERONS  
GENERAL MANAGER



## Santa Margarita Water District

October 18, 2013

RECEIVED

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

OCT 25 2013

CALIFORNIA  
COASTAL COMMISSION

**Re: Santa Margarita Water District (SMWD) SUPPORTS the HB Desalination Project**

Dear Chairwoman Shallenberger:

The Santa Margarita Water District (SMWD) strongly supports development of new water resources in Orange County including the proposed seawater desalination facility in Huntington Beach. SMWD is one of approximately twenty public water agencies and municipalities comprising a working group collaborating with Poseidon Water on the purchase of water from this proposed facility. SMWD currently has a letter of intent (enclosed) to purchase to 5,000 acre-feet of water annually from the facility with an option for an additional 5,000 acre-feet.

With few local water sources in south Orange County, SMWD relies almost entirely on imported water from the Bay-Delta and the Colorado River. Despite success with water recycling and urban return flow reuse – which helps meet irrigation demands – the District still needs to import about 85% of the water needed to serve our customers. We are very aware that both imported water sources are precariously subject to disruption. Continued drought or a natural disaster would be catastrophic to us and our customers. Additionally, water reliability studies done for South Orange County conclude that a shut-down of the County's primary imported water treatment plant (Diemer) would leave our water district in very short supply.

As a public water supplier, SMWD is prudently taking the necessary steps to diversify its supply options, increase water use efficiency and enhance reliability in order to avoid the impacts from a prolonged loss of our primary water supply. The responsible development of desalination projects like Huntington Beach benefits not only Orange County but all of California by reducing the demand that is placed on our current, fragile sources.

The Santa Margarita Water District urges you and your colleagues to act immediately to approve the coastal development permit (CDP) for the Huntington Beach project. Local approvals and permits have long-since been obtained. The CDP is the final permit necessary to allow this project to move forward. Given the reduced water supply conditions across the state and the dismal forecast for more of the same we cannot afford to delay this project any longer.

26111 Antonio Parkway, Rancho Santa Margarita, CA 92688 • Mailing - P.O. Box 7005, Mission Viejo, CA 92690-7005

Web: [www.SMWD.com](http://www.SMWD.com)

Customer Service (949) 459-6420 • Administration (949) 459-6507 • Operations (949) 459-6551

Ms. Schallenger  
Page 2

Bringing closure to the Coastal Commission's review of the project will enable SMWD to consider water purchase agreement negotiations with Poseidon for this important and increasingly critical component of the State's water supply network.

Sincerely,



Saundra F. Jacobs  
President, Board of Directors  
Santa Margarita Water District

Enclosure

*Coastal Commission staff has received a copy of this communication*

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Ms. Danya Boheco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Mr. Greg Cox, Commissioner, California Coastal Commission  
Dr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Ms. Janelle Beland, Undersecretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

## DIRECTORS

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 HARRY S. SIDHU, P.E.  
 BRUCE WHITAKER  
 ROGER C. YOH, P.E.



SINCE 1933

Celebrating 80 Years

**ORANGE COUNTY WATER DISTRICT**

ORANGE COUNTY'S GROUNDWATER AUTHORITY

## OFFICERS

President  
 SHAWN DEWANE  
  
 First Vice President  
 CATHY GREEN  
  
 Second Vice President  
 ROGER C. YOH, P.E.  
  
 General Manager  
 MICHAEL R. MARKUS, P.E., D.WRE

October 15, 2013

Ms. Mary K. Shallenberger  
 Chairwoman  
 California Coastal Commission  
 45 Fremont Street  
 San Francisco, CA 94105-2219

**Re: Support – Huntington Beach Desalination Project, Coastal Development Permit Application No. E-06-007**

Dear Chairwoman Shallenberger and Commission:

On behalf of the Orange County Water District (District), I am writing to urge your approval of the Coastal Development Permit (CDP) for the proposed Huntington Beach Desalination Project (Project).

On July 24, 2013, the District's Board of Directors directed its staff to evaluate purchasing up to the full capacity of the drinking water that will be produced by Poseidon's proposed 50 million gallon per day Huntington Beach Project. The District believes the Project is beneficial to enhancing regional water supply reliability by diversifying Orange County's portfolio with a new local drought-proof source.

The District was formed in 1933 by a special act of the California State Legislature to protect Orange County's rights to water in the Santa Ana River, which provides the main source of water for the County's groundwater basin. The District manages the groundwater basin that provides reliable, high quality groundwater to 19 municipal and special water districts that serve 2.4 million customers in north and central Orange County. The District's mission is to provide local water retailers with a reliable, adequate, high-quality water supply at the lowest reasonable cost in an environmentally responsible manner.

Since 2008, the District has operated the Groundwater Replenishment System (GWRS) – the world's largest water purification system for indirect potable reuse. GWRS can produce up to 70 million gallons of high-quality water every day and is currently undergoing an expansion that will increase the facility's basin replenishment capacity up to 103,000-acre feet by 2015. Orange County also has been a leader when it comes to water conservation and is on track to meet all state water conservation mandates. Our per capita water use is less than 190 gallons per day, which is lower than the state average. As a result, Orange County's water consumption is lower today than it was in 1989, notwithstanding an over 20% increase in population since that period of time.

Water recycling and conservation are essential, but alone they are insufficient to meet the current demand within the District's service area. The region's significant investment in these innovative water management strategies, coupled with the District's ongoing management of the groundwater basin, only provides for about 70% of the current water demand within the 19 municipal and special water districts in our service territory during normal rainfall years, and less during drought conditions. Furthermore, demand within our service territory is expected to increase by approximately 70,000-acre feet per year by 2035. Today, the remaining demand is met primarily through the purchase of water imported from the Colorado River and State Water Project.

The availability and reliability of these imported supplies have been increasingly constrained due to competing uses for the imported water supplies, climate change, and environmental restrictions. An additional concern is the potential for an extended outage of the imported water delivery system due to an extended drought or natural disaster such as earthquake. We are already seeing a glimpse of the future as 2013 has been the driest in California history since record keeping began 119 years ago.

The District is taking action today to prepare for the future. On May 15, 2013, the Board unanimously resolved that it is the policy of the District to consider and develop a variety of local water resources – including seawater desalination – to ensure sufficient water supplies are always available to the residents and businesses in the service territory. The Board resolution states, *"without the development of additional new local water resources, the Groundwater Producers will be forced to significantly increase the amount of imported water they require."* Depending on local climate conditions and availability of supply from the Santa Ana River, demand for imported water could be as high as 220,000 acre-feet per year by 2035 – this is approximately a 100% increase above imported water demand today.

The District's interest in seawater desalination and the Huntington Beach Project specifically is not new and is designed to reduce the need to import water to meet demand. In fact, for the past forty years the District has considered and studied seawater desalination as a new potential source of potable water for Orange County. In the mid 1970's, the District constructed a pipeline from the ocean to our Fountain Valley campus along with a small ocean desalination plant to consider the cost and feasibility of constructing a large scale plant. In 2003 and 2004, the District solicited cost estimates for the development of an ocean desalination plant.

On March 17, 2010, the District entered into a Memorandum of Understanding with Poseidon for the consideration of the purchase of desalinated water from the Project. In addition to offsetting imported demand, water from the Project could provide flexibility in how the District manages the groundwater basin, specifically the desalinated water could be used to augment supplies we inject into our Talbert Seawater Barrier to help prevent seawater intrusion into the groundwater basin. In 2011, the District wrote the Santa Ana Regional Water Quality Control Board in support of the Project's NPDES permit and advised the Regional Board that the District would oppose any subsurface seawater intake system that could potentially impact the efficacy of the Talbert Seawater Intrusion Barrier unless those impacts were mitigated.

In closing, the Commission's approval of the Project's CDP is necessary for the District to conclude its financial due diligence and before the District can pursue negotiating a water purchase agreement with Poseidon as the District must assess whether the issuance of the Project's CDP has implications on the cost of desalinated water and the timing of the facility construction. Towards this end, we urge your approval of the Project's CDP at your first opportunity.

Sincerely,



Michael R. Markus, P.E., D.WRE, BCEE, F.ASCE  
General Manager

Enclosures: *District's 80<sup>th</sup> Anniversary News release; District's Water Supply Reliability Policy; December 2011 letter to the Santa Ana Regional Board*

cc: Board of Directors, Orange County Water District  
Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Mr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Mrs. Janelle Beland, Natural Resources Agency  
Mr. Chester Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission  
Mr. Scott Maloni, Poseidon Water





## ORANGE COUNTY WATER DISTRICT

### NEWS



Celebrating 80 Years

[www.ocwd.com](http://www.ocwd.com) & [www.gwrsystem.com](http://www.gwrsystem.com)

#### FOR IMMEDIATE RELEASE

#### FOR INFORMATION, CONTACT:

Gina DePinto (714) 378-3228, [gdepinto@ocwd.com](mailto:gdepinto@ocwd.com)

### **OCWD CELEBRATES 80 YEARS OF PROVIDING RELIABLE, HIGH-QUALITY GROUNDWATER FOR NORTH AND CENTRAL ORANGE COUNTY**

**FOUNTAIN VALLEY, Calif.** (June 4, 2013) — The Orange County Water District (OCWD; District) is celebrating its 80<sup>th</sup> anniversary this year, beginning with a recognition ceremony held yesterday in Sacramento on the Assembly and Senate Floors. OCWD was created in 1933 by an act of the state legislature when Orange County was known more for agriculture and less as a business and industrial hub.

When OCWD was formed, it is estimated that Orange County's groundwater basin provided about 145,000 acre-feet of water (one acre-foot is 326,000 gallons) a year, of which 87 percent was used for agriculture. Today, annual water usage has increased to 350,000 acre-feet a year, but less than one percent is used for agriculture. The groundwater basin has been able to meet this tremendous increase in water demand because of OCWD's prudent investment in capital facilities and innovative groundwater management programs.

"OCWD's record is a testament to its commitment to provide Orange County with a reliable supply of high quality water at the lowest reasonable cost in an environmentally responsible manner," said Shawn Dewane, President of Orange County Water District. "We take great pride in the fact that OCWD is recognized world-wide for its leadership and innovation in groundwater management, and for projects like the Groundwater Replenishment System and its predecessor Water Factory 21. That leadership will prove important to Orange County as the demand increases statewide for water resources, capital funding and water rights."

The District is responsible for managing two of Southern California's most important water resources – the Santa Ana River and the vast groundwater basin that underlies northern and central Orange County from Irvine to the Los Angeles County border. The basin has a capacity of approximately 40 million acre-feet of water, of which approximately one million acre-feet can be accessed through the existing groundwater production wells operated by 19 municipalities and special district retail water agencies within OCWD's service area. The basin currently provides 70 percent of the water for more than 2.4 million people who work and live in OCWD's service area.

**-MORE-**

**OCWD CELEBRATES 80<sup>th</sup> ANNIVERSARY**  
**ADD 1-1-1**

Historically, the basin has been replenished primarily with Santa Ana River flows, stormwater and natural rainfall that are essentially free to OCWD, resulting in groundwater that costs less than half the cost of water imported from Northern California and the Colorado River. This savings is realized by the cities and water agencies who utilize groundwater to currently supply 70 percent of their customers' water demand. Valued at about \$195 million every year, these "free" flows are percolated into deep groundwater aquifers by OCWD. By naturally filtering the water through the ground, OCWD also saves ratepayers millions of dollars each year in water treatment costs.

One of the biggest milestones in OCWD's 80-year history is the January 2008 launch of the Groundwater Replenishment System (GWRS), the world's largest recycled water purification facility of its kind. The GWRS currently produces 70 million gallons per day (enough for nearly 600,000 people annually) of high quality water for Orange County, which is used to replenish the basin in addition to Santa Ana River flows. This project provides a new source of water for residents in north and central Orange County.

OCWD also unveiled the new, state-of-the-art Advanced Water Quality Assurance Laboratory in October 2009. The 39,000 square-foot, \$26 million laboratory houses chemists and lab technicians, water-quality monitoring personnel and all the equipment needed to complete more than 335,000 analyses of approximately 18,000 water samples taken each year by the District to ensure that the water produced from the basin meets or exceeds all drinking water standards.

OCWD is committed to enhancing Orange County's groundwater quality and reliability in an environmentally friendly and economical manner. The following cities utilize the groundwater basin managed by OCWD: Anaheim, Buena Park, Costa Mesa, Cypress, Fountain Valley, Fullerton, Garden Grove, Huntington Beach, Irvine, La Palma, Los Alamitos, Newport Beach, Orange, Placentia, Santa Ana, Seal Beach, Stanton, Tustin, Villa Park, Westminster and Yorba Linda.

For more information about the Orange County Water District and its use of membrane technology, go to [www.ocwd.com](http://www.ocwd.com) and [www.gwrsystem.com](http://www.gwrsystem.com).

-30-

**EDITORIAL NOTE:** Additional OCWD facts attached

### **A Sampling of OCWD's Accomplishments over the Past 80 Years:**

- Orange County's groundwater basin is the only non-adjudicated basin in urban Southern California, which means that the basin's water has not been divided up by a court of law.
- OCWD has doubled the yield of the basin through careful planning and efficient investment in groundwater management.
- In 1976, OCWD went on-line with the internationally acclaimed Water Factory 21, which was the first wastewater-to-drinking water purification plant to use reverse osmosis in the United States. This project paved the way for the new, advanced wastewater treatment facility, the Groundwater Replenishment System.
- OCWD's Green Acres recycled water for irrigation provides water to local parks, golf courses and highway medians, freeing up scarce high quality drinking water for more valued uses in arid Orange County.
- OCWD's mitigation measures to store water behind Prado Dam have brought back the endangered least Bell's vireo California songbird from 18 pairs in the 1980s to more than 500 breeding pairs today.
- A Memorandum of Agreement with the Army Corps of Engineers allows OCWD to utilize Prado Dam to capture additional storm water and prevent wasting to the ocean saving the District and Orange County water users \$1 to \$4 million per year.
- OCWD developed the largest constructed wetlands behind Prado Dam to naturally remove nitrates from Santa Ana River flows at a cost one-fifteenth of conventional man-made treatment plants.
- OCWD annually hosts the nation's largest children's water education festival for 6,000 to 7,000 Orange County students. Since the Festival's inception in 1996, more than 100,000 students have been inspired to learn about and protect our environment and Earth's precious water resources.
- OCWD co-sponsors the O.C. Water Hero program that teaches elementary students how to conserve water. Since its inception in 2007, about 20,000 elementary students have been enrolled in the free program.
- OCWD, in partnership with the Orange County Sanitation District, built the nation's largest recycled water purification facility of its kind in the world. The Groundwater Replenishment System went on-line in January 2008 and currently produces 70 million gallons of water per day.
- The GWRS Initial Expansion broke ground in February 2012. When expansion is completed in early 2015, the GWRS will produce 100 million gallons per day of ultra-pure drinking water, enough for 850,000 people annually.       ###

## AGENDA ITEM SUBMITTAL

**Meeting Date:** May 2, 2013

**To:** Communications/Leg Liaison Cte.  
Board of Directors

**From:** Mike Markus

**Staff Contact:** Mike Markus

**Budgeted:** N/A

**Budget Amount:** N/A

**Cost Estimate:** N/A

**Funding Source:** N/A

**Program/Line Item No.:** N/A

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject:** **WATER SUPPLY RELIABILITY RESOLUTION**

### SUMMARY

The attached resolution indicates it is the policy of the Orange County Water District (District) to consider and develop a variety of local water resources to ensure sufficient water supplies are always available to residents and businesses in the District's service territory.

### RECOMMENDATION

Authorize for May 2 Board meeting: Adopt resolution indicating it is the District's policy to consider and develop a variety of local water supply resources to ensure sufficient water supplies are always available to the District's service territory.

### DISCUSSION/ANALYSIS

Total water demands in the OCWD service territory are approximately 445,000 acre-feet per year and are met with a variety of supply sources including captured Santa Ana River flows, natural incidental recharge, the Groundwater Replenishment System (GWRS) and imported water.

The Groundwater Producers have projected that their cumulative total water demands will increase up to approximately 515,000 acre-feet per year by the year 2035. Without the development of new local water supply sources and/or increased conservation, imported water demands will significantly increase.

The District's mission is to provide local water retailers with a reliable, adequate, high quality water supply at the lowest reasonable cost in an environmentally responsible manner. The attached resolution reinforces and solidifies this commitment by indicating the District will consider and develop a wide range of water resource alternatives including:

- Maximizing the capture of Santa Ana River base and storm flows;
- Participating in conservation activities;

- Supporting the Municipal Water District of Orange County and the Metropolitan Water District of Southern California in working to improve the reliability of imported water supplies;
- Recycling available wastewater supplies being lost to the Pacific Ocean;
- Brackish water desalination; and
- Seawater desalination

**PRIOR RELEVANT BOARD ACTION(S) N/A**

**RESOLUTION OF THE BOARD OF DIRECTORS OF  
THE ORANGE COUNTY WATER DISTRICT  
STATING THE DISTRICT'S GOAL TO CONSIDER AND DEVELOP NEW LOCAL  
WATER RESOURCES TO ENSURE ADEQUATE WATER SUPPLIES ARE ALWAYS  
AVAILABLE TO THE RESIDENTS AND BUSINESSES IN THE DISTRICT'S SERVICE  
TERRITORY**

WHEREAS, the Orange County Water District (District) was formed by a special act of the California Legislature in 1933 to sustainably manage and protect the Orange County groundwater basin and protect the area's rights to flows in the Santa Ana River; and

WHEREAS, the District will have been successful at recycling all available wastewater flows from the Orange County Sanitation District Plant Number 1 once the Groundwater Replenishment System Expansion Project is completed in January 2015; and

WHEREAS, the District recently passed a resolution to maximize groundwater production and to work towards achieving a 75% or greater Basin Production Percentage by 2015 once the GWRS Expansion Project is constructed; and

WHEREAS, total water demands in the District's service territory are expected to grow from about 445,000 acre-feet per year to approximately 515,000 acre-feet per year by 2035; and

WHEREAS, without the development of additional new local water resources the Groundwater Producers will be forced to significantly increase the amount of imported water they require; and

WHEREAS, the reliability of imported water supply sources are becoming questionable as numerous environmental, agricultural and urban interests maneuver to obtain greater shares of these water sources from the Colorado River and State Water Project; and

WHEREAS, the local multi-billion dollar economy requires a reliable and sustainable water source to remain healthy and strong; and

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby resolve as follows:

Section 1: The District will evaluate and undertake economical and environmentally sensitive projects and programs to work towards the goal of ensuring adequate water supplies are always available to its service territory.

Section 2: The types of projects that will be evaluated include: (1) Maximizing Santa Ana River base and storm flow capture, (2) increasing water conservation, (3) Increasing water recycling, (4) Improving the reliability of imported water supplies, (5) Brackish water desalination, and (6) Seawater desalination.

DIRECTORS

CLAUDIA C. ALVAREZ, ESQ.  
PHILIP L. ANTHONY  
DON BARKHEAD  
KATHRYN L. BARR  
DENIS R. BILODEAU, P.E.  
SHAWN DEWANE  
CATHY GREEN  
IRV PICKLER  
STEPHEN R. SHELTON  
ROGER C. YOH, P.E.



ORANGE COUNTY WATER DISTRICT

1000 N. TULSA STREET, SUITE 200, ANAHEIM, CA 92801-3000

OFFICERS

President  
CLAUDIA C. ALVAREZ, ESQ.  
  
First Vice President  
PHILIP L. ANTHONY  
  
Second Vice President  
DON BARKHEAD  
  
General Manager  
MICHAEL R. MARKUS, P.E.

December 7, 2011

Ms. Carole H. Beswick, Chair  
Santa Ana Regional Water Quality Control Board  
3737 Main Street, Suite 500  
Riverside, CA 92501-3348

**Re: Reissuance of Water Discharge Requirements for the Poseidon Resources  
Huntington Beach Desalination Facility – Order No. R8-2011-0046; NPDES  
CA80000403**

Dear Chair Beswick:

Please accept the following comments from the Orange County Water District (District) on tentative Order No. R8-2011-0046; NPDES CA80000403 for the Huntington Beach Desalination Facility (HBDF).

The Orange County Water District is a special district formed in 1933 by an act of the California Legislature. The District manages the groundwater basin that underlies north and central Orange County. Water pumped from the basin is the primary water supply for 2.4 million residents living within the District's boundaries.

On March 17, 2010, the District entered into a letter of intent with Poseidon Resources for the consideration of the purchase of desalinated water from the HBDF. Water from HBDF could provide flexibility in how the District manages the groundwater basin, specifically the desalinated water could be used to augment supplies we inject into our Talbert Seawater Barrier to help prevent intrusion into the groundwater basin.

The District believes that proposed stand-alone operations of the HBDF meets all the requirements of Water Code Section 13142.5(b), which requires new industrial facilities using seawater to utilize the best available site, design, technology and mitigation measures feasible to avoid the intake and mortality of marine life.

Furthermore, the District would be opposed to any alternative seawater intake system that could potentially impact the efficacy of the Talbert Seawater Intrusion Barrier on the groundwater basin, unless the impacts were adequately mitigated.

Ms. Carole H. Beswick, Chair  
December 7, 2011  
Page 2 of 2

The District encourages you to approve Order No. R8-2011-0046; NPDES CA80000403  
for the stand-alone operation of the HBDF.

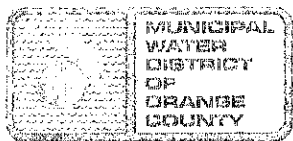
Sincerely,

A handwritten signature in black ink, appearing to read "MR Markus", with a stylized flourish at the end.

Michael R. Markus, P.E.  
General Manager

cc: Board Member William Ruh  
Board Member Fred Ameri  
Board Member Mark Murai  
Board Member Linda Ackerman  
Mr. Kurt Berchtold, Executive Officer  
Mr. Gary Stewart, Senior Engineer





**Street Address:**

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**Mailing Address:**

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[www.mwdoc.com](http://www.mwdoc.com)

Joan C. Finnegan  
President

Jeffery M. Thomas  
Vice President

Brett R. Barbre  
Director

Larry D. Dick  
Director

Wayne A. Clark  
Director

Susan Hinman  
Director

Wayne Osborne  
Director

Robert J. Hunter  
General Manager

**MEMBER AGENCIES**

City of Brea  
City of Buena Park  
East Orange County Water District  
El Toro Water District  
Emerald Bay Service District  
City of Fountain Valley  
City of Garden Grove  
Golden State Water Co.  
City of Huntington Beach  
Irvine Ranch Water District  
Laguna Beach County Water District  
City of La Habra  
City of La Palma  
Mesa Water District  
Moulton Niguel Water District  
City of Newport Beach  
City of Orange  
Orange County Water District  
City of San Clemente  
City of San Juan Capistrano  
Santa Margarita Water District  
City of Seal Beach  
Serrano Water District  
South Coast Water District  
Trabuco Canyon Water District  
City of Tustin  
City of Westminster  
Yorba Linda Water District

October 14, 2013

Ms. Mary K. Shallenberger  
Chair  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**Re: Huntington Beach Seawater Desalination Facility – APPROVE PERMIT**

***\*\*Coastal Commission staff has received a copy of this communication\*\****

Dear Chair Shallenberger:

The Municipal Water District of Orange County ("MWDOC") supports approval by the California Coastal Commission of the Coastal Development Permit ("CDP") for the Huntington Beach Seawater Desalination Facility ("Facility").

MWDOC is the County's water resources planning agency and the wholesale provider of imported water to twenty-eight retail water suppliers serving more than 2.3 million residents in its 600 square-mile service area. In 2011 MWDOC adopted its 2010 Regional Urban Water Management Plan ("RUWMP") which is required to meet state mandates for water supply and demand planning. The RUWMP includes a number of important findings relative to the need for further local resource projects, and includes the Facility as one of the projects to help meet future demands. The RUWMP points out that water demand in the MWDOC service area has increased approximately 70 percent since 1970. Over the next 25 years, regional water demand for municipal and industrial use is projected to continue to grow even with the fact that Orange County is on track to be in compliance with SBx7-7's, per capita urban water use reduction of 20% by 2020. In the absence of further developing new local water supply projects, the Orange County region will need to continue to import approximately 45% of its supply to meet demand in 2035.

It is widely understood that both of Orange County's imported sources of water – the Sacramento San Joaquin Bay Delta supplying the State Water Project and the Colorado River – are suffering a number of challenges that can potentially jeopardize the ability of those resources to provide a reliable supply of water in the future. Currently, as a result of regulatory restrictions and below average precipitation, the Department of Water Resources is keeping the State Water Project Contractors Table A Allocation at a relatively low 35%; providing significantly less State Project water than the average of 60%. In addition, the Colorado River Basin is mired in a long-term drought, with Lake Mead and Lake Powell currently reporting 47% of the storage capacity and dropping. Based on a recent announcement by U.S. Bureau of Reclamation, conditions are not improving; for the first time releases from Lake Powell to Lake Mead are being reduced as a result of lower than expected Colorado River runoff.

RECEIVED  
OCT 17 2013  
CALIFORNIA  
COASTAL COMMISSION

We find that the proposed Facility is part of our 2010 RUWMP to reduce our demand of imported water, thereby strengthening our reliability and helping to meet our goal of diversifying our water supply portfolio. Given the growth projected for the Orange County region over the next 25 years and the water demand that has been determined for that growth, should the Facility not be constructed, MWDOC would need to continue to rely on imported water.

To that end, MWDOC's RUWMP identifies seawater desalination as a vital component of its plan to diversify the County's water supply with a new local source. Section 7.4 of MWDOC's 2010 RUWMP states:

*To accommodate long-term population and economic growth in Southern California, and to protect against uncertainty and more extreme variability in natural water supply, as well as development and depletion of water resources outside of Southern California, continuing regional and local efforts in water resource management and supply development will be necessary. Application of desalination technology is increasingly being recognized as one important supply component to develop new sustainable water supplies and to bolster water system reliability. Overall supply shortage risks from drought, regulatory constraints on existing supplies and emergency outages can be lessened with a diversified and disaggregated water supply portfolio that incorporates appropriate desalination projects.*

RUWMP Section 7.4.2 goes on to state:

*Given the increasing challenges associated with the delivery of water through San Francisco Bay/Sacramento-San Joaquin River Delta (Bay-Delta), State Water Project (SWP) supplies will remain as supplemental supplies for Southern California. Thus, any new local supply development that reduces the demand for imported supplies will result in a net reduction in SWP supplies or other supplies from Northern California.*

*The following projects, if developed, could result in a total net reduction in Metropolitan imported water deliveries to the Orange County.*

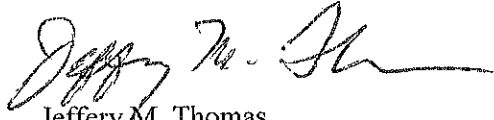
**Huntington Beach Seawater Desalination Project** – Poseidon Resources (Surfside) LLC (Poseidon), a private company, is developing the Huntington Beach Seawater Desalination Project to be located adjacent to the AES Power Plant in the City of Huntington Beach along Pacific Coast Highway and Newland Street. The proposed project would produce up to 50 MGD (56,000 AFY) of drinking water and will distribute water to coastal and south Orange County to provide approximately 8% of Orange County's water supply needs.

In conclusion, MWDOC believes that the Huntington Beach Desalination Facility complies with Coastal Act requirements and encompasses all the same environmental protections as the Carlsbad desalination project previously approved by the

Ms. Mary K. Shallenberger  
California Coastal Commission  
Page 3

Commission after a lengthy review. Seawater desalination in general and the Huntington Beach facility in particular, are essential elements of the County's future water supply plans. We respectfully ask the Coastal Commission to approve the Huntington Beach Desalination Facility's CDP without delay.

Sincerely,



Jeffery M. Thomas  
Vice President

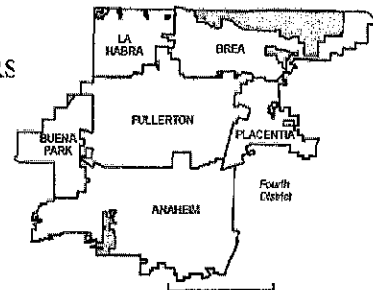
cc:

MWDOC General Manager Robert J. Hunter  
Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Mr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Ms. Janelle Beland, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission  
Mr. Scott Maloni, Poseidon Water



**SHAWN NELSON**  
CHAIRMAN, ORANGE COUNTY BOARD OF SUPERVISORS  
SUPERVISOR, FOURTH DISTRICT

ORANGE COUNTY HALL OF ADMINISTRATION  
333 W. SANTA ANA BLVD.  
SANTA ANA, CALIFORNIA 92701  
PHONE (714) 834-3440 FAX (714) 834-2045  
shawn.nelson@ocgov.com  
bos.ocgov.com/fourth



September 18, 2013

Mr. Tom Luster  
California Coastal Commission  
Energy and Ocean Resources Unit  
45 Fremont, Suite 2000  
San Francisco, CA 94105-2219

Re: Huntington Beach Desalination Facility / County of Orange & Orange County Fire Authority Hazard Mitigation Plan

Dear Mr. Luster:

This pertains to a June 6, 2013, letter from California Coastal Commission staff to Poseidon Resources regarding the proposed Huntington Beach Desalination Facility (Facility). The June 6 letter recommends that Poseidon provide Commission staff with documentation regarding the Facility's consistency with the County of Orange's Hazard Mitigation Plan.

The Hazard Mitigation Plan is a multi-jurisdiction plan covering the County of Orange and the Orange County Fire Authority, a Joint Powers Authority. The mission set forth in the Hazard Mitigation Plan is to promote sound public policy designed to protect residents, critical facilities, infrastructure, private property, and the environment from hazards in the unincorporated areas of the County and County owned facilities. Hazard mitigation will result through increased public awareness, documentation of resources for risk reduction and loss-prevention, and identifying activities to guide the County toward building a safer, more sustainable community. The Hazard Mitigation Plan was most recently updated in 2010.

As the Hazard Mitigation Plan applies only to potential hazards in unincorporated areas of the County and County-owned facilities, it does not apply to the Facility, which is located within the City of Huntington Beach and is anticipated to be privately owned.

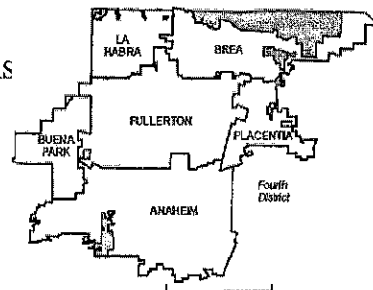
Nevertheless, the County fully supports the development of the Facility and believes that it will provide more than adequate protections against potential hazards. As Commission staff may know, on December 7, 2010, the Orange County Board of Supervisors unanimously approved a board resolution endorsing the proposed Facility. The Facility will provide a new, locally controlled, drought-proof water supply that will offset the need for the County to import 56,000 acre feet per year of water in the future. The Facility, coupled with the Orange County Water District's Groundwater Replenishment System, will enhance the County's long-term public health and safety and economic stability by providing a more reliable supply of drinking water.

Furthermore, the County understands that Poseidon recently commissioned and submitted to Coastal Commission staff two documents (a Geotechnical Hazards Assessment Report and a



**SHAWN NELSON**  
CHAIRMAN, ORANGE COUNTY BOARD OF SUPERVISORS  
SUPERVISOR, FOURTH DISTRICT

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SANTA ANA, CALIFORNIA 92701  
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shawn.nelson@ocgov.com  
bos.ocgov.com/fourth



Seismic, Tsunami and Flood Design Mitigation and Emergency Response Plan) that assess hypothetical extreme, worst-case hazard scenarios at the Facility site and propose design, construction and operating measures to mitigate potential hazards. Despite the fact that the County's Hazard Mitigation Plan does not apply to the Facility, Poseidon's efforts to avoid potential hazards at the Facility are fully consistent with the intent and mission of goals in the County's Hazard Mitigation Plan, including but not limited to:

- Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to natural hazards;
- Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards; and
- Establish policy to ensure mitigation projects for critical facilities, services, and infrastructure.

The County is continuing to explore the implementation of priority mitigation action items set forth in the Hazard Mitigation Plan, which include construction, repair, and maintenance of flood control improvements to the Huntington Beach Channel, located near the site of the proposed Facility, to ensure the conveyance of the 100-year storm event. We believe that the priority mitigation action items provided in the Hazard Mitigation Plan would not require the Facility to engage in any additional steps to plan, fund or implement offsite measures to either protect the site of the Facility from potential hazards or to protect the areas in the vicinity of the Facility.

Thank you for your consideration. On behalf of the Board of Supervisors, I urge the Commission's timely approval of the Facility's coastal development permit.

Sincerely,

A handwritten signature in black ink, appearing to read "Shawn Nelson", is written over a horizontal line.

Shawn Nelson,  
Chairman of the Board of Supervisors

Enclosure: *2010 Huntington Beach Desalination Facility Resolution*

cc: Scott Maloni, Vice President Poseidon Resources

RESOLUTION OF THE BOARD OF SUPERVISORS  
OF ORANGE COUNTY, CALIFORNIA

December 7, 2010

WHEREAS, the proposed Huntington Beach Water Desalination Facility is a private seawater desalination project that is being brought forward by Poseidon Resources and is supported by several public water districts that will purchase the water to offset the amount of imported water that is currently required; and

WHEREAS, the proposed seawater desalination project is expected to provide 50 million gallons of water per day through the desalination process, which is enough to serve eight percent of the residents and businesses of Orange County; and

WHEREAS, the County has been advised that the proposed seawater desalination project has received all of its local permits from the City of Huntington Beach, as well as its NPDES permit from the Santa Ana Regional Water Quality Control Board; and

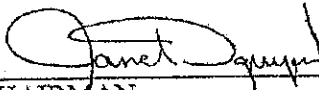
WHEREAS, seawater desalination, along with water recycling, groundwater pumping, and imported water will collectively serve to diversify Orange County's water resources; and

WHEREAS, Orange County cities will be more self-reliant by developing their own water resources and, thereby, lessen the pressure on the Sacramento Delta, which benefits both environmental and agricultural interests in the state; and

NOW, THEREFORE, BE IT RESOLVED THAT THE ORANGE COUNTY BOARD OF SUPERVISORS hereby supports the construction and operation of the proposed Huntington Beach Water Desalination Facility.

The foregoing was passed and adopted by the following vote of the Orange County Board of Supervisors, on December 07, 2010, to wit:

AYES:	Supervisors:	JOHN M. W. MOORLACH, SHAWN NELSON, BILL CAMPBELL PATRICIA BATES, JANET NGUYEN
NOES:	Supervisor(s):	
EXCUSED:	Supervisor(s):	
ABSTAINED:	Supervisor(s):	

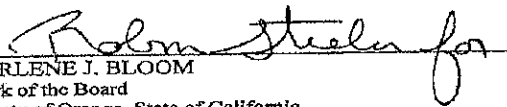
  
CHAIRMAN

STATE OF CALIFORNIA    )  
COUNTY OF ORANGE    )

I, DARLENE J. BLOOM, Clerk of the Board of Orange County, California, hereby certify that a copy of this document has been delivered to the Chairman of the Board and that the above and foregoing Resolution was duly and regularly adopted by the Orange County Board of Supervisors .

IN WITNESS WHEREOF, I have hereto set my hand and seal.



  
DARLENE J. BLOOM  
Clerk of the Board  
County of Orange, State of California

Resolution No: 10-193  
Agenda Date: 12/07/2010  
Item No: 21



I certify that the foregoing is a true and correct copy of the Resolution adopted by the Board of Supervisors , Orange County, State of California

DARLENE J. BLOOM, Clerk of the Board of Supervisors

By: \_\_\_\_\_

Deputy

DRAFT

September 3, 2013

Ms. Mary K. Shallenberger  
Chair  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**Re:     Huntington Beach Seawater Desalination Facility – APPROVE**

***\*\*Coastal Commission staff has received a copy of this communication\*\****

Dear Chair Shallenberger:

The Municipal Water District of Orange County ("MWDOC") supports approval by the California Coastal Commission of the Coastal Development Permit ("CDP") for the Huntington Beach Seawater Desalination Facility ("Facility").

MWDOC is the County's water resources planning agency and the wholesale provider of imported water to twenty-eight retail water suppliers serving more than 2.3 million residents in its 600 square-mile service area. In 2011 MWDOC adopted its 2010 Regional Urban Water Management Plan ("RUWMP") which is required to meet state mandates for water supply and demand planning. The RUWMP includes a number of important findings relative to the need for further local resource projects, and includes the Facility as one of the projects to help meet future demands. The RUWMP points out that water demand in the MWDOC service area has increased approximately 70 percent since 1970. Over the next 25 years, regional water demand for municipal and industrial use is projected to continue to grow even with the fact that Orange County is on track to be in compliance with SBx7-7's, per capita urban water use reduction of 20% by 2020. In the absence of further developing new local water supply projects, the Orange County region will need to continue to import approximately 45% of its supply to meet demand in 2035.

It is widely understood that both of Orange County's imported sources of water – the Sacramento San Joaquin Bay Delta supplying the State Water Project and the Colorado River – are suffering a number of challenges that can potentially jeopardize the ability of those resources to provide a reliable supply of water in the future. Currently, as a result of regulatory restrictions and below average precipitation, the Department of Water Resources is keeping the State Water Project Contractors Table A Allocation at a relatively low 35%; providing significantly less State Project water than the average of 60%. In addition, the Colorado River Basin is mired in a long-term drought, with Lake Mead and Lake Powell currently reporting 47% of the storage capacity and dropping. Based on a recent announcement by U.S. Bureau of Reclamation, conditions are not improving; for the first time releases from Lake Powell to Lake Mead are being reduced as a result of lower than expected Colorado River runoff.

We find that the proposed Facility is part of our 2010 RUWMP to reduce our demand of imported water, thereby strengthening our reliability and helping to meet our goal of diversifying our water supply portfolio. Given the growth projected for the Orange County region over the next 25 years and the water demand that has been determined for that growth, should the Facility not be constructed, MWDOC would need to continue to rely on imported water.

To that end, MWDOC's RUWMP identifies seawater desalination as a vital component of its plan to diversify the County's water supply with a new local source. Section 7.4 of MWDOC's 2010 RUWMP states:



DRAFT

*To accommodate long-term population and economic growth in Southern California, and to protect against uncertainty and more extreme variability in natural water supply, as well as development and depletion of water resources outside of Southern California, continuing regional and local efforts in water resource management and supply development will be necessary. Application of desalination technology is increasingly being recognized as one important supply component to develop new sustainable water supplies and to bolster water system reliability. Overall supply shortage risks from drought, regulatory constraints on existing supplies and emergency outages can be lessened with a diversified and disaggregated water supply portfolio that incorporates appropriate desalination projects.*

RUWMP Section 7.4.2 goes on to state:

*Given the increasing challenges associated with the delivery of water through San Francisco Bay/Sacramento-San Joaquin River Delta (Bay-Delta), State Water Project (SWP) supplies will remain as supplemental supplies for Southern California. Thus, any new local supply development that reduces the demand for imported supplies will result in a net reduction in SWP supplies or other supplies from Northern California.*

*The following projects, if developed, could result in a total net reduction in Metropolitan imported water deliveries to the Orange County.*

***Huntington Beach Seawater Desalination Project – Poseidon Resources (Surfside) LLC*** (Poseidon), a private company, is developing the Huntington Beach Seawater Desalination Project to be located adjacent to the AES Power Plant in the City of Huntington Beach along Pacific Coast Highway and Newland Street. The proposed project would produce up to 50 MGD (56,000 AFY) of drinking water and will distribute water to coastal and south Orange County to provide approximately 8% of Orange County's water supply needs.

In conclusion, MWDOC believes that the Huntington Beach Desalination Facility complies with Coastal Act requirements and encompasses all the same environmental protections as the Carlsbad desalination project previously approved by the Commission after a lengthy review. Seawater desalination in general and the Huntington Beach facility in particular, are essential elements of the County's future water supply plans. We respectfully ask the Coastal Commission to approve the Huntington Beach Desalination Facility's CDP without delay.

Sincerely,

Joan C. Finnegan,  
Board President

cc:  
Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission



## Mayor Pro Tempore Matthew Harper

City of Huntington Beach

Monday, July 22, 2013

Ms. Mary K. Shallenberger, Chair  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

Re: SUPPORT for the Huntington Beach Seawater Desalination Project  
*Coastal Commission staff has received a copy of this communication*

Dear Chair Shallenberger:

I have served on the Huntington Beach City Council for three years and on the Huntington Beach Union High School District Board of Trustees for the twelve previous years.

After closely reviewing the Huntington Beach Seawater Desalination project since it was first proposed more than a decade ago, I am convinced that this project will be built and operated in full compliance with the Huntington Beach Local Coastal Program. Like you, I have a deep and abiding commitment to public service and I believe this project planned in Huntington Beach will provide a long-term benefit to our local citizenry.

Although I did not serve on the Huntington Beach City Council at the time, I agree with previous action to twice-approve this project. The City's certification of the Environmental Impact Report and approval of Coastal Development Permit 10-014 was bolstered by the permits subsequently granted by both the State Lands Commission and the Santa Ana Regional Water Quality Control Board.

It is also important for me to call attention to the exceptional environmental mitigation efforts proposed for this project.

Since growing up as a child in Orange County during one of our major droughts, I have recognized that there is clearly a need for diversified water supply sources and seawater desalination needs to be a part of the water supply that we can count on.

The Municipal Water District of Orange County's 2010 Urban Water Management Plan specifically identifies this project as a critical component to

Huntington  
Beach  
City Council  
2010-present

Orange County  
Transportation  
Authority,  
Board of  
Directors  
2012-present

Southern  
California  
Association of  
Governments,  
Board of  
Directors  
2010-present

Huntington  
Beach Union  
High School  
District,  
Board of  
Trustees  
1998-2010

PO Box 4472  
Huntington  
Beach,  
California  
92605

allow our region to reduce its need for imported water and meet future water supply needs.

Your vote of approval will help us build for the future. I strongly encourage you and the Board to vote to approve this project and allow the construction of this new, local, drought-proof water resource.

Thank you for your consideration,

A handwritten signature in black ink that reads "Matthew Harper". The signature is stylized, with the first name "Matthew" written in a cursive-like script and the last name "Harper" in a more straightforward, slightly slanted script.

MAYOR PRO TEMPORE MATTHEW HARPER  
City of Huntington Beach

cc: Hon. Steve Kinsey, Vice Chair, California Coastal Commission  
Ms. Danya Bocho, Commissioner, California Coastal Commission  
Hon. Brian Brennan, Commissioner, California Coastal Commission  
Hon. Robert Garcia, Commissioner, California Coastal Commission  
Hon. Carol Groom, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Hon. Esther Sanchez, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
Hon. Jerry Brown, Governor, State of California  
Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Staff Environmental Scientist,  
California Coastal Commission  
Hon. Constance J. Boardman, Mayor, City of Huntington Beach  
Mr. Fred Wilson, City Manager, City of Huntington Beach

October 30, 2009

**Moulton Niguel Water**  
WATER QUALITY AND SERVICE ARE #1

Ms. Bonnie Neely  
Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105

Dear Chairwoman Neely:

Moulton Niguel Water District is one of more than a dozen public water agencies or purchasers in Orange County that has signed a Letter of Intent to purchase a portion of the water that would be provided by the Poseidon Resources Huntington Beach Seawater Desalination Facility.

Today MNWD is almost entirely reliant upon imported water. As we enter the fourth year of a drought and with the Delta in crisis, it is more important than ever that Orange County wean itself off its dependency on imported water and become more self-reliant by finding and using new, local water supplies. The Municipal Water District of Orange County has identified this desalination project as an important component of the region's water diversification strategy.

Water recycling and conservation are important and essential parts of Orange County's water diversification efforts. MNWD has many water conservation programs and encourages xeriscaping and in fact prohibits irrigation of lawn and landscaping between the hours of 10:00 a.m. and 5:00 p.m. Regarding water recycling, Orange County is the proud home of the Groundwater Replenishment (GWR) System, which turns 70 million gallons of sewer water into drinking water every day. Yet, Orange County still needs new water sources and must continue to diversify its water portfolio.

If approved and built, the Huntington Beach Seawater Desalination Facility will provide Orange County with eight percent of its water supply. The facility's water source – the ocean – is drought-proof and the quality of the desalinated seawater will be as high or higher than any current water source in Orange County. That is why our board intends to purchase about 4,000 acre-feet of the desalinated seawater from the Huntington Beach facility.

Madame Chairwoman, our constituents understand we are in the midst of a water crisis. We continue to conserve and recycle, but new water sources are needed. *Please approve the permit necessary to allow for the completion of this seawater desalination facility.*

Sincerely,

MOULTON NIGUEL WATER



Robert C. Gumerman, PhD, P.E.  
General Manager

a public agency at:  
27500 La Paz Road, Laguna Niguel, CA 92677-3489  
Mailing Address: P.O. Box 30203, Laguna Niguel, CA 92607-0203  
949/831-2500

cc:

Vice Chairman Dr. William A. Burke  
Commissioner Ben Hueso  
Commissioner Steve Blank  
Commissioner Steve Kram  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
Commissioner Patrick Kruer  
Commissioner Dave Potter  
Commissioner James Wickett  
Commissioner April Vargas  
Commissioner Dan Secord  
Commissioner Adi Liberman  
Commissioner Sharon Wright  
Commissioner Steve Kinsey  
Commissioner Brooks Firestone  
Commissioner Suja Lowenthal  
Commissioner Deborah Schoenbaum  
Commissioner Mike Chrisman  
Commissioner Karen Scarborough  
Commissioner Paul Thayer  
Mr. Tom Luster  
Governor Arnold Schwarzenegger  
Assembly Speaker Karen Bass  
Senate President Pro Tem Darrel Steinberg  
U.S. Congressional Representative Ed Royce  
U.S. Congressional Representative Gary Miller  
U.S. Congressional Representative Ken Calvert  
U.S. Congressional Representative Dana Rohrabacher  
U.S. Congressional Representative Loretta Sanchez  
U.S. Congressional Representative John Campbell  
State Senator Tom Harman  
State Senator Mark Wyland  
State Senator Mimi Walters  
State Senator Lou Correa  
State Assemblyman Jim Silva  
State Assemblyman Van Tran  
State Assemblyman Jose Solorio  
State Assemblyman Chuck Devore  
State Assemblyman Curt Hagman  
State Assemblyman Jeff Miller  
State Assemblyman Mike Duvall  
State Assemblywoman Diane Harkey  
State Assemblyman Tony Mendoza

Orange County Chair Patricia Bates  
Orange County Vice Chair Janet Nguyen  
Orange County Supervisor John Moorlach  
Orange County Supervisor Bill Campbell  
Orange County Supervisor Chris Norby  
HB Mayor Keith Bohr  
HB Mayor Pro Tem Cathy Green  
HB City Councilman Gil Coerper  
HB City Councilman Don Hansen  
HB City Councilman Joe Carchio  
HB City Councilman Devin Dwyer  
Ms. Katie Coates-Ageson  
Mr. Brian Lochrie  
Mr. Scott Maloni

# **PRIVATE ORGANIZATIONS**

**RECEIVED**

**OCT 25 2013**

**CALIFORNIA  
COASTAL COMMISSION**

October 24, 2013

Ms. Mary K. Shallenberger  
Chairwoman  
California Coastal Commission  
45 Freemont Street  
San Francisco, CA 94105

**SUBJECT: Support – Huntington Beach Desalination Project, Coastal Development Permit  
Application No. E-06-007**

Dear Chairwoman Shallenberger and Commission:

For more than 100 years, the California Chamber of Commerce has worked to make California a better place to do business. We have over 13,000 members, representing one-fourth of the private sector workforce in California. We serve as an advocate and resource for large and small California employers and work within state and federal politics to ensure fair legislation and a pro-business climate. Our goal is to enhance the California economy and make the state a better place to live, work and do business.

CalChamber recognizes that many areas in our state suffer from dwindling supplies of natural resources, especially water. California suffers from significant cyclical droughts exacerbated by a growing population and environmental regulatory constraints that pressure the state's water resources. In response, the state has an obligation to pursue all reasonable means of protecting and enhancing our water supplies now, before the crisis hits.

Southern California has been importing water from the Colorado River and through the Bay-Delta region in order to meet the needs of a growing economy. Desalination is one of several acknowledged means of expanding water supplies. It is not a new or untested technology, but until recently was deemed to be too expensive to be practical. However technological advances, and in the case of the Huntington Beach facility private sector investment, makes this project financially feasible for the public water districts that will benefit from the plant's output which in turn benefits the business community by ensuring an adequate water supply.

Environmentally, the project has a certified Environmental Impact Report (EIR), State Lands Commission approval, Regional Water Quality Control Board approval and adequate safeguards in place to address potential environmental issues including energy consumption and water quality. The project's impact to marine life is insignificant and no endangered or at-risk species are located within the Huntington Beach site.

In addition, the project will generate an estimated \$200 million in economic impact and create more than 2,100 jobs during construction, and \$40 million in annual spending throughout the region once the desalination plant is operational.

CalChamber is confident that the Huntington Beach Desalination Plant will be an environmentally and economically responsible solution to meeting the Orange County region's water needs with no financial risk to the plant's public water agency customers and their ratepayers.

We offer our complete support of the Huntington Beach Desalination Project and respectfully request that the Commission approve the project at your November meeting.

Sincerely,

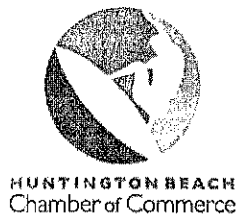
A handwritten signature in black ink, appearing to read 'Valerie Nera', written in a cursive style.

Valerie Nera  
Policy Advocate

cc:

Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Mr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Ms. Janelle Beland, Natural Resources Agency  
Mr. Chester Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission





September 23, 2013

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**Re: HB Chamber SUPPORTS Huntington Beach Desalination Project**

Dear Chairwoman Shallenberger:

The Huntington Beach Chamber of Commerce has been following the regulatory process of the Huntington Beach Seawater Desalination Project for more than a decade. This is a project whose time has come.

Earlier this month, the Orange County Register reported that a 6.0 earthquake in Northern California could cause the levees to fail and wipe out Southern California's imported water supply from the Delta for up to two years. We don't just *want* to become more self-reliant in terms of developing new locally-controlled water supply options – we *need* to be.

Tourism is the cornerstone of the Huntington Beach economy and our chamber would not support a project that would result in a degradation of the coastal resources in our community. This is a good project that has been analyzed and determined to result in no significant environmental impacts. Our business community needs a sustainable and reliable water source for jobs and economic growth. This environmentally responsible water reliability project can provide that.

I urge you to approve The Huntington Beach Desalination Project in November when it comes before your board.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerry L. Wheeler, Sr.", written over a horizontal line.

Jerry L. Wheeler, Sr. IOM  
President/CEO



HUNTINGTON BEACH  
Chamber of Commerce

***Coastal Commission staff has received a copy of this communication***

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Ms. Janelle Beland, Undersecretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission



Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

September 16, 2013

Re: **Hispanic 100 SUPPORTS the Huntington Beach Desalination Project**

Dear Chairwoman Shallenberger:

The Hispanic 100 is a non-profit organization established to develop leadership within the Hispanic community. We support projects that will ensure quality infrastructure for the next generation.

After reviewing the Huntington Beach Seawater Desalination Facility, **the Hispanic 100 has chosen to endorse and support this needed water reliability project** that is critical for Southern California. Not only will the project create more than 2,000 jobs during construction, but once it is online, it will provide a guaranteed, drought-proof water source for our region.

Hispanics understand the importance of water quality and reliability. In many Latin American countries, we didn't always have a reliable source of clean water. From a social justice perspective, we believe it is critical that California allow the water reliability infrastructure to be built so that our future Hispanic leaders have a fair opportunity to succeed.

We understand the careful analysis that the Coastal Commission and other state regulators must conduct to ensure that this project is built to the highest feasible environmental standards. We believe it is.

Poseidon's Greenhouse Gas Reduction plan combined with its Energy Minimization strategy will go a long way to ensuring that this water reliability project will also be environmentally sensitive as well.

I understand that the leaders in our water community have given their full support to this project as it will provide a new water source for the region and reduce our dependency on imported water. I encourage the California Coastal Commission to vote to approve the Coastal Development Permit before you this November and allow this needed water reliability project to be built.

Sincerely,

Mario Rodriguez  
Chairman  
Hispanic 100  
P.O. Box 194, San Clemente, CA 92674

*Coastal Commission staff has received a copy of this communication*

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Ms. Danya Bocho, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Ms. Janelle Beland, Undersecretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission



# *Amigos de Bolsa Chica*

P.O. Box 1563 Huntington Beach, CA 92647

Phone / Fax 714 840 1575 [info@amigosdebolsachica.org](mailto:info@amigosdebolsachica.org) [www.amigosdebolsachica.org](http://www.amigosdebolsachica.org)

RECEIVED

SEP 05 2013

CALIFORNIA  
COASTAL COMMISSION

Mr. Tom Luster  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Dear Mr. Luster:

My name is Tom Livengood and I am President of the Amigos de Bolsa Chica. For over 40 years the Amigos have worked to save the Bolsa Chica Wetlands, supporting the restoration of this wetland and now we are concerned with making sure that this precious resource is maintained. As you know many wetlands face the potential of not having the resources to ensure that they continue to function at a high level. We have seen the resources of the State unable to meet many of the needs of wetlands and we are concerned that in the future, Bolsa Chica may not be maintained at a high functioning level.

We have always supported the position of the Commission that habitat impacts required the restoration of coastal wetlands as an offsetting measure. We understand the importance of this position. In fact, without it, Bolsa Chica may not have been saved. Now we are faced with not only saving wetlands, but making sure that they are maintained. We have explored various ways to ensure that the resources are available, but fear that if State agencies do not change policies, we may have an invaluable resource diminished. We believe that there is now a need to not only save wetlands but a need to enhance and ensure the preservation of coastal wetlands systems that have been restored through the actions of the commission.

We would hope that when mitigation measures are taken by the Commission that measures would also be taken to ensure that the wetlands which have been saved will also continue to thrive. Hopefully the commission will not only save wetlands, but would ensure the necessary financial protections to those wetlands they have helped to save.

In that regard we know that a project in Huntington Beach will soon come before the Commission. The Poseidon Water Corporation will be requesting a Coastal Development Permit from the Commission and although we have not taken a position on this project we see it as a potential opportunity. If the Commission was to determine that this project is consistent with the Coastal Act, habitat mitigation to offset impacts would be a part of the decision. We would hope that consideration would be given to include compensation for maintenance of existing wetlands. Since the Bolsa Chica is just a few miles from the Poseidon Project we would hope that the maintenance needs of maintaining the wetlands would be a part of the mitigation requirement.

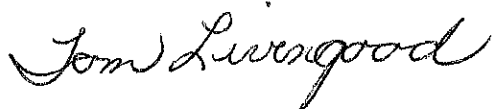
We know that this would be a change in policy, but it is our understanding that the State Water

Resources Board is now reviewing an amendment to the Ocean Plan which would address the marine impacts, and the necessary mitigation to offset those impact of desalination facilities and power plants that use ocean water as part of the operation. We would hope that they will also be considering the fact that ensuring that existing wetland system continue to function at a high level through mitigation funding is very important to the health of coastal wetlands.

Hopefully a way will be found to ensure that we do not just SAVE wetlands, but that we have the resources to make sure that they will always survive to be an important coastal resource.

Thank you for your consideration of these concerns.

Sincerely,

A handwritten signature in cursive script that reads "Tom Livengood". The signature is fluid and written in dark ink.

Tom Livengood  
President, Amigos de Bolsa Chica



Orange County Taxpayers Association

25 Orchard, Lake Forest, CA 92630  
phone (949) 768-8131 • fax (949) 768-1601 • www.octax.org

July 8, 2013

RECEIVED

JUL 10 2013

CALIFORNIA  
COASTAL COMMISSION

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**Re: Support - Huntington Beach Desalination Facility**  
**Coastal Commission staff has received a copy of this communication**

Dear Chairwoman Shallenberger:

The Orange County Taxpayers Association, which advocates for responsible government that is fair, understandable, cost effective and good for business, extends its support for the Huntington Beach Desalination Project.

We urge the California Coastal Commission to approve the project's Coastal Development Permit because we believe the extensive CDP application demonstrates that the construction and operation of this project will comply with all applicable Coastal Act policies.

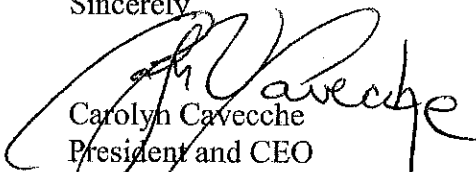
As you know, in 2007 the Coastal Commission approved a similar large-scale desalination plant in Carlsbad, demonstrating how a successful seawater desalination project may comply with the Coastal Act.

We have met with officials from the applicant, Poseidon, and they let us know they offered to include several mitigation plans as conditions to the Huntington Beach project's CDP. These mitigation measures include a marine life mitigation plan, an energy minimization and greenhouse gas reduction plan and a seismic, tsunami and flood design mitigation and emergency response plan.

Under these proposed measures, the environmental impacts are expected to be extremely limited. In fact, numerous agencies including the City of Huntington Beach, California State Lands Commission and the Santa Ana Regional Water Quality Board have all found that this project complies with local, state and federal environmental laws and regulations.

Again, we urge you to approve this important project when it comes before your board this fall.

Sincerely,



Carolyn Cavecche  
President and CEO  
Orange County Taxpayers Association

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission

Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Ms. Esther Sanchez, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission



ORANGE COUNTY

ASSOCIATION OF REALTORS®

*A Step Ahead*

June 26, 2013

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**Re: Support - Huntington Beach Seawater Desalination Facility**  
***Coastal Commission staff have received a copy of this communication***

Dear Chairwoman Shallenberger:

On behalf of the Orange County Association of REALTORS® Board of Directors, I urge you to support the Coastal Development Permit application of Poseidon Resources so it may build its proposed Huntington Beach Seawater Desalination Facility in order to provide a new, reliable, locally-controlled and drought-proof water supply to Orange County.

By using existing infrastructure at the AES energy generation facility, the desalination plant will create no additional environmental impacts on the coastline or on nearby homeowners.

This seawater desalination facility would not only benefit Orange County homeowners by providing a new reliable alternative source of clean drinking water, but it will also create thousands of new jobs, which are important for Orange County homeowners as well.

And a review of the public record shows that all environmental impact analysis, including one done by the City of Huntington Beach as well as one done by the Santa Ana Regional Water Quality Control Board, conclude that this desalination facility can be constructed in a way that would result in impacts that are "less than significant." Therefore, we urge your support.

Sincerely,

Dave Stefanides  
Government Affairs Director  
Orange County Association of REALTORS®

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission



Ms. Esther Sanchez, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission



September 23, 2013

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**RECEIVED**

**SEP 25 2013**

CALIFORNIA  
COASTAL COMMISSION

**Re: HB Chamber SUPPORTS Huntington Beach Desalination Project**

Dear Chairwoman Shallenberger:

The Huntington Beach Chamber of Commerce has been following the regulatory process of the Huntington Beach Seawater Desalination Project for more than a decade. This is a project whose time has come.

Earlier this month, the Orange County Register reported that a 6.0 earthquake in Northern California could cause the levees to fail and wipe out Southern California's imported water supply from the Delta for up to two years. We don't just *want* to become more self-reliant in terms of developing new locally-controlled water supply options – we *need* to be.

Tourism is the cornerstone of the Huntington Beach economy and our chamber would not support a project that would result in a degradation of the coastal resources in our community. This is a good project that has been analyzed and determined to result in no significant environmental impacts. Our business community needs a sustainable and reliable water source for jobs and economic growth. This environmentally responsible water reliability project can provide that.

I urge you to approve The Huntington Beach Desalination Project in November when it comes before your board.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerry L. Wheeler, Sr.", written over a horizontal line.

Jerry L. Wheeler, Sr. IOM  
President/CEO



HUNTINGTON BEACH  
Chamber of Commerce

***Coastal Commission staff has received a copy of this communication***

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Ms. Janelle Beland, Undersecretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission



**South Orange County  
Economic Coalition**



**South Orange County  
Regional Chamber  
of Commerce**

June 10, 2013

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**Re: Support - Huntington Beach Desalination Facility**

*Coastal Commission staff have received a copy of this communication*

Dear Chairwoman Shallenberger:

The South Orange County Economic Coalition strives to support and ensure regional availability of safe, sustainable and reliable water resources. Because water is one of our key priorities, we support the Huntington Beach Desalination Facility as it is innovative and adds to our region's much-needed diverse water portfolio.

In addition to providing 50 million gallons of fresh drinking water per day from an entirely new, untapped source – the Pacific Ocean – the Huntington Beach Seawater Desalination project will also create more than 2,000 jobs at a time when the state should be encouraging private sector job growth and allowing Orange County to have the opportunity to build its own desalination plant just as the Coastal Commission has permitted San Diego County to do.

It's essential that the Coastal Commission consider science and not rhetoric when considering permit approval for the project, which has undergone extensive scientific analysis to consider environmental impacts both at the local as well as the state level. Each time, the science has shown that the project is environmentally sound, and each time the governing bodies approved the project. The project has also been approved by the California State Lands Commission and has received conceptual approval to introduce desalinated seawater to the Orange County drinking water system by the California Department of Health. After more than 10 years of regulatory red tape, it's time to allow this project to proceed.

Our leaders in Sacramento are considering CEQA reform to prevent the needless delay of good infrastructure projects like this one. Please approve the Coastal Development Permit for this project based on its merits and the sound science that shows this project can be built in an environmentally sensitive way.

In closing, I encourage you to approve this project, which will create new jobs without causing any significant harm to the environment.

Sincerely,



Donna Varner  
Chair  
South OC Regional Chamber of Commerce



James Leach  
Chair  
South OC Economic Coalition



**South Orange County  
Economic Coalition**



**South Orange County  
Regional Chamber  
of Commerce**

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bocho, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Ms. Esther Sanchez, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission



**ORANGE COUNTY  
BUSINESS COUNCIL**

2 Park Plaza, Suite 100 | Irvine, CA 92614-5904 | P 949.476.2242 | F 949.476.9240 | www.ocbc.org

March 25, 2013

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**RECEIVED**

**JUN 14 2013**

CALIFORNIA  
COASTAL COMMISSION

**Re: SUPPORT for the Huntington Beach Desalination Project**

Dear Chairwoman Shallenberger:

On behalf of Orange County Business Council (OCBC), I urge the California Coastal Commission to support Poseidon Resources' Huntington Beach Seawater Desalination Facility. Orange County Business Council is the leading voice of business for America's sixth largest county. OCBC's mission is to enhance the region's economic prosperity while maintaining a high quality of life. OCBC focuses on four initiatives: improving infrastructure, enhancing workforce development, increasing the supply of workforce housing and maintaining a robust economic climate.

Investing in infrastructure for a growing state population is crucial to sustainable, thoughtful planning, economic growth and job creation in Orange County and throughout California. The Huntington Beach Desalination Project is an essential water supply reliability project that is a coastal dependent industrial facility. It meets the Coastal Commission's requirements for coastal infrastructure development.

Poseidon Resources' Huntington Beach Seawater Desalination Facility will provide 50 million gallons of high-quality drinking water to the region at a time when imported water costs continue to rise and the demands on imported water from environmental and agricultural constituencies in Northern and Central California put a strain on this precious resource. Further, if sea level rise is expected for coastal California, effective desalination is technology needed not only today, but for all of this state's future population. This desalination plant can offer the certainty and reliability of a drought-proof and locally-controlled water source for decades to come and be a demonstration project of success for the rest of the state.

Quality, well-planned sustainable infrastructure is crucial to a state that values environmental protection. This project's extensive public review has proven it can be built and operated in an environmentally responsible way. Orange County Business Council urges the Coastal Commission to approve the Coastal Development Permit for this project.

Sincerely,

  
Lucy Dunn  
President and CEO  
Orange County Business Council

cc: Members, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency, State of California  
Dr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission



600 South Main Street, #940, Orange, CA 92868 | P: 714.953.1300 | F: 714.953.1302 | [www.ACCOC.org](http://www.ACCOC.org)  
February 25, 2013

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**Re: SUPPORT for the Huntington Beach Desalination Project**  
*Coastal Commission staff has received a copy of this communication*

Dear Chairwoman Shallenberger:

The Association of California Cities – Orange County (ACC-OC) would like to express its support for the Huntington Beach Desalination Project proposed by Poseidon Resources Corp. As the largest municipal advocacy and educational organization in Orange County, the ACC-OC is proud of its efforts to protect and restore local control.

The proposed seawater desalination facility in Orange County embodies the ideal of locally controlled resources that protect the region's taxpayers. Thus, it is a project that the ACC-OC strongly supports.

The desalination project will provide water to replace the increasingly constrained access to imported water and be a significant benefit to the entire region. Additionally, extensive scientific analysis has taken place that shows the desalination process can be accomplished with no significant environmental impacts.

More than a dozen cities throughout Orange County have passed resolutions supporting the completion of this important water infrastructure project. The ability for Orange County to become more self-reliant in terms of water resources is invaluable. Municipalities recognize the need for a new, reliable, drought-proof, high-quality water supply and the support for this project has been overwhelming. In fact, our Board of Directors – consisting of elected city officials from across the region – unanimously voted to support this project more than one year ago.

The development of a seawater desalination facility at no risk to the taxpayer is overwhelmingly popular with cities. This is evidenced by the fact that every city in Orange County has considered a resolution of support for the project, with more than 90 percent of the elected officials voting in the affirmative.

The project continues to have bi-partisan support from Orange County's state legislative delegation – Republicans and Democrats alike. Water is not a partisan issue. Please vote to approve the Coastal Development Permit and allow this project to move forward.



Sincerely,



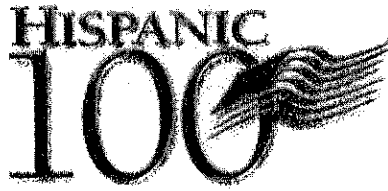
Lisa Bartlett

President

Association of California Cities – Orange County

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bocho, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. William Burke, Commissioner, California Coastal Commission  
Dr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
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The Hon. Jerry Brown, Governor, State of California  
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The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission  
ACC-OC Board of Directors





August 31, 2009

Ms. Bonnie Neely  
Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105

Dear Chairwoman Neely:

The State is clearly in a water crisis and Poseidon Resources' proposed seawater desalination facility in Huntington Beach is an important component to finding a solution. Conservation, water recycling, groundwater and desalination are all essential if Southern California is to reduce its reliance on imported water.

The Hispanic 100 represents Hispanic business-owners and thousands of employees throughout the region. Water is essential to many of our businesses' operations. As the availability of imported water continues to decline and the cost continues to rise, we must invest in local water project like the Huntington Beach desalination project.

Poseidon's desalination project will provide eight percent of our local water supply and when it is combined with the Groundwater Replenishment (GWR) System water and conservation, Orange County will be one of the most self-reliant counties in Southern California when it comes to water supply.

This project is environmentally sensitive. Both the local municipality and the state water quality control board determined through scientific research that this project would have no negative environmental impact on any marine life.

The construction of this facility will create more than 2,000 much-needed jobs and 322 indirect jobs. With final approval from the State Lands Commission and Coastal Commission, this project can begin being built next year.

For these reasons, the Hispanic 100 is pleased to offer its strong support and endorsement of Poseidon Resources' Huntington Beach Seawater Desalination Facility.

We urge you to join us and Orange County's elected officials in supporting this project when it comes before the California Coastal Commission.

Sincerely,

  
Mario Rodriguez  
Chairman Hispanic 100

cc:

Vice Chairman Dr. William A. Burke  
Commissioner Ben Hueso  
Commissioner Steve Blank  
Commissioner Steve Kram  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
Commissioner Patrick Kruer  
Commissioner Dave Potter  
Commissioner James Wickett  
Commissioner April Vargas  
Commissioner Dan Secord  
Commissioner Adi Liberman  
Commissioner Sharon Wright  
Commissioner Steve Kinsey  
Commissioner Brooks Firestone  
Commissioner Suja Lowenthal  
Commissioner Deborah Schoenbaum  
Commissioner Mike Chrisman  
Commissioner Karen Scarborough  
Commissioner Paul Thayer  
Mr. Tom Luster  
Governor Arnold Schwarzenegger  
Assembly Speaker Karen Bass  
Senate President Pro Tem Darrel Steinberg  
U.S. Congressional Representative Ed Royce  
U.S. Congressional Representative Gary Miller  
U.S. Congressional Representative Ken Calvert  
U.S. Congressional Representative Dana Rohrabacher  
U.S. Congressional Representative Loretta Sanchez  
U.S. Congressional Representative John Campbell  
State Senator Robert Huff  
State Senator Tom Harman  
State Senator Mark Wyland  
State Senator Mimi Walters  
State Senator Lou Correa  
State Assemblyman Jim Silva  
State Assemblyman Van Tran  
State Assemblyman Jose Solorio  
State Assemblyman Chuck Devore  
State Assemblyman Curt Hagman  
State Assemblyman Jeff Miller  
State Assemblyman Mike Duvall  
State Assemblywoman Diane Harkey  
State Assemblyman Tony Mendoza

Orange County Chair Patricia Bates  
Orange County Vice Chair Janet Nguyen  
Orange County Supervisor John Moorlach  
Orange County Supervisor Bill Campbell  
Orange County Supervisor Chris Norby  
HB Mayor Keith Bohr  
HB Mayor Pro Tem Cathy Green  
HB City Councilman Gil Coerper  
HB City Councilman Don Hansen  
HB City Councilman Joe Carchio  
HB City Councilman Devin Dwyer  
Ms. Katie Coates-Ageson  
Mr. Brian Lochrie  
Mr. Scott Maloni



info@hcoc.org  
Fx (714) 953-0273  
Ph (714) 953-4289

Olive Crest Building  
2130 E. Fourth St. Ste. 160  
Santa Ana, CA 92705

*This letter has been sent to all members of the California Coastal Commission and its staff*

August 13, 2009

Ms. Bonnie Neely  
Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105

Dear Chairwoman Neely:

Fresh water is our lifeblood and the lifeblood of California's business community. Orange County's economic success is intrinsically tied to the strength of our infrastructure – including the availability of locally-controlled, drought-proof drinking water.

Poseidon Resources' Huntington Beach Desalination Project will purify 50 million gallons of drinking water per day for use by 300,000 Orange County residents. The project will be built without the use of taxpayer dollars and can provide a new water source that reduces Orange County's dependence on the Delta.

Every permitting agency that has reviewed the project has approved it after determining that the desalination plant will not have any significant impacts.

The construction of this facility will create more than 2,000 much-needed jobs and once completed, this facility will provide enough drinking water to meet 8% of Orange County's water needs.

For these reasons, the Orange County Hispanic Chamber of Commerce is pleased to offer its strong support and endorsement of Poseidon Resources' Huntington Beach Seawater Desalination Facility.

We urge you to join us and Orange County's elected officials in supporting this project when it comes before the State Lands Commission.

Sincerely,

Priscilla Lopez  
President & CEO  
Orange County Hispanic Chamber of Commerce



ORANGE COUNTY HISPANIC CHAMBER OF COMMERCE

info@hcoc.org | Olive Crest Building  
Fx (714) 953-0273 | 2130 E. Fourth St. Ste. 160  
Ph (714) 953-4289 | Santa Ana, CA 92705

CC:

State Lands Commissioner John Chiang  
State Lands Commissioner Michael C. Genest  
Mr. Paul D. Thayer  
Governor Arnold Schwarzenegger  
Assembly Speaker Karen Bass  
Senate President Pro Tem Darrel Steinberg  
U.S. Congressional Representative Ed Royce  
U.S. Congressional Representative Gary Miller  
U.S. Congressional Representative Ken Calvert  
U.S. Congressional Representative Dana Rohrabacher  
U.S. Congressional Representative Loretta Sanchez  
U.S. Congressional Representative John Campbell  
State Senator Robert Huff  
State Senator Tom Harman  
State Senator Mark Wyland  
State Senator Mimi Walters  
State Senator Lou Correa  
State Assemblyman Jim Silva  
State Assemblyman Van Tran  
State Assemblyman Jose Solorio  
State Assemblyman Chuck Devore  
State Assemblyman Curt Hagman  
State Assemblyman Jeff Miller  
State Assemblyman Mike Duvall  
State Assemblywoman Diane Harkey  
State Assemblyman Tony Mendoza  
Orange County Chair Patricia Bates  
Orange County Vice Chair Janet Nguyen  
Orange County Supervisor John Moorlach  
Orange County Supervisor Bill Campbell  
Orange County Supervisor Chris Norby  
HB Mayor Keith Bohr  
HB Mayor Pro Tem Cathy Green  
HB City Councilman Gil Coerper  
HB City Councilman Don Hansen  
HB City Councilman Joe Carchio  
HB City Councilman Devin Dwyer  
Mr. Kevin Hunt  
Ms. Katie Coates-Ageson  
Mr. Brian Lochrie  
Mr. Scott Maloni

www.hcoc.org



Page 1 of 1

May 1, 2009

Bonnie Neely  
Chair, California Coastal Commission  
45 Fremont Street  
Suite 2000  
San Francisco, CA 94105-2219

Subject: Poseidon Resources Coastal Development Permit - Huntington Beach, CA

Dear Madam Chair Neely:

The Orange County Association of REALTORS® supports the proposed Huntington Beach Seawater Desalination Facility.

Governor Schwarzenegger's declaration of a statewide water emergency reminds all of us, especially those of us living in southern California, that procuring new sources of drinking water is a critical issue. Our communities rely on it. Our economy depends on it. And we cannot maintain the wonderful quality of life we enjoy without it.

We have reviewed the proposed facility in Huntington Beach and believe that it merits your support. We, therefore, urge you to proceed with granting the requisite Coastal Development Permit to Poseidon Resources.

Sincerely,

Mary Jane Cambria, President  
CRS, GRI, LTG, e-Pro  
CIPS, PMN, SRES

Laguna Hills Office:  
25552 La Paz Road  
Laguna Hills, CA 92653  
949-586-6800  
fax 949-586-0382  
www.ocar.org

Huntington Beach Office:  
8071 Slater Avenue, Ste. 240  
Huntington Beach, CA 92647  
714-375-9313  
fax 714-375-9322  
www.ocar.org

cc:  
Vice Chair Dr. William A. Burke  
Commissioner Ben Hueso  
Commissioner Steve Blank  
Commissioner Steve Kram  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
Commissioner Patrick Kruer  
Commissioner Dave Potter

Commissioner James Wickett  
Commissioner April Vargas  
Commissioner Dan Secord  
Commissioner Adi Liberman  
Commissioner Sharon Wright  
Commissioner Steve Kinsey  
Commissioner Brooks Firestone  
Commissioner Suja Lowenthal  
Commissioner Deborah Schoenbaum  
Commissioner Mike Chrisman  
Commissioner Karen Scarborough  
Commissioner Paul Thayer



Orange County  
Taxpayers Association

30205 Hillside Terrace, San Juan Capistrano CA 92675-1542  
phone (949) 240-6226 • fax (949) 240-0304 • www.octax.org

This letter has been sent to all members of the Coastal Commission and staff.

March 2, 2009

Chairwoman Bonnie Neely  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Dear Chairwoman Neely,

Almost three years ago the Huntington Beach Desalination facility applied to the Coastal Commission staff for a Coastal Development Permit. During this delay, Orange County has seen a reduction in its imported water supply and an increase in water rates. Given the enormous need for the desalination facility, the many environmental reviews, and Governor Schwarzenegger's declaration of a state of water emergency, it is unconscionable that this project has not been heard by the Commission.

The Orange County Taxpayers Association (OCTax) believes that the proposed facility will be good for the coastal environment and good for taxpayers.

- OCTax favors private solutions to public needs. Poseidon, not taxpayers, will assume all financial risks of construction and operation.
- OCTax favors fee-based services, by which users of a service pay in proportion to their amount of usage. Water ratepayers, not taxpayers, will pay for the water produced by the facility.
- The facility will pay \$2.45 million per year in property, sales, and utility taxes which will help pay for public services such as schools, firefighters, healthcare, and transportation.
- The facility will produce 50 million gallons of water per day, which will help protect Huntington Beach and Orange County from drought and other disruptions to our water supply.

This project's application has met all Coastal Act requirements. It should be deemed complete. It is time for the Commission to consider this project. Please approve it.

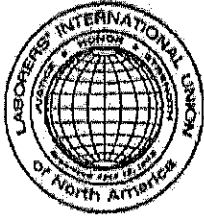
Sincerely,

Reed L. Royalty  
President, Orange County Taxpayers Association

CC:

Chairwoman Bonnie Neely  
Vice Chairman Dr. William A. Burke  
Commissioner Ben Hueso  
Commissioner Steve Blank  
Commissioner Steve Kram  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
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Commissioner Deborah Schoenbaum  
Commissioner Mike Chrisman  
Commissioner Karen Scarborough  
Commissioner Paul Thayer  
Mr. Tom Luster  
Governor Arnold Schwarzenegger  
Speaker Karen Bass  
Senate President Pro Tem Darrell Steinberg  
U.S. Congressional Representative  
Ed Royce  
U.S. Congressional Representative  
Gary Miller  
U.S. Congressional Representative  
Ken Calvert  
U.S. Congressional Representative  
Dana Rohrabacher  
U.S. Congressional Representative  
Loretta Sanchez  
U.S. Congressional Representative  
John Campbell  
State Senator Robert Huff  
State Senator Tom Harman  
State Senator Mark Wyland

State Senator Mimi Walters  
State Senator Lou Correa  
State Assemblyman Jim Silva  
State Assemblyman Van Tran  
State Assemblyman Jose Solorio  
State Assemblyman Chuck Devore  
State Assemblyman Curt Hagman  
State Assemblyman Jeff Miller  
State Assemblyman Mike Duvall  
State Assemblywoman Diane Harkey  
State Assemblyman Tony Mendoza  
OC Supervisor John Moorlach  
OC Supervisor Patricia Bates  
OC Supervisor Janet Nguyen  
OC Supervisor Bill Campbell  
OC Supervisor Chris Norby  
HB Mayor Keith Bohr  
HB City Councilman Gill Coerper  
HB City Councilman Don Hansen  
HB City Councilman Joe Carchio  
HB City Councilwoman Cathy Green  
Ms. Whitney Radcliff



**LABORERS' INTERNATIONAL UNION of NORTH AMERICA**  
**Local Union No. 652**  
**AFL-CIO**

1532 EAST CHESTNUT STREET  
SANTA ANA, CALIFORNIA 92701  
TELEPHONE (714) 542-7203  
INSURANCE (714) 542-5684  
FAX (714) 542-3724

April 23, 2007

Chairman Pat Krueger  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, California 94105

Coastal Commission staff has received a copy of the enclosed communication

RE: Coastal Development Permit Application # E-06-007  
Huntington Beach Seawater Desalination Project

Dear Chairman Pat Krueger:

Laborers Union Local 652 represents the members living in the Orange County area including Huntington Beach. On behalf of those members and their families, we strongly recommend that the California Coastal Commission support the construction of the Huntington Beach Water Desalination Facility by Poseidon Resources Corporation.

Not only is our Naturally-arid Southern California region in dire need of an alternative source of clean drinking water, this project is important because it will create fair-paying, stable jobs for our residents.

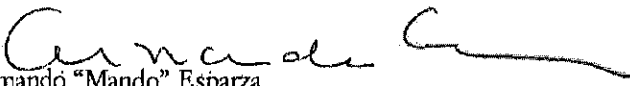
Our Union's main concern is to help the workers build better lives and futures for their families, and this project will fulfill part of the goal by bring in new employment opportunities to the Huntington Beach area.

Whether it is through construction of the buildings or maintenance and operation of the facility, men and women will have the opportunity to achieve their American Dream of working hard and supporting their families.

Although we are concerned about creating jobs, we are equally concerned about not damaging our environment. We can say with full confidence that this project has passed strict scientific scrutiny that confirms it is not harmful to the environment.

Enabling citizens to attain their goals and keep their environment safe should be top priorities, and that is why I am urging the Commission to consider this proposal.

Sincerely,

  
Armando "Mando" Esparza  
Business Manager  
Laborers Union Local 652

CC: Please see next page.



cc:

Chairman Pat Kruer	Senator Mark Wyland
Commissioner Steve Blank	Senator Christine Kehoe
Commissioner Steve Kram	Senator Denise Ducheny
Vice Chairwoman Bonnie Neely	Senator Bob Margett
Commissioner Khatchik Achadjian	Senator Dick Ackerman
Commissioner Sara Wan	Senator Tom Harman
Commissioner Mary Shallenberger	Assemblymember George Plescia
Commissioner Mike Reilly	Assemblymember Kevin Jeffries
Commissioner Larry Clark	Assemblymember Mimi Walters
Commissioner William Burke	Assemblymember Martin Garrick
Commissioner Dave Potter	Assemblymember Lori Saldana
Commissioner Judy Biviano Lloyd	Assemblymember Joel Anderson
Commissioner April Vargas	Assemblymember Shirley Horton
Commissioner Dan Secord	Assemblymember Mary Salas
Commissioner Adi Liberman	Assemblymember Bob Huff
Commissioner Sharon Wright	Assemblymember Jim Silva
Commissioner Steve Kinsey	Assemblymember Van Tran
Commissioner Brooks Firestone	Assemblymember Chuck DeVore
Commissioner Trent Orr	Assemblymember Todd Spitzer
Mr. Peter Douglas	Assemblymember Mike Duvall
Mr. Tom Luster	Commissioner John Garamendi
Governor Arnold Schwarzenegger	Commissioner John Chiang
Speaker Fabian Nunez	Commissioner Michael Genest
Senate President Pro Tem Don Perata	Commissioner Cindy Aronberg
Secretary Mike Chrisman	Commissioner Anne Sheehan
Mr. Barry Sedlik	Mr. Paul Thayer
Director Lester Snow	Ms. Barbara Dugal
Senator Dennis Hollingsworth	Ms. Judy Brown
Senator Jim Battin	Ms. Jessica Jones

# BRICKLAYERS & ALLIED CRAFTWORKERS

LOCAL NO. 4



SERVING CALIFORNIA

(626) 573-0032 • TOLL FREE 1-800 972-3338 • FAX (626) 573-5607

April 18, 2007

Ms. Jessica Jones  
Poseidon Resources Corporation  
501 W. Broadway, #1280  
San Diego, CA 92101

**Coastal Commission staff has received a copy of the enclosed communication**

Re: Coastal Development Permit Application #E-06-2007  
Huntington Beach Seawater Desalination Project

Dear Ms. Jones:

BAC Local Union No. 4 represents Union members living in the Orange County area including Huntington Beach. On behalf of those members and their families, we strongly recommend that the California Coastal Commission support the construction of the Huntington Beach Water Desalination Facility by Poseidon Resources Corporation.

Not only is our naturally-arid Southern California region in dire need of an alternative source of clean drinking water, this project is important because it will create fair-paying, stable jobs for our residents.

Our unions' main concern is to help workers build better lives and futures for their families, and this project will fulfill part of that goal by brining in new employment opportunities to the Huntington Beach area.

Whether it is through construction of the buildings or maintenance and operation of the facility, men and women will have the opportunity to achieve their American Dream of working hard and supporting their families.

Although we are concerning about creating jobs, we are equally concerned about not damaging our environment. We can say with full confidence that this project has passed strict scientific scrutiny that confirms it is not harmful to our environment.

Enabling citizens to attain their goals and keep their environment safe should be top priorities, and that is why I am urging the Commission to consider this proposal.

Sincerely,

Richard Whitney  
President/Secretary-Treasurer

CC:

Chairman Pat Kruer	Senator Mark Wyland
Commissioner Steve Blank	Senator Christine Kehoe
Commissioner Steve Kram	Senator Denise Ducheny
Vice Chairwoman Bonnie Neely	Senator Bob Margett
Commissioner Khatchik Achadjian	Senator Dick Ackerman
Commissioner Sara Wan	Senator Tom Harman
Commissioner Mary Shallenberger	Assemblymember George Plescia
Commissioner Mike Reilly	Assemblymember Kevin Jeffries
Commissioner Larry Clark	Assemblymember Mimi Walters
Commissioner William Burke	Assemblymember Martin Garrick
Commissioner Dave Potter	Assemblymember Lori Saldana
Commissioner Judy Biviano Lloyd	Assemblymember Joel Anderson
Commissioner April Vargas	Assemblymember Shirley Horton
Commissioner Dan Secord	Assemblymember Mary Salas
Commissioner Adi Liberman	Assemblymember Bob Huff
Commissioner Sharon Wright	Assemblymember Jim Silva
Commissioner Steve Kinsey	Assemblymember Van Tran
Commissioner Brooks Firestone	Assemblymember Chuck DeVore
Commissioner Trent Orr	Assemblymember Todd Spitzer
Mr. Peter Douglas	Assemblymember Mike Duvall
Mr. Tom Luster	Commissioner John Garamendi
Governor Arnold Schwarzenegger	Commissioner John Chiang
Speaker Fabian Nunez	Commissioner Michael Genest
Senate President Pro Tem Don Perata	Commissioner Cindy Aronberg
Secretary Mike Chrisman	Commissioner Anne Sheehan
Mr. Barry Sedlik	Mr. Paul Thayer
Director Lester Snow	Ms. Barbara Dugal
Senator Dennis Hollingsworth	Ms. Judy Brown
Senator Jim Battin	Ms. Jessica Jones

*International Brotherhood of*  
**BOILERMAKERS • IRON SHIP BUILDERS**

EDWARD J. MARQUEZ  
Business Manager/Secretary Treasurer



*Local Lodge 92*  
**BLACKSMITHS • FORGERS & HELPERS**

EDWIN R. RICHARDS  
President  
Business Representative

2260 South Riverside Avenue • Bloomington, California 92316 • (909) 877-9382 • Fax (909) 877-8318

April 13, 2007

Chairman Pat Kruer  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

**Coastal Commission staff has received a copy of the enclosed communication**

Re: Coastal Development Permit Application #E-06-007  
Huntington Beach Seawater Desalination Project

Dear Chairman Kruer:

Boilermakers Local Lodge 92 represents Union members living in the Orange County area including Huntington Beach. On behalf of those members and their families, we strongly recommend that the California Coastal Commission support the construction of the Huntington Beach Water Desalination Facility by Poseidon Resources Corporation.

Not only is our naturally-arid Southern California region in dire need of an alternative source of clean drinking water, this project is important because it will create fair-paying, stable jobs for our residents.

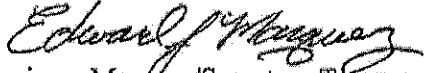
Our union's main concern is to help workers build better lives and futures for their families, and this project will fulfill part of that goal by bringing in new employment opportunities to the Huntington Beach area.

Whether it is through construction of the buildings or maintenance and operation of the facility, men and women will have the opportunity to achieve their American Dream of working hard and supporting their families.

Although we are concerned about creating jobs, we are equally concerned about not damaging our environment. We can say with full confidence that this project has passed strict scientific scrutiny that confirms it is not harmful to our environment.

Enabling citizens to attain their goals and keep their environment safe should be top priorities, and that is why I am urging the Commission to consider this proposal.

Sincerely,



Business Manager/Secretary Treasurer

cc:

Chairman Pat Kruer  
Commissioner Steve Blank  
Commissioner Steve Kram  
Vice Chairwoman Bonnie Neely  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
Commissioner William Burke  
Commissioner Dave Potter  
Commissioner Judy Biviano Lloyd  
Commissioner April Vargas  
Commissioner Dan Secord  
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Commissioner Sharon Wright  
Commissioner Steve Kinsey  
Commissioner Brooks Firestone  
Commissioner Trent Orr  
Mr. Peter Douglas  
Mr. Tom Luster  
Governor Arnold Schwarzenegger  
Speaker Fabian Nunez  
Senate President Pro Tem Don Perata  
Secretary Mike Chrisman  
Mr. Barry Sedlik  
Director Lester Snow  
Senator Dennis Hollingsworth  
Senator Jim Battin

Senator Mark Wyland  
Senator Christine Kehoe  
Senator Denise Ducheny  
Senator Bob Margett  
Senator Dick Ackerman  
Senator Tom Harman  
Assemblymember George Plescia  
Assemblymember Kevin Jeffries  
Assemblymember Mimi Walters  
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Assemblymember Jim Silva  
Assemblymember Van Tran  
Assemblymember Chuck DeVore  
Assemblymember Todd Spitzer  
Assemblymember Mike Duvall  
Commissioner John Garamendi  
Commissioner John Chiang  
Commissioner Michael Genest  
Commissioner Cindy Aronberg  
Commissioner Anne Sheehan  
Mr. Paul Thayer  
Ms. Barbara Dugal  
Ms. Judy Brown  
Ms. Jessica Jones



# *Southern California District Council 16*

**SID C. STOLPER**

Business Manager  
UNITED ASSOCIATION, Vice President, District 5  
California, Colorado, Arizona, Utah, Oregon, Nevada,  
Washington, Idaho, New Mexico, Hawaii and Alaska

April 12, 2007

Chairman Pat Kruer  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Coastal Commission staff has received a copy of the enclosed communication

Re: Coastal Development Permit Application #E-06-007  
Huntington Beach Seawater Desalination Project

Dear Chairman Kruer:

District Council 16 represents Union members living in the Orange County area including Huntington Beach. On behalf of those members and their families, we strongly recommend that the California Coastal Commission support the construction of the Huntington Beach Water Desalination Facility by Poseidon Resources Corporation.

Not only is our naturally-arid Southern California region in dire need of an alternative source of clean drinking water, this project is important because it will create fair-paying, stable jobs for our residents.

Our union's main concern is to help workers build better lives and futures for their families, and this project will fulfill part of that goal by bringing in new employment opportunities to the Huntington Beach area.

Whether it is through construction of the buildings or maintenance and operation of the facility, men and women will have the opportunity to achieve their American Dream of working hard and supporting their families.

Although we are concerned about creating jobs, we are equally concerned about not damaging our environment. We can say with full confidence that this project has passed strict scientific scrutiny that confirms it is not harmful to our environment.

Enabling citizens to attain their goals and keep their environment safe should be top priorities, and that is why I am urging the Commission to consider this proposal.

Sincerely,

Sid C. Stolper  
Business Manager  
Financial Secretary-Treasurer

cc: Please see next page

501 Shatto Place - Suite 400 - Los Angeles, CA 90020 - (213) 487-4262 - FAX (213) 384-5619

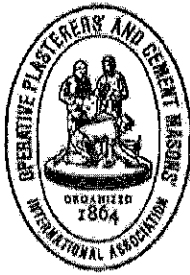
United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada  
Printed on Recycled Paper

AFL-CIO

010000000000

cc:

Chairman Pat Kruer	Senator Mark Wyland
Commissioner Steve Blank	Senator Christine Kehoe
Commissioner Steve Kram	Senator Denise Ducheny
Vice Chairwoman Bonnie Neely	Senator Bob Margett
Commissioner Khatchik Achadjian	Senator Dick Ackerman
Commissioner Sara Wan	Senator Tom Harman
Commissioner Mary Shallenberger	Assemblymember George Plescia
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Governor Arnold Schwarzenegger	Commissioner John Chiang
Speaker Fabian Nunez	Commissioner Michael Genest
Senate President Pro Tem Don Perata	Commissioner Cindy Aronberg
Secretary Mike Chrisman	Commissioner Anne Sheehan
Mr. Barry Sedlik	Mr. Paul Thayer
Director Lester Snow	Ms. Barbara Dugal
Senator Dennis Hollingsworth	Ms. Judy Brown
Senator Jim Battin	Ms. Jessica Jones



## **PLASTERERS' LOCAL NO. 200**

*Operative Plasterers', Cement Masons' and Shop Hands' International Association, AFL-CIO*

Chairman Pat Kruer  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

April 12, 2007

**Coastal Commission staff has received a copy of the enclosed communication**

**Re: Coastal Development Permit Application #E-06-007  
Huntington Beach Seawater Desalination Project**

Dear Chairman Kruer:

Plasterers' Local #200 represents Union members living in the Orange County area including Huntington Beach. On behalf of those members and their families, we strongly recommend that the California Coastal Commission support the construction of the Huntington Beach Water Desalination Facility by Poseidon Resources Corporation.

Not only is our naturally-arid Southern California region in dire need of an alternative source of clean drinking water, this project is important because it will create fair-paying, stable jobs for our residents.

Our union's main concern is to help workers build better lives and futures for their families, and this project will fulfill part of that goal by bringing in new employment opportunities to the Huntington Beach area.

Whether it is through construction of the buildings or maintenance and operation of the facility, men and women will have the opportunity to achieve their American Dream of working hard and supporting their families.

Although we are concerned about creating jobs, we are equally concerned about not damaging our environment. We can say with full confidence that this project has passed strict scientific scrutiny that confirms it is not harmful to our environment.

Enabling citizens to attain their goals and keep their environment safe should be top priorities, and that is why I am urging the Commission to consider this proposal.

Sincerely,

*Robert L. Pullen, Jr.*  
Robert L. Pullen, Jr.

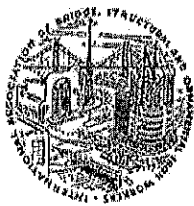
**Business Manager**  
Plasterers' Local #200

cc: Please see next page



cc:

Chairman Pat Kruer	Senator Mark Wyland
Commissioner Steve Blank	Senator Christine Kehoe
Commissioner Steve Kram	Senator Denise Ducheny
Vice Chairwoman Bonnie Neely	Senator Bob Margett
Commissioner Khatchik Achadjian	Senator Dick Ackerman
Commissioner Sara Wan	Senator Tom Harman
Commissioner Mary Shallenberger	Assemblymember George Plescia
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Speaker Fabian Nunez	Commissioner Michael Genest
Senate President Pro Tem Don Perata	Commissioner Cindy Aronberg
Secretary Mike Chrisman	Commissioner Anne Sheehan
Mr. Barry Sedlik	Mr. Paul Thayer
Director Lester Snow	Ms. Barbara Dugal
Senator Dennis Hollingsworth	Ms. Judy Brown
Senator Jim Battin	Ms. Jessica Jones



# Ironworkers Local 433

International Association of Bridge, Structural &  
Ornamental Iron Workers A.F.L.-C.I.O.

17495 HURLEY STREET EAST

CITY OF INDUSTRY, CALIFORNIA 91744

TELEPHONE (626) 964-2500

FAX (626) 964-1919

[doug@ironworkers433.org](mailto:doug@ironworkers433.org)

April 12, 2007

**DOUGLAS WILLIAMS**  
Financial Secretary-Treasurer  
Business Manager

Chairman Pat Kruer  
California Coastal Commission  
45 Fremont St, Suite 2000  
San Francisco, CA 94105

**Coastal Commission staff has received a copy of the enclosed communication**

Re: Coastal Development Permit Application #E-06-007  
Huntington Beach Seawater Desalination Project

Dear Chairman Kruer:

Ironworkers Local 433 represents Union members living in the Orange County area including Huntington Beach. On behalf of those members and their families, we strongly recommend that the California Coastal Commission support the construction of the Huntington Beach Water Desalination Facility by Poseidon Resources Corporation.

Not only is our naturally-arid Southern California region in dire need of an alternative source of clean drinking water, this project is important because it will create fair-paying, stable jobs for our residents.

Our union's main concern is to help workers build better lives and futures for their families, and this project will fulfill part of that goal by bringing in new employment opportunities to the Huntington Beach area.

Whether it is through construction of the buildings or maintenance and operation of the facility, men and women will have the opportunity to achieve their American Dream of working hard and supporting their families.

Although we are concerned about creating jobs, we are equally concerned about not damaging our environment. We can say with confidence that this project has passed strict scientific scrutiny that confirms it is not harmful to our environment.

Enabling citizens to attain their goals and keep their environment safe should be top priorities, and that is why I am urging the Commission to consider this proposal.

Sincerely,

Douglas Williams  
Business Manager  
Local 433

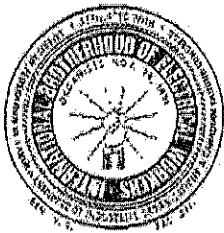
DW:mcu

cc: Please see next page

Page 2  
April 12, 2007  
Coastal Development Permit Application #E-06-007  
Huntington Beach Seawater Desalination Project

Senator Mark Wyland  
Commissioner Steve Kram  
Vice Chairwoman Bonnie Neely  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
Commissioner William Burke  
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Mr. Peter Douglas  
Mr. Tom Luster  
Governor Arnold Schwarzenegger  
Speaker Fabian Nunez  
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Secretary Mike Chrisman  
Mr. Barry Sedlik  
Director Lester Snow  
Senator Dennis Hollingsworth  
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Commissioner Steve Blank  
Senator Denise Ducheny  
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Senator Dick Ackerman  
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Commissioner Michael Genest  
Commissioner Cindy Aronberg  
Commissioner Anne Sheehan  
Mr. Paul Thayer  
Ms. Barbara Dugal  
Ms. Judy Brown  
Ms. Jessica Jones  
Senator Christine Kehoe



*International  
Brotherhood of  
Electrical  
Workers*

**Local Union 441**

309 N. Rampart  
Suite M  
Orange, CA 92668-1855

(714) 939-3131  
(714) 939-3132 FAX  
[www.ibew441.org](http://www.ibew441.org)

**Douglas M. Chappell**  
Business Manager

*Affiliated with:*

Los Angeles/ Orange Counties  
Building and Construction  
Trades Council

State Building and Construction  
Trade Council of California

California State Association of  
Electrical Workers

Joint Executive Conference,  
Southern California Electrical  
Workers

California Labor Federation

American Federation of Labor

Congress of Industrial  
Organizations

Central Labor Council of  
Orange County

April 12, 2007

Ms. Jessica Jones  
Poseidon Resources Corporation  
501 W. Broadway #1260  
San Diego, CA 92101

Re: Coastal Development Permit Application #E-06-007  
Huntington Beach Seawater Desalination Project

Dear Ms. Jones:

IBEW Local Union 441 represents Union members living in the Orange County area including Huntington Beach. On behalf of those members and their families, we strongly recommend that the California Coastal Commission support the construction of the Huntington Beach Water Desalination Facility by Poseidon Resources Corporation.

Not only is our naturally-arid Southern California region in dire need of an alternative source of clean drinking water, this project is important because it will create fair-paying, stable jobs for our residents.

Our union's main concern is to help workers build better lives and futures for their families, and this project will fulfill part of that goal by bringing in new employment opportunities to the Huntington Beach area.

Whether it is through construction of the buildings or maintenance and operation of the facility, men and women will have the opportunity to achieve their American Dream of working hard and supporting their families.

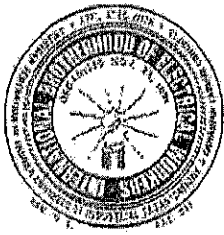
Although we are concerned about creating jobs, we are equally concerned about not damaging our environment. We can say with full confidence that this project has passed strict scientific scrutiny that confirms it is not harmful to our environment.

Enabling citizens to attain their goals and keep their environment safe should be top priorities, and that is why I am urging the Commission to consider this proposal.

Sincerely,

Douglas M. Chappell  
Business Manager

cc: Please see next page



## *International Brotherhood of Electrical Workers*

### **Local Union 441**

309 N. Rampart  
Suite M  
Orange, CA 92868-1855

(714) 939-3131  
(714) 939-3132 FAX  
[www.ibew441.org](http://www.ibew441.org)

**Douglas M. Chappell**  
Business Manager

#### *Affiliated with:*

*Los Angeles/ Orange Counties  
Building and Construction  
Trades Council*

*State Building and Construction  
Trade Council of California*

*California State Association of  
Electrical Workers*

*Joint Executive Conference,  
Southern California Electrical  
Workers*

*California Labor Federation*

*American Federation of Labor*

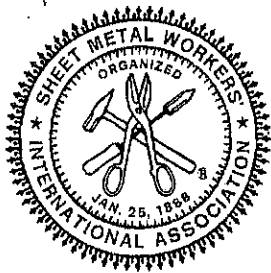
*Congress of Industrial  
Organizations*

*Central Labor Council of  
Orange County*

00:

Chairman Pat Kruer  
Commissioner Steve Blank  
Commissioner Steve Kram  
Vice Chairwoman Bonnie Neely  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
Commissioner William Burke  
Commissioner Dave Potter  
Commissioner Judy Biviano Lloyd  
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Commissioner Adi Liberman  
Commissioner Sharon Wright  
Commissioner Steve Kinsey  
Commissioner Brooks Firestone  
Commissioner Trent Orr  
Mr. Peter Douglas  
Mr. Tom Luster  
Governor Arnold Schwarzenegger  
Speaker Fabian Nunez  
Senate President Pro Tem Don Perata  
Secretary Mike Chrisman  
Mr. Barry Sedlik  
Director Lester Snow  
Senator Dennis Hollingsworth  
Senator Jim Battin

Senator Mark Wyland  
Senator Christine Kehoe  
Senator Denise Ducheny  
Senator Bob Margett  
Senator Dick Ackerman  
Senator Tom Harmon  
Assemblymember George Plescia  
Assemblymember Kevin Jeffries  
Assemblymember Mimi Walters  
Assemblymember Martin Garrick  
Assemblymember Lori Saldana  
Assemblymember Joel Anderson  
Assemblymember Shirley Horton  
Assemblymember Mary Salas  
Assemblymember Bob Huff  
Assemblymember Jim Silva  
Assemblymember Van Tran  
Assemblymember Chuck DeVore  
Assemblymember Todd Spitzer  
Assemblymember Mike Duvall  
Commissioner John Garamendi  
Commissioner John Chiang  
Commissioner Michael Genest  
Commissioner Cindy Aronberg  
Commissioner Anne Sheehan  
Mr. Paul Thayer  
Ms. Barbara Dugal  
Ms. Judy Brown  
Ms. Jessica Jones



Sheet Metal Workers' International Association

## Local Union 105

2120 Auto Centre Drive • Glendora, CA 91740 • (909) 305-2800 • FAX (909) 305-2822  
Website: [www.local105.org](http://www.local105.org) • E-Mail: [smwia@local105.org](mailto:smwia@local105.org)

**Roy A. Ringwood**  
Business Manager/  
President

**Mario V. Teran**  
Financial  
Secretary-Treasurer/  
Recording Secretary

**Bradley J. Rooker**  
Vice President/  
Business Representative

**Business  
Representatives**

**Francisco Magaña**

**Richard Marquez**

**Luther Medina**

**Eddie Montes**

**James Odom**

**Michael Pelliccino**

**David Shaver**

**Bakersfield Office**

**Ken Rooker**  
Business Representative

601 Eureka Street  
Bakersfield, CA 93305

(661) 323-4461  
FAX: (661) 323-3286

April 12, 2007

Chairman Pat Kruer  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

**Coastal Commission staff has received a copy of the enclosed communication**

Re: Coastal Development Permit Application #E-06-007  
Huntington Beach Seawater Desalination Project

Dear Chairman Kruer:

Sheet Metal Workers' Local Union 105 represents union members living in the Orange County area including Huntington Beach. On behalf of those members and their families, we strongly recommend that the California Coastal Commission support the construction of the Huntington Beach Water Desalination Facility by Poseidon Resources Corporation.

Not only is our naturally arid Southern California region in dire need of an alternative source of clean drinking water, this project is important because it will create fair paying, stable jobs for our residents.

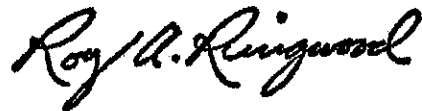
Our union's main concern is to help workers build better lives and futures for their families, and this project will fulfill part of that goal by bringing new employment opportunities to the Huntington Beach area.

Whether it is through construction of the buildings or maintenance and operation of the facility, men and women will have the opportunity to achieve the American dream of working hard and supporting their families.

Although we are concerned about creating jobs, we are equally concerned about not damaging our environment. We can say with full confidence that this project has passed strict scientific scrutiny that confirms it is not harmful to our environment.

Enabling citizens to attain their goals and keep their environment safe should be top priorities, and that is why I am urging the Commission to consider this proposal.

Sincerely,

A handwritten signature in black ink, reading "Roy A. Ringwood". The signature is written in a cursive, flowing style with a large initial "R".

Roy A. Ringwood  
Business Manager/President

cc: Per attached

RAR,imb/Ca,Coastal.Commission,Kruer  
opeiu 537/afl-cio-clc

**SOUTHERN CALIFORNIA DISTRICT COUNCIL  
OF  
LABORERS**

**AFFILIATED WITH**  
**LABORERS' INTERNATIONAL UNION OF NORTH AMERICA, AFL-CIO**

4389 SANTA ANITA AVENUE, SUITE 204  
EL MONTE, CALIFORNIA 91731  
TELEPHONE (626) 360-8900



**ARMANDO ESPARZA**  
PRESIDENT

**TONY R. HOFFMAN**  
SECRETARY-TREASURER

**MIKE QUEVEDO, JR.**  
BUSINESS MANAGER

April 12, 2007

**AFFILIATED  
LOCALS**

**BURBANK**  
LOCAL 345

**KERN COUNTY**  
**SAN LUIS OBISPO COUNTY**  
**SANTA BARBARA COUNTY**  
LOCAL 220

**HOLLYWOOD**  
LOCAL 724

**LONG BEACH**  
LOCAL 307

**LOS ANGELES**  
LOCAL 300

**ORANGE COUNTY**  
LOCAL 652

**POMONA**  
LOCAL 1414

**RIVERSIDE-IMPERIAL  
COUNTIES**  
LOCAL 1184

**SAN BERNARDINO**  
**INYO-MONO COUNTIES**  
LOCAL 783

**SAN DIEGO**  
LOCAL 89

**VENTURA**  
LOCAL 585

**WILMINGTON**  
LOCAL 802

WEBSITE: SCDCL.ORG



Chairman Pat Kruer  
California Coastal Commission  
45 Fremont St., Ste 2000  
San Francisco, CA 94105

Re: Coastal Development Permit Application #E-06-007  
Huntington Beach Seawater Desalination Project

Dear Chairman Kruer:

The Southern California District Council of Laborers and its affiliated Local #652 represent Union members living in the Orange County area including Huntington Beach. On behalf of those members and their families, we strongly recommend that the California Coastal Commission support the construction of the Huntington Beach Water Desalination Facility by Poseidon Resources Corporation.

Not only is our naturally-arid Southern California region in dire need of an alternative source of clean drinking water, this project is important because it will create fair-paying, stable jobs for our residents.

Our Union's main concern is to help workers build better lives and futures for their families, and this project will fulfill part of that goal by bringing in new employment opportunities to the Huntington Beach area.

Whether it is through construction of the buildings or maintenance and operation of the facility, men and women will have the opportunity to achieve their American Dream of working hard and supporting their families. .

Although we are concerned about creating jobs, we are equally concerned about not damaging our environment. We can say with full confidence that this project has passed strict scientific scrutiny that confirms it is not harmful to our environment.




Chairman Pat Kruer  
April 12, 2007

Page 2

Enabling citizens to attain their goals and keep their environment safe should be top priorities, and that is why I am urging the Commission to consider this proposal.

Very truly yours,



MIKE OMEVEDO, JR.  
Business Manager

cc:

Commissioner Steve Blank	Senator Mark Wyland
Commissioner Steve Kram	Senator Christine Kehoe
Vice Chairwoman Bonnie Neely	Senator Denise Ducheny
Commissioner Khatchik Achadjian	Senator Bob Margett
Commissioner Sara Wan	Senator Dick Ackerman
Commissioner Mary Shallenberger	Senator Tom Harman
Commissioner Mike Reilly	Assemblymember George Plescia
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Commissioner Steve Kinsey	Assemblymember Jim Silva
Commissioner Brooks Firestone	Assemblymember Van Tran
Commissioner Trent Orr	Assemblymember Chuck DeVore
Mr. Peter Douglas	Assemblymember Todd Spitzer
Mr. Tom Luster	Assemblymember Mike Duvall
Governor Arnold Schwarzenegger	Commissioner John Garamendi
Speaker Fabian Nunez	Commissioner John Chiang
Senate President Pro Tem Don Perata	Commissioner Michael Genest
Secretary Mike Chrisman	Commissioner Cindy Aronberg
Mr. Barry Sedlik	Commissioner Anne Sheehan
Director Lester Snow	Mr. Paul Thayer
Senator Dennis Hollingsworth	Ms. Barbara Dugal
Senator Jim Battin	Ms. Judy Brown
	Ms. Jessica Jones



## CEMENT MASONS LOCAL No. 500

O.P. & C.M.I.A. - A.F.L.-C.I.O.

1605 N. SUSAN STREET • SANTA ANA, CALIFORNIA 92703

OFFICE PHONE: (714) 554-0730 • FAX: (714) 265-0780

www.cementmasonslocal500.org

*Art Martinez, Jr.*  
Financial Secretary-Treasurer  
Business Manager



April 11, 2007

Pat Kruer, Chairman  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, California 94105

**Coastal Commission staff has received a copy of the enclosed communication**

Re: Coastal Development Permit Application # E-06-007  
Huntington Beach Seawater Desalination Project

Dear Chairman Kruer:

Cement Masons Local Union No. 500 represents Union members living in the Orange County area including Huntington Beach. On behalf of those members and their families, we strongly recommend that the California Coastal Commission support the construction of the Huntington Beach Water Desalination Facility by Poseidon Resources Corporation.

Not only is our naturally-arid Southern California region in dire need of an alternative source of clean drinking water, this project is important because it will create fair-paying, stable jobs for our residents.

Our union's main concern is to help workers build better lives and futures for their families, and this project will fulfill part of that goal by bringing in new employment opportunities to the Huntington Beach area.

Whether it is through construction of the buildings or maintenance and operation of the facility, men and women will have the opportunity to achieve their American Dream of working hard and supporting their families.

Although we are concerned about creating jobs, we are equally concerned about not damaging our environment. We can say with full confidence that this project has passed strict scientific scrutiny that confirms it is not harmful to our environment.

Enabling citizens to attain their goals and keep their environment safe should be top priorities, and that is why I am urging the Commission to consider this proposal.

Sincerely,

Art Martinez Jr., Financial Secretary  
Business Manager  
Cement Masons Local Union No. 500

AMjr:aa  
opeiu#537  
afl-cio



## UNITED ASSOCIATION

of Journeymen and Apprentices of the  
Plumbing and Pipe Fitting Industry of  
the United States and Canada

Founded 1889

Letters should  
be confined to  
one subject

UA Local Union: 582

Subject:

April 11, 2007

Glen J. Nolte

Business Agent in charge/Fin. Sec. Treasurer  
3904 W. First Street Santa Ana, Ca 92703  
Ph: (714) 775-5563 Fx: (714) 775-7976  
Email: local582@sbcglobal.net

William P. Hite  
General President

Patrick R. Perno  
General Secretary-Treasurer

Stephen F. Kelly  
Assistant General President

Chairman Pat Kruer  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, Ca 94105

**Costal Commission staff has received a copy of the enclosed communication**

Re: Coastal Development Permit Application #E-06-007  
Huntington Beach Seawater Desalination Project

Dear Chairman Kruer:

Plumbers & Steamfitters Local 582 represents Union members living in the Orange County area including Huntington Beach. On behalf of those members and their families, we strongly recommend that the California Coastal Commission support the construction of the Huntington Beach Water Desalination Facility by Poseidon Resources Corporation.

Not only is our naturally-arid Southern California region in dire need of an alternative source of clean drinking water, this project is important because it will create fair-paying, stable jobs for our residents.

Our union's main concern is to help workers build better lives and futures for their families, and this project will fulfill part of that goal by bringing in new employment opportunities to the Huntington Beach area.

Whether it is through construction of the buildings or maintenance and operation of the facility, men and women will have the opportunity to achieve their American Dream of working hard and supporting their families.

Although we are concerned about creating jobs, we are equally concerned about not damaging our environment. We can say with full confidence that this project has passed strict scientific scrutiny that confirms it is not harmful to our environment.

Enabling citizens to attain their goals and keep their environment safe should be top priorities, and that is why I am urging the Commission to consider this proposal.

Sincerely,

Glen J. Nolte  
Business Agent in charge

Please see next page



## UNITED ASSOCIATION

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Plumbing and Pipe Fitting Industry of  
the United States and Canada

Founded 1889

Letters should  
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CC:

UA Local Union: 582  
Subject:

Glen J. Nolte  
*Business Agent in charge/Fin. Sec. Treasurer*  
3904 W. First Street Santa Ana, Ca 92703  
Ph: (714) 775-5563 Fx: (714) 775-7976  
Email: local582@sbcglobal.net

William P. Hite  
*General President*

Patrick R. Perno  
*General Secretary-Treasurer*

Stephen F. Kelly  
*Assistant General President*

Chairman Pat Kruer  
Commissioner Steve Blank  
Commissioner Steve Kram  
Vice Chairwoman Bonnie Neely  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
Commissioner William Burke  
Commissioner Dave Potter  
Commissioner Judy Biviano Lloyd  
Commissioner April Vargas  
Commissioner Dan Secord  
Commissioner Adi Liberman  
Commissioner Sharon Wright  
Commissioner Steve Kinsey  
Commissioner Brooks Firestone  
Commissioner Trent Orr  
Mr. Peter Douglas  
Mr. Tom Luster  
Governor Arnold Schwarzenegger  
Speaker Fabian Nunez  
Senate President Pro Tem Don Perate  
Secretary Mike Christman  
Mr. Barry Sedlik  
Director Lester Show  
Senator Dennis Hollingsworth  
Senator Jim Battin

Senator Mark Wyland  
Senator Christine Kehoe  
Senator Denise Ducheny  
Senator Bob Margett  
Senator Dick Ackerman  
Senator Tom Harman  
Assembly member George Plescia  
Assembly member Kevin Jeffries  
Assembly member Mimi Walter  
Assembly member Martin Garrick  
Assembly member Lori Saldana  
Assembly member Joel Anderson  
Assembly member Shirley Horton  
Assembly member Mary Salas  
Assembly member Bob Huff  
Assembly member Jim Silva  
Assembly member Van Tran  
Assembly member Chuck DeVore  
Assembly member Todd Spitzer  
Assembly member Mike Duvall  
Commissioner John Garamendi  
Commissioner John Chiang  
Commissioner Michael Genest  
Commissioner Cindy Aronberg  
Commissioner Anne Sheehan  
Mr. Paul Thayer  
Ms. Barbara Dugal  
Ms. Judy Brown  
Ms. Jessica Jones



**RICHARD N. SLAWSON**  
Executive Secretary

## **Los Angeles / Orange Counties Building and Construction Trades Council**

*Affiliated with the Building & Construction Trades Dept., AFL-CIO*

1626 Beverly Boulevard  
Los Angeles, CA 90026-5784  
Phone (213) 483-4222  
(714) 827-6791  
Fax (213) 483-4419

April 9, 2007

Chairman Pat Kruer  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Coastal Commission staff has received a copy of the enclosed communication

Re: Coastal Development Permit Application #E-06-007  
Huntington Beach Seawater Desalination Project

Dear Chairman Kruer:

The Los Angeles/Orange Counties Building and Construction Trades Council represents affiliated Local Unions and Councils in the Construction Industry. On behalf of the (130,000) Craftmen and Women of those affiliated Local Unions/ Councils, we strongly recommend that the California Coastal Commission support the construction of the Huntington Beach Water Desalination Facility by Poseidon Resources Corporation.

Not only is our naturally-arid Southern California region in dire need of an alternative source of clean drinking water, this project is important because it will create fair-paying, stable jobs for our residents.


Our union's main concern is to help workers build better lives and futures for their families, and this project will fulfill part of that goal by bringing in new employment opportunities to the Huntington Beach area.

Whether it is through construction of the buildings or maintenance and operation of the facility, men and women will have the opportunity to achieve their American Dream of working hard and supporting their families.

Although we are concerned about creating jobs, we are equally concerned about not damaging our environment. We can say with full confidence that this project has passed strict scientific scrutiny that confirms it is not harmful to our environment.

Enabling citizens to attain their goals and keep their environment safe should be top priorities, and that is why I am urging the Commission to consider this proposal.

Sincerely,

  
Jim Adams  
Council Representative

cc: Please see next page

cc:

Chairman Pat Kruer	Senator Mark Wyland
Commissioner Steve Blank	Senator Christine Kehoe
Commissioner Steve Kram	Senator Denise Ducheny
Vice Chairwoman Bonnie Neely	Senator Bob Margett
Commissioner Khatchik Achadjian	Senator Dick Ackerman
Commissioner Sara Wan	Senator Tom Harman
Commissioner Mary Shallenberger	Assemblymember George Plescia
Commissioner Mike Reilly	Assemblymember Kevin Jeffries
Commissioner Larry Clark	Assemblymember Mimi Walters
Commissioner William Burke	Assemblymember Martin Garrick
Commissioner Dave Potter	Assemblymember Lori Saldana
Commissioner Judy Biviano Lloyd	Assemblymember Joel Anderson
Commissioner April Vargas	Assemblymember Shirley Horton
Commissioner Dan Secord	Assemblymember Mary Salas
Commissioner Adi Liberman	Assemblymember Bob Huff
Commissioner Sharon Wright	Assemblymember Jim Silva
Commissioner Steve Kinsey	Assemblymember Van Tran
Commissioner Brooks Firestone	Assemblymember Chuck DeVore
Commissioner Trent Orr	Assemblymember Todd Spitzer
Mr. Peter Douglas	Assemblymember Mike Duvall
Mr. Tom Luster	Commissioner John Garamendi
Governor Arnold Schwarzenegger	Commissioner John Chiang
Speaker Fabian Nunez	Commissioner Michael Genest
Senate President Pro Tem Don Perata	Commissioner Cindy Aronberg
Secretary Mike Chrisman	Commissioner Anne Sheehan
Mr. Barry Sedlik	Mr. Paul Thayer
Director Lester Snow	Ms. Barbara Dugal
Senator Dennis Hollingsworth	Ms. Judy Brown
Senator Jim Battin	Ms. Jessica Jones

**LETTERS / E-MAILS**

**TO**

**CCC COMMISSIONERS /**

**CCC STAFF**

---

**140 Individuals had submitted this letter as of 10/31/13**

February 20, 2013

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

***Re: Support - Huntington Beach Desalination Project***

Dear Chairwoman Shallenberger:

As California's housing market goes, so goes the state's economy. A reliable water supply is crucial to the economic success of our state, which is why as a member of the Orange County Association of Realtors (OCAR), I support the Huntington Beach Seawater Desalination Facility. This project complies with California's State Water Plan, which calls for more than a quarter million acre-feet of desalinated seawater by 2020. Best of all, this new water supply reduces our reliance on imported water and provides us a drought-proof source of high-quality drinking water for future generations.

This important water reliability project will also create more than 2,000 jobs during construction at a time when jobs and economic growth are so crucial to the future of our state. The environmental impacts of the project have been studied time and time again over the past decade and science shows that this project can be built without any significant impacts to the marine environment.

Without a reliable water supply, businesses and residents may hesitate to move to Orange County despite the beautiful weather, great schools and other attractive features in our community. I urge you to vote to support the Coastal Development Permit that will allow this needed water reliability project to be built.

Sincerely,

A handwritten signature in dark ink, appearing to read "Michael R. Ransom". The signature is fluid and cursive, with the first name "Michael" being more legible than the last name "Ransom".



**140 Individuals had submitted this letter as of 10/31/13**

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. William Burke, Commissioner, California Coastal Commission  
Mr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Ms. Esther Sanchez, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Gavin Newsom, Lieutenant Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California

## **75 Individuals had submitted this letter via e-mail as of 10/31/13**

**Luster, Tom@Coastal**

---

**From:** sgheitz@aol.com  
**Sent:** Friday, October 11, 2013 8:05 PM  
**To:** Luster, Tom@Coastal; CoastalHuntingtonBeachDesalComments  
**Subject:** A comment from Steve Heitzmann

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

Re: SUPPORT for the Huntington Beach Desalination Project  
Coastal Commission staff has received a copy of this communication

Dear Chairwoman Shallenberger:

The Huntington Beach Seawater Desalination Facility has undergone extensive scientific analysis and regulatory scrutiny through the permitting process for more than a decade and has been unanimously approved by the California State Lands Commission and the Santa Ana Regional Water Quality Control Board. The evidence shows the project can be built and operated in full compliance with the Coastal Act and deserves approval by the Coastal Commission.

Orange County is an international leader in wastewater recycling and water conservation efforts have resulted in record-low per capita water use. However, countywide we still must import almost 50% of our water from far-away and environmentally strained sources like the Delta and Colorado River. The desalination facility will provide a new drought-proof, high-quality water supply for Orange County and help reduce dependence on imported water. Additionally, the project will create more than 2,000 jobs at a time when our state needs good infrastructure projects like this that have both short-term and long-term benefits to our economy.

The California State Water Plan calls for 257,000 annual acre-feet of seawater desalination to be part of our state's water portfolio by 2025. Desalination will never be a "silver bullet" to solve all of our water woes, but it can be a significant component to our overall water portfolio and help regions like ours to become more self-reliant and protect us against droughts or emergencies that could reduce or temporarily cut off our supply of imported water.

In 2007, the Coastal Commission approved Poseidon's Carlsbad desalination project after determining that project was fully protective of coastal resources. Orange County deserves the same opportunity for water supply independence. Please vote to approve the Coastal Development Permit and allow this project to move forward.

Sincerely,

Steve Heitzmann  
17391 Jepsen Circle  
Huntington Beach, CA 92647

**75 Individuals had submitted this letter via e-mail as of 10/31/13**

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Mr. Greg Cox, Commissioner, California Coastal Commission  
Dr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Ms. Janelle Beland, Undersecretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

**Luster, Tom@Coastal**

---

**From:** Duane Wentworth <bchbum@socal.rr.com>  
**Sent:** Sunday, October 06, 2013 7:14 AM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** Please Approve Huntington Beach Desalination

Dear Chair Shallenberger and Coastal Commissioners,

I am writing to support the Huntington Beach Ocean Desalination project you will consider at your November hearing.

This massive ocean desalination project is just one of many the Coastal Commission will consider in the near future. Many facilities are currently being planned, and many more may be proposed in the future. Each project must be evaluated not only for its unique impact to local coastal resources, but also for its cumulative impact in tandem with multiple proposed facilities statewide.

The Huntington Beach Ocean Desalination project meets the recommendations of the science community, and the requirements of the Coastal Act.

It is important to provide a clean and safe water supply to the citizens of Southern California. This system, while currently not the cheapest, would be a valuable back-up supply if the current system of canals and tunnels should be damaged by a natural disaster. For that reason alone it should be considered.

I am a Californian that supports efforts to restore and protect our precious coast and ocean, for this and future generations, through strict enforcement of the Coastal Act. I strongly encourage the Commission to approve the Huntington Beach Ocean Desalination permit .

Sincerely,

Duane Wentworth  
7172 Bluesails Drive  
Huntington Beach, CA 92647



October 28, 2013

Ms. Mary K. Shallenberger,  
Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

Re: **SUPPORT** for the Huntington Beach Seawater Desalination Facility CDP

Dear Chairwoman Shallenberger:

As former mayors for the City of Huntington Beach, collectively we have more than 100 years of public service as elected members of the Huntington Beach City Council. As exemplified by our years of service, we have a deep and abiding passion for our home town and we are committed to protecting "Surf City's" character and quality of life. In this regard, we offer our united support for Poseidon Resources' Huntington Beach Seawater Desalination Facility.

While the water reliability, economic and job benefits this project will bring to our City and the County of Orange are significant, the impacts of the project – quite literally – are not. Twice in the past decade Huntington Beach City Councils have approved the Project's local Coastal Development Permit (CDP). Investigation and analysis conducted first by the City and then separately by independent scientists with the Santa Ana Regional Water Quality Control Board and the California State Lands Commission have determined that the project can be built and operated in full compliance with all applicable local, state and federal environmental laws and regulations.

In 2007, the California Coastal Commission approved a Coastal Development Permit for Poseidon's Carlsbad Desalination Project. The Coastal Commission's approval of the Carlsbad project's CDP demonstrates that large-scale seawater desalination plant's utilizing existing open-ocean intakes comply with Coastal Act policies and regulations. If the Coastal Commission applies these same high standards of review we have no doubt Huntington Beach, like Carlsbad, will be afforded a drought-proof water supply that is fully protective of the coastal and marine environments.

We, former Mayors of Surf City, encourage you, without delay, to approve the Coastal Development Permit for the Huntington Beach Desalination Project.

Respectfully,

The Hon. Don McAllister  
Huntington Beach Mayor – 1979, 1983

A handwritten signature in black ink, appearing to read "Don McAllister", written over a horizontal line.

The Hon. Jim Silva

The Hon. Peter Green  
Huntington Beach Mayor – 1991, 1999

A handwritten signature in black ink, appearing to read "Peter Green", written over a horizontal line.

The Hon. Vic Leipzig

Huntington Beach Mayor – 1992

Jim Silva

The Hon. Ralph Bauer  
Huntington Beach Mayor – 1997

Ralph H. Bauer

The Hon. Dave Garofalo  
Huntington Beach Mayor – 2000

Dave Garofalo

The Hon. Gil Coerper  
Huntington Beach Mayor – 2007

Gil Coerper

The Hon. Joe Carchio  
Huntington Beach Mayor – 2011

Joe Carchio

Huntington Beach Mayor – 1995

M. Victor Lopez

The Hon. Shirley Dettloff  
Huntington Beach Mayor – 1998

Shirley Dettloff

The Hon. Cathy Green  
Huntington Beach Mayor – 2004, 2010

Cathy Green

The Hon. Keith Bohr  
Huntington Beach Mayor – 2009

Keith Bohr

The Hon. Don Hansen  
Huntington Beach Mayor – 2012

Donald F. Hansen

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Mr. Greg Cox, Commissioner, California Coastal Commission  
Dr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Ms. Janelle Beland, Undersecretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

**Luster, Tom@Coastal**

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**From:** Andy Heller <jaheller7@hotmail.com>  
**Sent:** Friday, October 04, 2013 2:17 PM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** Huntington Beach Desalination Project

Dear Chair Shallenberger and Coastal Commissioners,

I am writing to encourage you to require that this project takes measures to minimize impact to marine life and ecosystem.

With increasing demand for fresh water and limited supply, I favor desalination projects. However, I want to insure that the Huntington Beach Ocean Desalination project meets the recommendations of the science community, and the requirements of the Coastal Act, to:

- protect against the intake and mortality of our precious marine life;
- protect against degradation of water quality and habitat destruction from the discharge of concentrated brine;
- ensure that the extremely energy-intensive facility will fully mitigate its increased greenhouse gas emissions.

Sincerely,

Andy Heller  
4090 Cuervo Ave,  
Santa Barbara, CA 93110

Shirley S. Dettloff  
6812 Laurelhurst Dr.  
Huntington Beach, CA 92647

Mr. Tom Luster, California Coastal Commission  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

RECEIVED

OCT 03 2013

CALIFORNIA  
COASTAL COMMISSION

Dear Mr. Luster,

It is my understanding the the Poseidon issue will be heard by the California Coastal Commission during their meeting in November in Newport Beach. I am writing to let you know that I am in support of the project and to explain why. This may be a very different position than one I would have taken several years ago, but now I feel that his project is critical to the welfare of southern California and our citizens. I have always been involved in environmental organizations such as the Amigos de Bolsa Chica, Coastkeeper, Shipley Nature Center and others.

The reason that I am now supporting what Poseidon is trying to accomplish is that I believe that water is the most critical issue facing California. Meetings regarding water and the lack of are taking place up and down the State. Populations continue to grow and until there is some way to control this surge of people needing this invaluable resource, water will become more and more scarce. As we all know there have been dramatic changes in climate conditions throughout the world, and California has been in and is facing a continued drought. The ecological health of the Sacramento River and the Colorado River depend on our success in meeting this challenge.

I feel it is incumbent upon all of us and especially decision makers to make sure that we explore and use every technology to ensure that water is available. The technology used by Poseidon is in use throughout the world, and is just "one more tool" in the tool box to help us through difficult times.

Ocean water desalination is not the only solution. Expanded conservation efforts will be essential, especially to reduce the consumption of water landscaping. Water reclamation, for example, Orange County's Groundwater Replenishment Project will also be important. Let us use every option we have including desalination.

Some will say that this must be a governmental project, but I say let the private sector spend their money to build the infrastructure and if there are problems, they would be responsible for fixing those problems. I ask you to give this projects a chance, let us see what this technology can provide with all of the protections needed to make this a successful endeavor.

Thank you for listening to my position and if you have any questions, I would be glad to answer them for you.

Sincerely •



Shirley Dettloff  
Former California State Coastal Commissioner  
Former Mayor, City of Huntington Beach



cc: Steve Kinsey  
Danya Bochco  
Brian Brennan  
Greg Cox  
Robert Garcia  
Carole Groom  
Martha McClure  
Wendy Mitchell  
Mark Vargas  
Jana Zimmer  
Charles Lester  
Tom Luster

Coastal Commission Staff has received a copy of this communication

# BRADY

September 26, 2013

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**Re: Support for Huntington Beach Desalination Project**

Dear Chairwoman Shallenberger:

Richard Brady & Associates is one of the top engineering firms in California specializing in the design and construction management of water and wastewater facilities. Our core competency is not only engineering, but also the development of sustainable projects including energy and resource conservation, LEED certification and sustainable design earning our firm the National Leadership Award from the Department of Energy in 2008 for our project at MCAS Miramar.

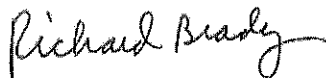
After closely reviewing the design and environmental mitigation proposal associated with the Poseidon Water Huntington Beach Seawater Desalination Project, our firm believes this project can comply with Coastal Act policies and provide a new, sustainable, drought-proof water supply source.

We strongly support projects like the Huntington Beach Seawater Desalination Project that offer such environmentally sustainable components as its Energy Minimization and Greenhouse Gas Reduction Plan ("GHG Plan"). We note that Project's GHG Plan is identical to the plan approved by the Coastal Commission for the Carlsbad desalination project and this plan is supported by the California Department of Water Resources, California State Lands Commission, California Air Resources Board and the California Energy Commission.

It's only through this type of forward-thinking that California can move ahead both as a leader in environmental sustainability as well as providing short-term and long-term economic gains for our state.

Local, drought-proof water supplies like the one proposed for Huntington Beach are crucial to reduce the strain on the Delta and other imported water sources. Please vote to approve the final permit required to allow this needed water supply project to begin construction.

Sincerely,



Richard Brady, PE  
President & Chief Executive Officer  
Richard Brady & Associates

***Coastal Commission staff has received a copy of this communication***

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Mr. Greg Cox, Commissioner, California Coastal Commission  
Dr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Ms. Janelle Beland, Undersecretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

September 3, 2013

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**Re: SUPPORT for the Huntington Beach Desalination Project**  
*Coastal Commission staff has received a copy of this communication*

Dear Chairwoman Shallenberger:

As an eight-year member of the Huntington Beach City Council I am writing to express my strong support for the Huntington Beach Seawater Desalination Project's Coastal Development Permit application. After more than a decade of scientific analysis and review, this project meets or exceeds all federal, state and local standards for environmental protection including the City's stringent policies on coastal development within our Local Coastal Program.

I served on the City Council in 2010 when this project was approved for the second time in the past ten years and I was one of the six-member council majority that certified the Subsequent Environmental Impact Report and approved the Project's Coastal Development Permit 10-014. The subsequent appeal of the City's approved Coastal Development Permit lacks merit and is a regurgitation of the same flawed arguments opponents put forth when they appealed the City's 2006 approval of the Project's Coastal Development Permit 02-05.

The City of Huntington Beach has spoken not once, but twice in the past ten years authorizing this project and endorsing its development. The City's determination that the project is environmentally responsible is echoed by permits issued by the State Lands Commission and Santa Ana Regional Water Quality Control Board. California is in dire need of regulatory reform as exemplified by the abusive attempt to obstruct this project. The same opponents, making the same arguments were rebuffed by the Coastal Commission in 2007 when it approved Poseidon's Carlsbad Desalination facility. Now this small band of opponents is back making the same tired arguments.

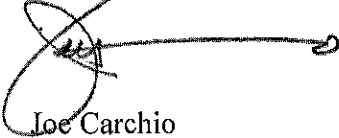
If the Coastal Commission applies the same robust standard of review it applied to the Carlsbad project then I have no doubt the Commission will determine the Huntington Beach facility complies with all applicable Coastal Act policies.

The vast majority of my constituents look forward to the jobs, economic growth and – of course – the high quality water this desalination plant will provide. The California State Water Plan states that 257,000 acre-feet of desalinated seawater will be needed in California by 2025. That's only 12 years away. The Municipal Water District of Orange County's 2010 Urban Water Management Plan identified water from the Huntington Beach Project as a critical component of the region's plan to reduce demand on imported water and meet future water supply needs.

Desalination is not a silver bullet in terms of local water reliability, but it is a drought-proof alternative and when combined with conservation, recycling and water storage, desalination is an important and essential component of our water portfolio for the next generation.

Please approve this project so Huntington Beach and Orange County can realize this drought-proof water supply alternative.

Sincerely,

A handwritten signature in black ink, appearing to read "Joe Carchio", with a long horizontal flourish extending to the right.

Joe Carchio  
Councilmember  
City of Huntington Beach

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Mr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Ms. Janelle Beland, Undersecretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

Mary K. Shallenberger  
Chair, California Coastal Commission  
45 Fremont Street  
Suite 2000  
San Francisco, CA 94105-2219

August 26, 2013

Chairwoman Shallenberger,

This letter is in support of Poseidon Water's proposal to build an ocean desalination plant in Huntington Beach.

As a small business owner, I've come to recognize the many factors that are important to my success. Among them are dependable utilities and making smart, money-saving decisions. Poseidon's Huntington Beach plant would add reliability to our local water supply, which seems to face continual drought. In my restaurant, I am barred by city ordinance from serving water to customers unless they specifically ask for it. As a resident of Cypress, my water is supplied by Golden State Water, which is a member agency of the Orange County Water District. I was supportive of the recent decision by the OCWD directors to study the Poseidon Huntington Beach for possible purchase of the plant's water. If that agreement comes to fruition, my local water supply will become more reliable – and so will its cost.

Speaking of cost, I recognize that Poseidon is projected to cost more than imported water – for now. As it is, I have seen my water rates climb regularly and am encouraged to see Poseidon exploring cost-reductions such as the Energy Recovery Inc. system that is projected to save the Poseidon Carlsbad plant \$12 million a year. Energy Recovery's system will also reduce CO2 emissions by 41,000 metric tons annually (See enclosed article).

I urge the California Coastal Commission to approve the final permit necessary for the Poseidon project in Huntington Beach.

Please copy this letter to each Coastal Commissioner and appropriate commission staff.

Thank you,



John Gillotti

4632 Amalfi St.  
Cypress, CA 90630

Enc.

YAHOO! News: *Energy Recovery to Save Carlsbad Desalination Plant \$12 Million and Reduce CO2 Emissions by 41,000 Metric Tons Annually*, July 30, 2013



Thu, Aug 29, 2013, 4:07 PM EDT - U.S. Markets closed

## Energy Recovery to Save Carlsbad Desalination Plant \$12 Million and Reduce CO2 Emissions by 41,000 Metric Tons Annually

Premium PX® Q300 from Energy Recovery Chosen for Largest Plant in Western Hemisphere — Demonstrating Desalination as an Environmental and Economically Viable Resource for Water in the U.S.



SAN LEANDRO, Calif., July 30, 2013 /PRNewswire/ -- Energy Recovery Inc. (ERII) announced today that its technology will be used in the Carlsbad Desalination Project to help reach its ambitious carbon neutral goals while significantly reducing overall energy costs. IDE, technology provider and future operator of the plant, awarded Energy Recovery a contract for its innovative energy recovery device (ERD) technology to the project, which will be the largest desalination plant in the western hemisphere. As part of the agreement, Energy Recovery will provide 144 of its PX Pressure Exchanger Q300 units to the seawater reverse-osmosis (SWRO) plant, aiding the estimated production output of 189,250 cubic meters of desalinated water per day (equivalent to 50 million gallons per day). The units are expected to ship by the end of the year.

By choosing the PX technology, the vanguard project for California's first large-scale plant will save an estimated 116 million kWh (kilowatt-hours) of energy per year, the equivalent of \$12 million.<sup>1</sup> This energy savings will also reduce CO<sub>2</sub> emissions by 41,000<sup>2</sup> metric tons per year - roughly the annual greenhouse gas emissions from 8,542 passenger vehicles.

Energy Recovery's PX Pressure Exchanger devices work by capturing hydraulic energy from the high-pressure reject stream of SWRO processes and transfers this energy to low-pressure feed water with an efficiency of over 98 percent. Because the PX device itself consumes no electrical power and recycles otherwise lost energy in the form of pressure, the overall energy consumption of the process is drastically reduced.

### Carlsbad Desalination Project Represents Opportunity for Desalination in U.S.

When the Carlsbad plant comes online in 2016, it will bring the largest, most technologically advanced and energy-efficient desalination plant in the western hemisphere to San Diego County. In California and across the U.S., long-standing sources for fresh water are either diminishing because of droughts or becoming unsustainable given population and agricultural growth. The Carlsbad Desalination Project will provide the region with a locally-controlled, drought-proof supply of high-quality water that meets or exceeds all state and federal drinking water standards.

Semi-arid San Diego County has very limited local water resources; the County Water Authority's long-term strategy to enhance the reliability of the region's water supply includes diversifying its water supply sources. The Carlsbad Desalination Project is a crucial element of this plan and will provide enough high-quality drinking water to serve up to 112,000 households.

Along with the other project partners, Energy Recovery is working to demonstrate that desalination is a viable solution to growing water demand. The Carlsbad desalination plant is signaling a trend for upcoming projects in the U.S. According to Global Water Intelligence, there are currently more than 12 desalination projects in various stages of planning in California, and more than 40 medium and large projects on the drawing board across the U.S.

"The Carlsbad project has moved the needle for the desalination industry in the U.S.," said Tom Rooney, CEO at Energy Recovery. "We're excited to bring our experience and technologies to help this project and future U.S. desalination plants maximize their energy savings just as we have helped quench demand in regions and countries lacking fresh water like Australia, China and the Middle East North Africa."

### **Energy Recovery PX Technology Highlights and Impact**

Over the past decade, Energy Recovery has been refining its SWRO clean technologies and employing its premium PX Pressure Exchanger solutions around the world – currently accounting for 90 percent of the ERD market share globally.

IDE selected the PX Q300 device for the Carlsbad project because the solution boasts:

- The lowest life cycle cost of any energy recovery device in the market.
- Highest guaranteed efficiency of 97.2 percent.
- Highest availability (99.8 percent uptime) with zero downtime.
- Smallest installed footprint than any other ERD.
- Lifetime designed for 25+ years.

Energy Recovery devices have made it possible for the desalination market to flourish. The Carlsbad desalination plant is signaling a trend for upcoming projects in the U.S.

"At 50 million gallons per day, we chose the most reliable and efficient energy recovery technology on the market. For larger plants such as the Carlsbad Desalination project, it's important to weigh the energy saving solutions and economies of scale," states Avshalom Felber, CEO of IDE Technologies. "We have a long and trusted relationship with Energy Recovery and together we'll show that advanced clean water solutions make desalination possible for California by reducing and mitigating the negative CO<sub>2</sub> effects and water costs."

Peter MacLaggan, VP of Poseidon Water - developer of the Carlsbad plant-states, "IDE's choice of Energy Recovery's PX technology was the right choice. The economics and environmental benefits are clear. This is part of our goal and promise: to keep costs down and make sure we are carbon neutral in the plant's operation."

### **Additional Project Details**

Poseidon Water LLC is the developer responsible for securing the Water Purchase Agreement (WAP) with San Diego County Water Authority (SDCWA). Financing up to \$734 million was secured through the sale of Private Activity Bonds. The plant is a joint venture between Kiewit/JF Shea Construction and it has been contracted to IDE Technologies as the SWRO design contractor. IDE will operate the plant and is responsible for all process and performance guarantees.

For an animated video showing how the PX device works, [click here](#).

For high-resolution photographs of the PX device, [click here](#).

### **Forward-Looking Statements**

This press release contains forward-looking statements that reflect management's current expectations, assumptions and estimates of future performance and economic conditions. Such statements are made in reliance upon the safe harbor provisions of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. The company cautions investors that any forward-looking statements are subject to risks and uncertainties that may cause actual results and future trends to differ materially from those matters expressed in or implied by such forward-looking statements. Statements about the expected shipment date of the PX energy recovery devices are forward-looking and involve risks and uncertainties. Energy Recovery disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise.

### **About Energy Recovery**

Energy Recovery Inc. (ERII) technology harvests power from high-pressure fluid flows and pressure cycles. Through collaboration with industry, Energy Recovery helps make industrial processes within water, oil & gas, and other industries



more profitable and environmentally sustainable. With over 14,000 energy recovery devices installed worldwide, Energy Recovery sets the standard for engineering excellence, cost savings, and technical services to clients across the globe. Year after year, the company's clean technologies save clients over \$1.2 Billion (USD) in energy costs. Headquartered in the San Francisco Bay Area, Energy Recovery has offices in Madrid, Shanghai, and Dubai. [www.energyrecovery.com](http://www.energyrecovery.com)

**Media Contacts:**

Kristan Kirsh

[kkirsh@energyrecovery.com](mailto:kkirsh@energyrecovery.com)

Senior Marketing Communications, Energy Recovery

+510.746.5012

Jessica Jones

[JJones@poseidon1.com](mailto:JJones@poseidon1.com)

Community Outreach, Poseidon Water

+ 619.322.4955

Meirav Kavalsky-Brami

[meiravkb@ide-tech.com](mailto:meiravkb@ide-tech.com)

Marketing Communications Manager, IDE

<sup>1</sup> Calculations are based on the electricity costs for San Diego County of approximately .10 cents / kWh (as of July 2013).

<sup>2</sup> Emissions are derived from San Diego's utility (SDG&E) mix of generation assets (781# CO<sub>2</sub>/mWh).

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Ads



**Re: Support - Huntington Beach Desalination Project**

**California Coastal Commission staff has received a copy of this communication**

Ed Laird  
Coatings Resource Corporation  
15541 Commerce Lane  
Huntington Beach, CA 92649

RECEIVED  
AUG 09 2013  
CALIFORNIA  
COASTAL COMMISSION

Ms. Mary Shallenberger  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

18 July 2013

Subject: PLEASE VOTE 'YES' ON POSEIDON'S PERMIT

Dear California Coastal Commission,

Thank you for all the time you commit to our community. I know you work hard to make decisions that are in our community's best interest.

To that end, I am asking you to vote in favor of the permit for the Poseidon desalination plant. This will be a very good project and will make our city and county leaders in planning for our future.

Thank you for taking my opinion into consideration.

All the best,



Ed Laird

**Re: Support - Huntington Beach Desalination Project**

**California Coastal Commission staff has received a copy of this communication**

Linda Sanchez  
Member of Congress  
38<sup>th</sup> Congressional District

Ed Royce  
Member of Congress  
39<sup>th</sup> Congressional District

John Campbell  
Member of Congress  
45<sup>th</sup> Congressional District

Loretta Sanchez  
Member of Congress  
46<sup>th</sup> Congressional District

Alan Lowenthal  
Member of Congress  
47<sup>th</sup> Congressional District

Dana Rohrabacher  
Member of Congress  
48<sup>th</sup> Congressional District

Darrell Issa  
Member of Congress  
49<sup>th</sup> Congressional District

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. William Burke, Commissioner, California Coastal Commission  
Mr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Ms. Esther Sanchez, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

**Re: Support - Huntington Beach Desalination Project**

**California Coastal Commission staff has received a copy of this communication**

**Suzanne Beukema  
9052 Christine Drive  
Huntington Beach, CA 92646  
714-968-5213**

July 24, 2013

Ms. Mary Shallenberger  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Dear California Coastal Commission,

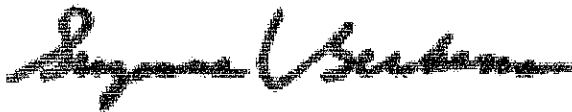
I hope that you will approve Poseidon Resources Corporation's desalination facility.

I believe we need more water sources to meet current and future water needs. Conservation is one thing, but not everyone subscribes to it. We need additional new water sources; the proposed seawater desalination plant is a good fit for our community and a great source of reliable water.

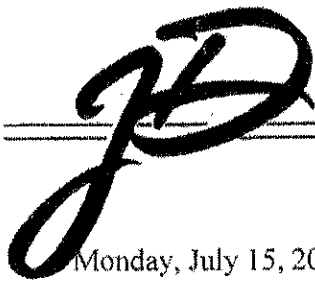
I am a business owner and I know how essential a reliable water supply is to our economy. I am also resident of Southeast Huntington Beach and I have raised my children in Huntington Beach. We need to ensure that our water supply challenges are solved for our children and our children's children down the road.

The future of our community is critical in terms of the water supply and infrastructure; please approve the proposed project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Suzanne Beukema', with a stylized, flowing script.

Suzanne Beukema



**JOHN DWYER CONSTRUCTION**  
FOUNDATIONS • SLABS • PATIOS • WATERSCAPES

Monday, July 15, 2013

RECEIVED

JUL 18 2013

CALIFORNIA  
COASTAL COMMISSION

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**Re: Support - Huntington Beach Desalination Facility**  
*Coastal Commission staff has received a copy of this communication*

Dear Chairwoman Shallenberger:

As a city council member representing the citizens of Huntington Beach from 2008-2012, I had the opportunity in 2010 to review the Huntington Beach Desalination Project's supplemental environmental report. As a council in our role as independent, third-party reviewers, we voted to support the project after we found no significant environmental impacts.

I continue to support this important project, and I stand behind my vote to approve it in 2010. That's why I'm writing to you to urge your approval of the project's Coastal Development Permit. The project's extensive CDP application demonstrates that the construction and operation of this project will comply with all applicable Coastal Act policies. As you know, in 2007 the Coastal Commission approved a similar large-scale desalination plant in Carlsbad, demonstrating how a successful seawater desalination project may comply with the Coastal Act.

In addition, the applicant (Poseidon Resources) has included plans to mitigate local impacts including a marine life mitigation plan, an energy minimization and greenhouse gas reduction plan, and a seismic, tsunami and flood design mitigation and emergency response plan. Because of these and other efforts, numerous local agencies have approved the project including my city council in 2010, the California State Lands Commission and the Santa Ana Regional Water Quality Board.

Not only will this project operate with no significant environmental impacts, it will also bring needed freshwater resources, tax revenue and jobs not just for Huntington Beach, but for our entire region. That's why I urge you to approve The Huntington Beach Desalination Project this fall as it comes before your board.

Sincerely,

Devin Dwyer  
Huntington Beach City Council Member, 2008-2012

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Boecho, Commissioner, California Coastal Commission

P.O. BOX 10943, COSTA MESA, CALIFORNIA 92627

Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Ms. Esther Sanchez, Commissioner, California Coastal Commission  
Mr. Mark Vargas, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

**Re: Support - Huntington Beach Desalination Project**

**California Coastal Commission staff has received a copy of this communication**

Linda Sanchez  
Member of Congress  
38<sup>th</sup> Congressional District

Ed Royce  
Member of Congress  
39<sup>th</sup> Congressional District

John Campbell  
Member of Congress  
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Alan Lowenthal  
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Member of Congress  
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Darrell Issa  
Member of Congress  
49<sup>th</sup> Congressional District

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Mr. Brian Brennan, Commissioner, California Coastal Commission  
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Mr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
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Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Ms. Esther Sanchez, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

**Re: Support - Huntington Beach Desalination Project**

**California Coastal Commission staff has received a copy of this communication**

**Robert Harrison  
9332 Greenwich Drive  
Huntington Beach, CA 92646  
(714) 968-1369**

**RECEIVED**

**AUG 07 2013**

**CALIFORNIA  
COASTAL COMMISSION**

July 8, 2013

Dear California Coastal Commission:

As a retired engineer and member of the boards of directors of the Bolsa Chica Conservancy and ISA (Instrumentation, Systems & Automation Technical Society), I'm fully in favor of the desalination facility that Poseidon is proposing, and I hope that the Coastal Commission will approve the proposed desalination facility in Huntington Beach. I have lived in southeast Huntington Beach for 38 years, and I believe that the project will benefit the city and the entire region with the water supplies that will be created.

The opponents are the people who oppose every improvement in our city, and many of them do not even live here. Their assertions that the power plant's technology is outdated are a red herring. They propose that the current ocean water cooling system be replaced with air cooling towers.

I have experience working with industrial plants that use evaporative cross-flow air cooling towers. The structure that would serve the current needs of the 1,000 mega watt power plant would be approximately 50 feet in height with a footprint of 50 feet by 100 feet, but could be much larger. Special materials would be required since the source water has a high salinity content. Evaporative losses would account for 1-5% of feedwater. These units normally are used to cool the water before returning to the ocean. Their use would not eliminate the need for large amounts of feedwater supply.


When you consider the project's Environmental Impact Report, and its validity, please consider the sterling reputations of the scientists from Scripps Ocean Institute, who did the original investigations, and of the scientists from UC Irvine, who did the peer review. This project lives up to the standards of the Coastal Act, and its requirements for co-location.

Poseidon Resources is asking to build a project that meets all the requirements of the Coastal Act, and the city's own zoning codes. The project has been approved by the Huntington Beach City Council and the Regional Water Quality Control Board.

I respectfully request that you approve this project when it comes before you for consideration.

Sincerely,





Robert Harrison, PE

Linda Sanchez  
Member of Congress  
38<sup>th</sup> Congressional District

Ed Royce  
Member of Congress  
39<sup>th</sup> Congressional  
District

John Campbell  
Member of Congress  
45<sup>th</sup> Congressional District

Loretta Sanchez  
Member of Congress  
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Alan Lowenthal  
Member of Congress  
47<sup>th</sup> Congressional District

Dana Rohrabacher  
Member of Congress  
48<sup>th</sup> Congressional  
District

Darrell Issa  
Member of Congress  
49<sup>th</sup> Congressional District

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
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The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

**RE: SUPPORT - HUNTINGTON BEACH DESALINATION PROJECT**  
**CALIFORNIA COASTAL COMMISSION STAFF HAS RECEIVED A COPY OF THIS**  
**COMMUNICATION**

**FROM:** DOUG FLEISCHLI  
**TO:** CHAIRWOMAN MARY SHALLENBERGER  
**DATE:** JUNE 20, 2013  
**SUBJECT:** PLEASE APPROVE POSEIDON'S APPLICATION

I am a surfer and have long enjoyed the waves in Huntington. I also have a background in water management and storm water issues, and I fully support the proposed Poseidon desalination plant.

I ask that you approve their application, which will be under consideration soon. It will provide much-needed water supplies to the county.

Please do not allow the shortsighted, selfish motives or political agendas of a few to overrule the benefits to the many.

Help protect the future of Orange County and our region by saying YES to Poseidon.

Sincerely,

Doug Fleischli

**RECEIVED**

**JUN 27 2013**

**CALIFORNIA  
COASTAL COMMISSION**

**RE: SUPPORT - HUNTINGTON BEACH DESALINATION PROJECT**  
**CALIFORNIA COASTAL COMMISSION STAFF HAS RECEIVED A COPY OF THIS**  
**COMMUNICATION**

Linda Sanchez  
Member of Congress  
38<sup>th</sup> Congressional District

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Member of Congress  
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Alan Lowenthal  
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Darrell Issa  
Member of Congress  
49<sup>th</sup> Congressional District

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
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Dr. William Burke, Commissioner, California Coastal Commission  
Mr. Robert Garcia, Commissioner, California Coastal Commission  
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The Hon. Jerry Brown, Governor, State of California  
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The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

Re: Support - Huntington Beach Desalination Project  
California Coastal Commission staff has received a copy of this communication

RECEIVED

JUN 24 2013

CALIFORNIA  
COASTAL COMMISSION

John Prusa  
16657 Arbor Circle  
Huntington Beach, CA 92647  
P/F: 714-842-9004

Ms. Mary Shallenberger  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

RE: Poseidon Resources & Desalinization

12 June 2013

What would happen to the residents and businesses in Huntington Beach and Orange County if we have a severe water shortage and there is not enough clean, fresh water? The prospect of this happening is a real possibility, and I, as a Huntington Beach resident, don't want to find out about the consequences if it did occur.

Therefore, I would like to see that additional water sources be made available so that we can safeguard against future shortages. I believe that the desalination plant proposed by Poseidon Resources is a good source for Huntington Beach and the rest of Orange County.

As part of the original EIR process, thorough research was conducted to ensure that the water produced by the Huntington Beach Desalination facility would be healthful, the plan is cost effective, there are no negative aesthetic effects and it is an overall environmentally sound solution. Furthermore, the 2010 approval of the Subsequent Environmental document by the Huntington Beach City Council means that Poseidon will have access to as much seawater as needed to produce an abundant supply of tap water for Orange County.

San Diego County has already obtained State approval for a desalination plant and the process has been effectively used in the U.S. and more than 120 countries around the world. The Huntington Beach business community, including the Chamber of Commerce, of which I am a member, has endorsed the Huntington Beach project.

The time is now for the Huntington Beach Desalination Plant. I ask that the California Coastal Commission approve the application and do something good for our economy and the overall well-being of Huntington Beach residents and businesses by swiftly providing their approval for this long awaited and worthwhile project!

Sincerely,



John Prusa

Re: Support - Huntington Beach Desalination Project

California Coastal Commission staff has received a copy of this communication

Linda Sanchez  
Member of Congress  
38<sup>th</sup> Congressional District

Ed Royce  
Member of Congress  
39<sup>th</sup> Congressional District

John Campbell  
Member of Congress  
45<sup>th</sup> Congressional District

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The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

June 24, 2013

**Re: Support - Huntington Beach Desalination Project**

Dear Chairwoman Shallenberger:

It is essential that the Coastal Commission consider science and not rhetoric when considering permit approval for a project. The Huntington Beach Seawater Desalination Facility has undergone extensive scientific analysis to consider its environmental impacts both at the local as well as the state level. Both times, the science has shown that the project is environmentally sound and both times the governing bodies approved the project (The City of Huntington Beach certified the SEIR and the Santa Ana Regional Water Quality Control Board approved the NPDES permit). The project has also been approved by the California State Lands Commission and has received conceptual approval to introduce desalinated seawater to the Orange County drinking water system by the California Department of Health. After more than 10 years of regulatory red tape, it's time to allow this project to proceed.

In addition to providing 50 million gallons of fresh drinking water per day from an entirely new untapped source – the Pacific Ocean – the project will also create more than 2,000 jobs at a time when the state should be encouraging private sector job growth and allowing Orange County to have the opportunity to build its own desalination plant just as the Coastal Commission has permitted San Diego County to do.

Our leaders in Sacramento are considering CEQA reform in order to prevent the needless delay of good infrastructure projects like this one. Please approve the Coastal Development Permit for this project based on its merits and the sound science that shows this project can be built in an environmentally sensitive way. We must find ways to reduce our reliance on imported water. Conservation and recycling are important tools that currently help us achieve that, but desalination should be considered as another important resource for our future water plan, just as our state department of water resources has identified.

In closing, I encourage you to approve this project, which will both create new jobs and put another arrow in the quiver of drinking water reliability for Orange County.

Sincerely,

*Suzanne Smith, President  
RSM Chamber of Commerce*

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. William Burke, Commissioner, California Coastal Commission  
Mr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Ms. Esther Sanchez, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Gavin Newsom, Lieutenant Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California

Re: Support - Huntington Beach Desalination Project

California Coastal Commission staff has received a copy of this communication



**Don MacAllister**

1121 Park St., Huntington Beach, CA 92648 (714) 800-2802

RECEIVED

JUN 26 2013

CALIFORNIA  
COASTAL COMMISSION

Ms. Mary Shallenberger  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

June 19, 2013

Dear Chairwoman Shallenberger,

I have studied the local water issues and have spent time learning about the proposed desalination facility in Huntington Beach. I support Poseidon's proposed project, which you will soon be considering. I hope you will vote to approve their permit and allow this company to provide our area with precious, and much-needed, water resources.

Desalination is needed to provide for our water needs. Municipal Water District of Orange County (our member agency at Metropolitan Water District) has been planning for a long time on desalination as one of the "Next steps for Orange County" per their Planning and Operations Committee Report of May 2004.

The need for desalination projects is further emphasized by the Integrated Resource Plan (IRP) Update from July 2004. Water supplies for Orange County during one of the latest update periods of Fiscal Year 2002 fell short of MWDOC's goal of 300,000 acre-feet by 50,000 acre-feet, an unfulfilled need of 16%. The IRP states, "Meeting the targets will require the region to produce 159,000 acre-feet of additional local project and/or seawater desalination supply by 2010 and 249,000 acre-feet by 2020."

The Orange County Water District, our area's groundwater management agency, has been a pioneer in the development of desalination technology. Their 70-million-gallons-per-day wastewater recycling project, the Groundwater Replenishment System, will utilize the same types of reverse osmosis filters as are planned for the Huntington Beach desalination facility.

Desalination has been talked about for decades, has been researched for years, and has been tested thoroughly, and is a viable part of the picture to satisfy our community's water needs. It is also proven to provide VERY high quality product water that will go a long way toward improving water quality in our area.



**Re: Support - Huntington Beach Desalination Project**

**California Coastal Commission staff has received a copy of this communication**

The time has come to realize the dream. Please support the desalination project for Huntington Beach.

Yours,



Don MacAllister  
Former Mayor, Huntington Beach

Linda Sanchez  
Member of Congress  
38<sup>th</sup> Congressional District

Ed Royce  
Member of Congress  
39<sup>th</sup> Congressional District

John Campbell  
Member of Congress  
45<sup>th</sup> Congressional District

Loretta Sanchez  
Member of Congress  
46<sup>th</sup> Congressional District

Alan Lowenthal  
Member of Congress  
47<sup>th</sup> Congressional District

Dana Rohrabacher  
Member of Congress  
48<sup>th</sup> Congressional District

Darrell Issa  
Member of Congress  
49<sup>th</sup> Congressional District

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. William Burke, Commissioner, California Coastal Commission  
Mr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
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Ms. Esther Sanchez, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

Re: Support - Huntington Beach Desalination Project

California Coastal Commission staff has received a copy of this communication

**John Prusa**  
**16657 Arbor Circle**  
**Huntington Beach, CA 92647**  
**P/F: 714-842-9004**

---

Ms. Mary Shallenberger  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

RE: Poseidon Resources & Desalinization

14 June 2013

What would happen to the residents and businesses in Huntington Beach and Orange County if we have a severe water shortage and there is not enough clean, fresh water? The prospect of this happening is a real possibility, and I, as a Huntington Beach resident, don't want to find out about the consequences if it did occur.

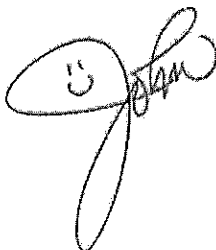
Therefore, I would like to see that additional water sources be made available so that we can safeguard against future shortages. I believe that the desalination plant proposed by Poseidon Resources is a good source for Huntington Beach and the rest of Orange County.

As part of the original EIR process, thorough research was conducted to ensure that the water produced by the Huntington Beach Desalination facility would be healthful, the plan is cost effective, there are no negative aesthetic effects and it is an overall environmentally sound solution. Furthermore, the 2010 approval of the Subsequent Environmental document by the Huntington Beach City Council means that Poseidon will have access to as much seawater as needed to produce an abundant supply of tap water for Orange County.

San Diego County has already obtained State approval for a desalination plant and the process has been effectively used in the U.S. and more than 120 countries around the world. The Huntington Beach business community, including the Chamber of Commerce, of which I am a member, has endorsed the Huntington Beach project.

The time is now for the Huntington Beach Desalination Plant. I ask that the California Coastal Commission approve the application and do something good for our economy and the overall well-being of Huntington Beach residents and businesses by swiftly providing their approval for this long awaited and worthwhile project!

Sincerely,



John Prusa

Linda Sanchez

Ed Royce

Re: Support - Huntington Beach Desalination Project

California Coastal Commission staff has received a copy of this communication

Member of Congress  
38<sup>th</sup> Congressional District

John Campbell  
Member of Congress  
45<sup>th</sup> Congressional District

Alan Lowenthal  
Member of Congress  
47<sup>th</sup> Congressional District

Darrell Issa  
Member of Congress  
49<sup>th</sup> Congressional District

Member of Congress  
39<sup>th</sup> Congressional District

Loretta Sanchez  
Member of Congress  
46<sup>th</sup> Congressional District

Dana Rohrabacher  
Member of Congress  
48<sup>th</sup> Congressional District

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
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The Hon. Jerry Brown, Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

Re: Support - Huntington Beach Desalination Project

California Coastal Commission staff has received a copy of this communication

**Margie Buntten**  
**380 5<sup>th</sup> Street**  
**Huntington Beach, CA 92648**  
**[mbuntten@gwc.cccd.edu](mailto:mbuntten@gwc.cccd.edu)**  
**714-960-4861**

June 13, 2013

Ms. Mary Shallenberger  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

RE: Poseidon Resources & Desalinization

Dear Commissioners:

I have raised my family here in Huntington Beach. As a mother and volunteer, I have many concerns for my family's welfare and the wellbeing of other families and children. If the Coastal Commission approves the permit for Poseidon Seawater Desalination project, I will have one less worry for our community's future.

Year after year, we experience less than optimum local rainfall. Good water is becoming scarcer. It's just a matter of time before we will need to find alternative water sources in Orange County. I believe that ocean desalinization is a good method to ensure a local drought-proof water supply. I am also impressed by the quality of this water – clean, pure, tested for purity.

As you can imagine, the Huntington Beach coastline and environment are important to me. I love the beach and sea life. I feel very lucky to live near the ocean in beautiful Southern California.

I believe this plan will also boost our economy by providing high-paying jobs and millions in local tax revenue. This money can be put towards our schools, parks, police and fire department or other community improvements.

Many, many hundreds of Huntington residents support this project. I hope you can approve it soon. The future of families and children in Orange County depend on it!

Sincerely,

A handwritten signature in cursive script that reads "Margie Buntten". The signature is written in dark ink and is positioned below the "Sincerely," text.

Re: Support - Huntington Beach Desalination Project

California Coastal Commission staff has received a copy of this communication

Linda Sanchez  
Member of Congress  
38<sup>th</sup> Congressional District

Ed Royce  
Member of Congress  
39<sup>th</sup> Congressional District

John Campbell  
Member of Congress  
45<sup>th</sup> Congressional District

Loretta Sanchez  
Member of Congress  
46<sup>th</sup> Congressional District

Alan Lowenthal  
Member of Congress  
47<sup>th</sup> Congressional District

Dana Rohrabacher  
Member of Congress  
48<sup>th</sup> Congressional District

Darrell Issa  
Member of Congress  
49<sup>th</sup> Congressional District

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. William Burke, Commissioner, California Coastal Commission  
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The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

**Re: Support - Huntington Beach Desalination Project**

California Coastal Commission staff has received a copy of this communication

**Terry Rose**  
212 E. Utica Ave.  
Huntington Beach, CA 92648  
[terry@giftsfromadistance.com](mailto:terry@giftsfromadistance.com)  
(714) 271-9305

June 13, 2013

Ms. Mary Shallenberger  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

RE: Poseidon Resources & Desalinization

Dear Commissioners:

It's time to wake up and smell the coffee (while we still have enough water to make some)! The diminishing water sources from Northern California and the Colorado River are clear evidence that Orange County needs a pure, reliable and drought proof water supply to sustain our growing communities in the not-too-distant future.

Hundreds of countries around the globe are already successfully using desalination to enhance water supply. Plenty of research has proven that desalination plants similar to the proposed Poseidon facility in Huntington Beach, are effective, sustainable and fiscally responsible.

The Poseidon Seawater Desalination facility promises to provide 50 million gallons per day of drinking water to Orange County. It will not harm the environment or be unsightly, and will be built at no cost to taxpayers. The plant and this plan are supported by hundreds of local Huntington Beach residents and are endorsed by Republican and Democratic legislators as well as the HB Chamber of Commerce, the OC Taxpayers Association, the Orange County Business Council and local environmental leaders.

Please approve the permit requested by Poseidon so they can implement this responsible solution to protect our community's water supply now!

Sincerely,

A handwritten signature in black ink that reads "Terry Rose". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.

**Terry Rose**

**Re: Support - Huntington Beach Desalination Project**

**California Coastal Commission staff has received a copy of this communication**

Linda Sanchez  
Member of Congress  
38<sup>th</sup> Congressional District

Ed Royce  
Member of Congress  
39<sup>th</sup> Congressional District

John Campbell  
Member of Congress  
45<sup>th</sup> Congressional District

Loretta Sanchez  
Member of Congress  
46<sup>th</sup> Congressional District

Alan Lowenthal  
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Member of Congress  
48<sup>th</sup> Congressional District

Darrell Issa  
Member of Congress  
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The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

**Re: Support - Huntington Beach Desalination Project**

**California Coastal Commission staff has received a copy of this communication**

**Charlie Bunten  
380 5th Street  
Huntington Beach, CA 92648**

**RECEIVED**

**JUN 17 2013**

CALIFORNIA  
COASTAL COMMISSION

Ms. Mary Shallenberger  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

June 12, 2013

RE: Poseidon Resources & Desalinization

Dear Chairwoman Shallenberger:

I support the Poseidon Desalination plant and water treatment facility and I wish that you will as well when their application comes before you for consideration.

I understand that there are always risks involved in attempting anything new, but those identified with this project are negligible. Considering our long term water needs, the Poseidon project is of greater importance than any major project Huntington Beach has seen in recent memory.

Huntington Beach is very special to my wife Margie and me. We have made this our home town for the past 35 years because of the countless blessings the community offers. As a former Chamber of Commerce board member and former chairman, I recognize the importance to our residents and businesses of a sustainable, high quality water supply.

**Simply stated, if we do not have clean water for drinking, no other quality-of-life issue will matter.**

I hope you will approve Poseidon's permit when you have the opportunity.

Yours truly,

Charlie Bunten

Linda Sanchez  
Member of Congress  
38<sup>th</sup> Congressional District

Ed Royce  
Member of Congress  
39<sup>th</sup> Congressional District

John Campbell

Loretta Sanchez



**Re: Support - Huntington Beach Desalination Project**

**California Coastal Commission staff has received a copy of this communication**

Member of Congress  
45<sup>th</sup> Congressional District

Alan Lowenthal  
Member of Congress  
47<sup>th</sup> Congressional District

Member of Congress  
46<sup>th</sup> Congressional District

Dana Rohrabacher  
Member of Congress  
48<sup>th</sup> Congressional District

Darrell Issa  
Member of Congress  
49<sup>th</sup> Congressional District

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
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The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

**Re: Support - Huntington Beach Desalination Project**

**California Coastal Commission staff has received a copy of this communication**

**Mike Grumet  
Mike Grumet Insurance Services, Inc.  
16541 Gothard Street #110  
Huntington Beach, CA 92647  
(714) 698-6453**

**RECEIVED**

**APR 10 2013**

**CALIFORNIA  
COASTAL COMMISSION**

March 23, 2013

Ms. Mary Shallenberger  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

RE: Poseidon Resources & Desalinization

Dear City Council and Coastal Commission

For years, I have worked for a non-profit organization that has built over 100 reservoirs in the Middle East. The purpose is to capture limited rainfall and turn it into useful water supplies. The outcome of a twenty year effort was a peace agreement between Jordan and Israel. Without the reservoir capacity, this never would have happened.

I have become sensitive to the importance of water for basic survival, industrial use, agricultural use and hygiene.

Drought and population growth are a California reality. Water conservation is growing industrially and residentially. This is very helpful and should continue. However, I don't think conservation alone is the answer. No matter what, having diversified sources of water is critical to the economic survival of Huntington Beach and Orange County.

As you know, saltwater intrusion is a big concern to our water supply. Over tapping that resource can cause damage to our well water system. I think we should continue to educate our community on conservation while simultaneously expanding our capacity to serve our city and surrounding communities.

While not likely, we must be concerned about intentional poisoning of our ground water supply by terrorist along with unintentional pollution from industrial accidents etc. Water is an easy resource to take for granted and we should NOT make that mistake.

I am in full support of utilizing the AES power plant site for intake and transformation of salt water to fresh water supplies. I feel it is innately critical to our community.

Sincerely,  
Mike Grumet  
Huntington Beach Resident since 1983

**Re: Support - Huntington Beach Desalination Project**

***California Coastal Commission staff has received a copy of this communication***

Linda Sanchez  
Member of Congress  
38<sup>th</sup> Congressional District

Ed Royce  
Member of Congress  
39<sup>th</sup> Congressional District

John Campbell  
Member of Congress  
45<sup>th</sup> Congressional District

Loretta Sanchez  
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Member of Congress  
48<sup>th</sup> Congressional District

Darrell Issa  
Member of Congress  
49<sup>th</sup> Congressional District

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. William Burke, Commissioner, California Coastal Commission  
Mr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
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Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Ms. Esther Sanchez, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
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The Hon. John Perez, Speaker of the Assembly, State of California  
Mr. John Laird, Secretary, Natural Resources Agency  
Mr. Charles Lester, Executive Director, California Coastal Commission  
Mr. Tom Luster, Environmental Scientist, California Coastal Commission

This letter has been sent to all members of the Coastal Commission and staff.

SPENCER INGRAHAM  
32134 VIRGINIA WAY  
LAGUNA BEACH, CA 92651  
949/244.3705

February 26, 2009

Dear California Coastal Commission:

I understand that Coastal Commission staff has been reviewing the Huntington Beach desalination project for almost three years. I respectfully request that you place the Poseidon Project on the agenda so that the Commission can consider it.

Recently, I read about an interesting survey on drinking water and desalination conducted in Orange County. I read the results of the overall survey and was pleased to see that people are recognizing that drinking water is in short supply and supplies must be augmented, and it must be done soon.

I have researched the impending Huntington Beach Poseidon project and would like to encourage you to help the developers of this project to get through the approval process as soon as possible.

**I SUPPORT THIS PROJECT, AND I AM NOT ALONE.**

As the survey found, 90% of voters thought it was important for public officials to ensure Orange County has adequate and affordable supplies of water in the future.

With support from the Orange County Business Council, various chambers of commerce and a long list of elected officials – both Democrats and Republicans – the project has received widespread praise as an important adjunct to our water supply. And, with Colorado River water supplies having been cut by 50% within the last few years, and the problems in the Delta, **NEW WATER SOURCES ARE NECESSARY.**

The results of the recent survey were overwhelmingly supportive of the proposed desalination plant. I encourage you to take into consideration the opinions of voters like me who support moving forward with the Huntington Beach project, and I urge you to do it as soon as possible.

Our futures depend on it.

Sincerely,



Spencer Ingraham

CC:

Chairwoman Bonnie Neely  
Vice Chairman Dr. William A. Burke  
Commissioner Ben Hueso

State Senator Mimi Walters  
State Senator Lou Correa  
State Assemblyman Jim Silva

Commissioner Steve Blank  
Commissioner Steve Kram  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
Commissioner Patrick Kruer  
Commissioner Dave Potter  
Commissioner James Wickett  
Commissioner April Vargas  
Commissioner Dan Secord  
Commissioner Adi Liberman  
Commissioner Sharon Wright  
Commissioner Steve Kinsey  
Commissioner Brooks Firestone  
Commissioner Suja Lowenthal  
Commissioner Deborah Schoenbaum  
Commissioner Mike Chrisman  
Commissioner Karen Scarborough  
Commissioner Paul Thayer  
Mr. Tom Luster  
Governor Arnold Schwarzenegger  
Speaker Karen Bass  
Senate President Pro Tem Darrell  
Steinberg  
U.S. Congressional Representative  
Ed Royce  
U.S. Congressional Representative  
Gary Miller  
U.S. Congressional Representative  
Ken Calvert  
U.S. Congressional Representative  
Dana Rohrabacher  
U.S. Congressional Representative  
Loretta Sanchez  
U.S. Congressional Representative  
John Campbell  
State Senator Robert Huff  
State Senator Tom Harman  
State Senator Mark Wyland

State Assemblyman Van Tran  
State Assemblyman Jose Solorio  
State Assemblyman Chuck Devore  
State Assemblyman Curt Hagman  
State Assemblyman Jeff Miller  
State Assemblyman Mike Duvall  
State Assemblywoman Diane Harkey  
State Assemblyman Tony Mendoza  
OC Supervisor John Moorlach  
OC Supervisor Patricia Bates  
OC Supervisor Janet Nguyen  
OC Supervisor Bill Campbell  
OC Supervisor Chris Norby  
HB Mayor Keith Bohr  
HB City Councilman Gill Coerper  
HB City Councilman Don Hansen  
HB City Councilman Joe Carchio  
HB City Councilwoman Cathy Green  
Ms. Whitney Radcliff

This letter has been sent to all members of the Coastal Commission and staff.



**Don MacAllister**

1121 Park St., Huntington Beach, CA 92648 (714) 960-2802

February 20, 2009

Dear California Coastal Commission,

I have studied the local water issues and have spent time learning about the proposed desalination facility in Huntington Beach. I support Poseidon's proposed project. I **hope you will agendaize this item for consideration in a timely manner.** From what I understand, the applicant has spent nearly three years working with staff to answer all the questions they have had. Surely this has been enough time. Furthermore, I hope you will **vote to approve their permits** and allow this company to provide our area with precious, and much needed, water resources.

Desalination is needed to provide for our water needs. Municipal Water District of Orange County (our member agency at Metropolitan Water District) has been planning for a long time on desalination as one of the "Next steps for Orange County" per their Planning and Operations Committee Report of May 2004.

The need for desalination projects is further emphasized by the Integrated Resource Plan (IRP) Update from July 2004. Water supplies for Orange County during one of the latest update periods of Fiscal Year 2002 fell short of MWDOC's goal of 300,000 acre-feet by 50,000 acre-feet, an unfulfilled need of 16%. The IRP states, "Meeting the targets will require the region to produce 159,000 acre-feet of additional local project and/or seawater desalination supply by 2010 and 249,000 acre-feet by 2020."

The Orange County Water District, our area's groundwater management agency, has been a pioneer in the development of desalination technology. Their 70-million-gallons-per-day wastewater recycling project, the Groundwater Replenishment System, will utilize the same types of reverse osmosis filters as are planned for the Huntington Beach desalination facility.

Desalination has been talked about for decades, has been researched for years, and has been tested thoroughly, and is a viable part of the picture to satisfy our community's water needs.

**The time has come to realize the dream. Please support the desalination project for Huntington Beach.**

Yours,

A handwritten signature in dark ink, appearing to read "Don MacAllister", with a stylized flourish at the end.

Don MacAllister  
Former Mayor, Huntington Beach

[Add cc list]

# SUZANNE'S CATERING

9121 Atlanta Avenue • Huntington Beach, CA 92646  
Phone: (714) 968-5213 • <http://www.suzannescatering.com>

---

[This letter has been sent to all members of the Coastal Commission and staff.]

January 20, 2009

Dear Coastal Commission,

I am writing to express my support for Poseidon Resources Corporation's desalination facility, and to let you know that I hope you will approve it.

Despite recent rains, Southern California is experiencing a severe water shortage. It promises to get worse. I believe we need more water sources to meet current and future water needs. Conservation is effective as part of the picture, but we need additional *new* water sources. The proposed seawater desalination plant is a good fit for our community and a great source of reliable water.

I am a business owner and I know how essential a reliable water supply is to our economy. I am also a resident of Southeast Huntington Beach and I have raised my children in Huntington Beach. We need to ensure that our water supply challenges are solved for our children and our children's children down the road.

Ever since this project was proposed for Huntington Beach, I have supported it. I can see the AES plant from my house and I support the proposed co-location of the desalination project there. The investors and owners of Poseidon Resources, as well as the residents of Huntington Beach and greater Orange County have been patiently awaiting the development of the Huntington Beach Desalination project. This project has been reviewed by Coastal Commission staff for two years now. It is time for the Commission to hear from the applicant. I urge you to set a date for a public hearing as soon as possible.

The future of our community is critical in terms of water supply and infrastructure. Please approve the proposed project.

Sincerely,



Suzanne Beukema

CC:

Chairwoman Bonnie Neely  
Vice Chairman Dr. William A. Burke  
Commissioner Ben Hueso

State Senator Mimi Walters  
State Senator Lou Correa  
State Assemblyman Jim Silva



Commissioner Steve Blank  
Commissioner Steve Kram  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
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Commissioner Steve Kinsey  
Commissioner Brooks Firestone  
Commissioner Suja Lowenthal  
Commissioner Deborah Schoenbaum  
Commissioner Mike Chrisman  
Commissioner Karen Scarborough  
Commissioner Paul Thayer  
Mr. Tom Luster  
Governor Arnold Schwarzenegger  
Speaker Karen Bass  
Senate President Pro Tem Darrell Steinberg  
U.S. Congressional Representative  
Ed Royce  
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Ken Calvert  
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Dana Rohrabacher  
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Loretta Sanchez  
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John Campbell  
State Senator Robert Huff  
State Senator Tom Harman  
State Senator Mark Wyland

State Assemblyman Van Tran  
State Assemblyman Jose Solorio  
State Assemblyman Chuck Devore  
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OC Supervisor Chris Norby  
HB Mayor Keith Bohr  
HB City Councilman Gill Coerper  
HB City Councilman Don Hansen  
HB City Councilman Joe Carchio  
HB City Councilwoman Cathy Green  
Ms. Whitney Radcliff

Dale Dunn  
17302 Almelo Lane  
Huntington Beach, CA 92649

This letter has been sent to all members of the Coastal Commission and staff.

January 5, 2009

California Coastal Commission  
Chairwoman Bonnie Neely  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Dear Chairwoman Neely and Commissioners:

I have lived in Huntington Beach for forty-one years. I am fully in favor of the desalination facility that Poseidon is proposing. The reasons are simple. It is not going to harm our ocean water quality and it will result in an economic boon for our city.

I trust the scientific community, not the unsubstantiated claims of the opponents. Scientist after scientist says that taking water molecules out of ocean water and mixing the ocean salt with the rest of the ocean water does not harm the environment.

Ocean water is already going through the intake and outfall pipes of the AES power plant today and whether this desalination facility is approved tonight or not, ocean water will continue to go in and out of the power plant.

You have heard that this is a way to stop AES. Not only is that not true, but it is not what you will be voting on. You will be voting on the adequacy of the Environmental Impact Report for the desalination project, and whether it lives up the standards of the Coastal Act.

As you know, the mission of the Coastal Commission is to "Protect, conserve, restore, and enhance environmental and human-based resources of the California coast and ocean for environmentally sustainable and prudent use by current and future generations."

This project will conserve water by re-cycling water already used by the generating station for cooling. It will protect our environment with its state-of-the-art technology and many stages of oversight. It will enhance our current water supply. This is a renewable resource in the most basic meaning of the phrase, and it will provide a much-needed supply for future generations.

This area is zoned properly for a desalination facility and should be approved. In fact, it follows the Coastal Act's requirement of co-location to a T.

After so many years in the approval process, this project deserves a hearing before the Commission early this coming year. I hope that you will do everything you can to ensure that the project is not mired by unnecessary delays.

Please approve this project.

Sincerely,



Dale Dunn  
714-846-4982

CC:

Chairwoman Bonnie Neely  
Vice Chairman Dr. William A. Burke  
Commissioner Ben Hueso  
Commissioner Steve Blank  
Commissioner Steve Kram  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
Commissioner Patrick Kruer  
Commissioner Dave Potter  
Commissioner James Wickett  
Commissioner April Vargas  
Commissioner Dan Secord  
Commissioner Adi Liberman  
Commissioner Sharon Wright  
Commissioner Steve Kinsey  
Commissioner Brooks Firestone  
Commissioner Suja Lowenthal  
Commissioner Deborah Schoenbaum  
Commissioner Mike Chrisman  
Commissioner Karen Scarborough  
Commissioner Paul Thayer  
Mr. Tom Luster  
Governor Arnold Schwarzenegger  
Speaker Karen Bass

State Senator Mimi Walters  
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OC Supervisor Chris Norby  
HB Mayor Keith Bohr  
HB City Councilman Gill Coerper  
HB City Councilman Don Hansen  
HB City Councilman Joe Carchio  
HB City Councilwoman Cathy Green  
Ms. Whitney Radcliff

Senate President Pro Tem Darrell Steinberg  
U.S. Congressional Representative  
Ed Royce  
U.S. Congressional Representative  
Gary Miller  
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Ken Calvert  
U.S. Congressional Representative  
Dana Rohrabacher  
U.S. Congressional Representative  
Loretta Sanchez  
U.S. Congressional Representative  
John Campbell  
State Senator Robert Huff  
State Senator Tom Harman  
State Senator Mark Wyland

This letter has been sent to all members of the Coastal Commission and staff.

Devin Dwyer  
310 22<sup>nd</sup> Street  
Huntington Beach, CA 92648  
(714) 536-2440

January 5, 2009

California Coastal Commission  
Chairwoman Bonnie Neely  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Dear Chairwoman Neely and Commissioners:

On November 4, 2008, I was elected to the Huntington Beach City Council after prevailing over four other challengers. During the many months that I campaigned for the seat, I met and talked with thousands of Huntington Beach residents. One of the issues of concern for City residents is water reliability. This is why I spent the time to understand the benefits and impacts of Poseidon Resources' Huntington Beach Desalination Facility. After an extensive review of the project, I have become an enthusiastic supporter and I am writing to encourage your timely approval of the project.

My support for the project, and the support of the constituents, is reflected more broadly in a public opinion survey that was recently conducted by the Orange County Business Council and Los Angeles/Orange County Building Trades Council. The results show that 76% of Orange County voters support the development of a seawater desalination along the coast and want the Huntington Beach project built.

I've owned a construction business in Orange County for more than twenty years, and I have personally seen the incredible population growth in our region. While that growth has been good for business, it also creates challenges that must be addressed. Chief among those challenges is how to adequately provide enough water to all of those new residents and the businesses that serve them. I strongly support a continued emphasis on conservation and encourage the incorporation of drought resistant landscaping within new housing and commercial developments. Those efforts, however, are not enough. We must also take advantage of the technology that allows us to convert ocean water into fresh and safe drinking water. The Poseidon Project in Huntington Beach is a great way for Southern California to start providing itself with a pure, dependable and drought-proof water supply.

Besides the obvious benefit of additional water, this project will also generate significant new revenues to the City of Huntington Beach. The millions of dollars in fees and taxes generated by this project over the years will provide a solid, stabilizing source of revenue for the city. The challenging economic times that we are now experiencing

should serve as a reminder that we need to take advantage of opportunities like this to secure long-term economic support for our community.

Finally, not only will this project help satisfy our area's growing need for water and generate significant new fees and taxes for Huntington Beach, but it will also symbolize our community's forward-thinking approach to thoughtfully addressing one of Southern California's most pressing natural resource challenges. It's time for the California Coastal Commission and State Land Commission to realize the urgency of securing additional sources of fresh water for our state and approve the Poseidon project.

Sincerely,



John Devin Dwyer

CC:

Chairwoman Bonnie Neely  
Vice Chairman Dr. William A. Burke  
Commissioner Ben Hueso  
Commissioner Steve Blank  
Commissioner Steve Kram  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
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Commissioner Mike Chrisman  
Commissioner Karen Scarborough  
Commissioner Paul Thayer  
Mr. Tom Luster

State Senator Mimi Walters  
State Senator Lou Correa  
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Governor Arnold Schwarzenegger  
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Loretta Sanchez  
U.S. Congressional Representative  
John Campbell  
State Senator Robert Huff  
State Senator Tom Harman  
State Senator Mark Wyland

This letter has been sent to all members of the Coastal Commission and staff.

Noble Waite  
19402 Coralwood Lane  
Huntington Beach, CA 92646  
(714) 968-8520

California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

January 5, 2009

Honorable Commissioners,

I respectfully request that the Commission give all due consideration to the desalination facility that has been proposed for Huntington Beach by Poseidon Resources Corporation.

As a former board member at Orange County Water District (twenty-one years) and West Orange County Water District (eight years), and having served on the Huntington Beach City Council for four years, I think I bring a considerable amount of credibility to the discussion on this issue. Because of my knowledge of the need we have for alternative, drought-proof water sources, I am very much in favor of the project that has been proposed by Poseidon Resources. Most Orange County residents agree with me, according to research on public opinion that was recently conducted by the Orange County Business Council.

The desalination project will produce extremely high-quality water our city will have the right to buy. It will also be available for purchase by agencies such as MWDOC. Furthermore, the city will have access to the desalinated water in times of emergency.

It has been two long years since Poseidon first applied to the Coastal Commission for a Coastal Development Permit for the Huntington Beach Desalination Facility. While the Commission's staff continues to deny the project a hearing based on its merits, the water supply situation in Southern California is rapidly deteriorating. I encourage you to work with your staff to bring this project before the Commission in a timely manner.

For all of these reasons, I support the building of this project and I hope that the Commission will hold a public hearing soon and approve the project's permit..

Sincerely,



Noble Waite

CC:



Chairwoman Bonnie Neely  
Vice Chairman Dr. William A. Burke  
Commissioner Ben Hueso  
Commissioner Steve Blank  
Commissioner Steve Kram  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
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HB Mayor Keith Bohr  
HB City Councilman Gill Coerper  
HB City Councilman Don Hansen  
HB City Councilman Joe Carchio  
HB City Councilwoman Cathy Green  
Ms. Whitney Radcliff

This letter has been sent to all members of the Coastal Commission and staff.

**Cathy Meschuk  
20451 Kelvingrove Lane  
Huntington Beach, CA 92646**

November 25, 2008

Dear Chairman Kruer:

I have lived in Southeast Huntington Beach near the location that is proposed for a desalination plant, for 14 years.

I am the President of the Huntington Beach Council on Aging and I formerly served as the Executive Director of the Huntington Beach Educational Foundation. Everything I do revolves around children and the elderly. The children are counting on you to ensure their water supplies for the future and will be expecting to inherit a city that is in sound fiscal health.

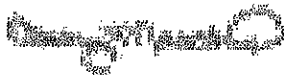
The seniors are expecting you to provide for the services they have come to expect. They took care of us and now it's time to take care of them.

The water reliability that will be provided by the desalination plant is a clear benefit, as is the emergency supply of water. Our children are counting on us to take care of their future. A reliable, safe, drought-proof water supply is a very important part of that future.

The people who are opposing this project oppose every new project in the city. They lost Costco for us. They very nearly cost us Wal-Mart. They would have defeated Pacific City if they could have. I live in Southeast Huntington Beach and I can't wait to utilize Pacific City's businesses when they're built. This same crowd would have kicked the Hyatt and the Hilton out of town if they'd had the chance. These are the same businesses that help to bring so many tourists to town – the same tourist industry these fomenters are so keen to protect now.

I support Poseidon's project and I request that the Coastal Commission do so, too.

Sincerely,



Cathy Meschuk

CC:

Chairman Pat Kruer  
Vice Chairwoman Bonnie Neely  
Commissioner Ben Hueso

State Senator Mimi Walters  
State Senator Lou Correa  
State Assemblyman Jim Silva

Commissioner Steve Blank  
Commissioner Steve Kram  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
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Commissioner Paul Thayer  
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Speaker Karen Bass  
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U.S. Congressional Representative Gary Miller  
U.S. Congressional Representative Ken Calvert  
U.S. Congressional Representative Dana Rohrabacher  
U.S. Congressional Representative Loretta Sanchez  
U.S. Congressional Representative John Campbell  
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OC Supervisor Chris Norby  
HB Mayor Keith Bohr  
HB City Councilman Gill Coerper  
HB City Councilman Don Hansen  
HB City Councilman Joe Carchio  
HB City Councilwoman Cathy Green  
HB City Councilman Devin Dwyer  
Scott Maloni  
Whitney Radeliff

This letter has been sent to all members of the Coastal Commission and staff.

**Chris Hammond, D.C.  
20451 Kelvingrove Lane  
Huntington Beach, CA 92646**

November 25, 2008

Dear Chairman Kruer:


It's time to get on the bus, paddle out, drop in, dive in (whichever phrase works for you) on the desalination project. Water has been and will be a concern for us living in this converted desert we call So Cal. Our population continues to grow not only here but in the states that the Colorado River actually runs through. We will have our supply from the Colorado River cut – the only questions are: when and by how much.

There are very successful desalination plants being used around the globe and some that have had problems. We can't just bury our heads in the sand for fear that we may be hurt. This is much too pressing of an issue for our community as a whole and individually -- for our families and our children's families.

The naysayers point to problems of a plant in Florida, or point to the troubles with the sports complex. The point is that mistakes are made and we can either stop or learn from them to produce a better outcome. Stopping generally gets you nowhere!

The environmental impact is negligible, the revenues for the county and city are promising. This would be a local project with local controls. This is a win/win for the City of Huntington Beach. So let's do the research and be prudent, but definitely move on and do the responsible thing for the generations to come.

Please support the proposed desalination project.



Chris Hammond

CC:

Chairman Pat Kruer  
Vice Chairwoman Bonnie Neely  
Commissioner Ben Hueso  
Commissioner Steve Blank  
Commissioner Steve Kram  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
Commissioner William Burke

State Senator Mimi Walters  
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State Assemblyman Jose Solorio  
State Assemblyman Chuck Devore  
State Assemblyman Curt Hagman  
State Assemblyman Jeff Miller  
State Assemblyman Mike Duvall  
State Assemblywoman Diane Harkey  
State Assemblyman Tony Mendoza



Orange County  
Taxpayers Association

30205 Hillside Terrace, San Juan Capistrano CA 92675-1542  
phone (949) 240-6226 • fax (949) 240-0304 • [www.octax.org](http://www.octax.org)

May 23, 2007

Chairman Patrick Krueger  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

**Coastal Commission staff has received a copy of the enclosed communication**

Re: Coastal Development Permit Application #E-06-007  
Huntington Beach Seawater Desalination Project

Dear Chairman Krueger:

The Orange County Taxpayers Association (OCTax) believes that the proposed desalination facility in Huntington Beach will be good for taxpayers.

- OCTax favors private solutions to public needs. Poseidon, not taxpayers, will assume all financial risks of construction and operation.
- OCTax favors fee-based services, by which users of a service pay in proportion to their amount of usage. Water ratepayers, not taxpayers, will pay for the water produced by the facility.
- The facility will pay \$2.45 million per year in property, sales, and utility taxes which will help pay for public services such as schools, firefighters, healthcare, and transportation.
- The facility will provide 675 direct jobs and 275 indirect jobs during construction, and 18 full-time jobs and 322 indirect jobs once in operation.

Finally, the facility will produce 50 million gallons of water per day, which will help protect Huntington Beach and Orange County from the effects of drought and other disruptions to our water supply.

Sincerely,

A handwritten signature in black ink, reading "Reed L. Royalty". The signature is written in a cursive, flowing style.

REED ROYALTY, President  
Orange County Taxpayers Association

cc:

Chairman Pat Kruer  
Vice Chairwoman  
Bonnie Neely  
Commissioner Ben  
Hueso  
Commissioner Steve  
Blank  
Commissioner Steve  
Kram  
Commissioner Khatchik  
Achadjian  
Commissioner Sara Wan  
Commissioner Mary  
Shallenberger  
Commissioner Mike  
Reilly  
Commissioner Larry  
Clark  
Commissioner William  
Burke  
Commissioner Dave  
Potter  
Commissioner Judy  
Biviano Lloyd  
Commissioner April  
Vargas  
Commissioner Dan  
Secord  
Commissioner Adi  
Lieberman  
Commissioner Sharon  
Wright  
Commissioner Steve  
Kinsey

Commissioner Brooks  
Firestone  
Commissioner Trent Orr  
Mr. Peter Douglas  
Mr. Tom Luster  
Governor Arnold  
Schwarzenegger  
Speaker Fabian Nunez  
Senate President Pro  
Tem Don Perata  
Secretary Mike Chrisman  
Mr. Barry Sedlik  
Director Lester Snow  
Senator Dennis  
Hollingsworth  
Senator Jim Battin  
Senator Mark Wyland  
Senator Christine Kehoe  
Senator Denise Ducheny  
Senator Bob Margett  
Senator Dick Ackerman  
Senator Tom Harman  
Assemblymember  
George Plescia  
Assemblymember Kevin  
Jeffries  
Assemblymember Mimi  
Walters  
Assemblymember Martin  
Garrick  
Assemblymember Lori  
Saldana  
Assemblymember Joel  
Anderson

Assemblymember Shirley  
Horton  
Assemblymember Mary  
Salas  
Assemblymember Bob  
Huff  
Assemblymember Jim  
Silva  
Assemblymember Van  
Tran  
Assemblymember Chuck  
DeVore  
Assemblymember Todd  
Spitzer  
Assemblymember Mike  
Duvall  
Commissioner John  
Garamendi  
Commissioner John  
Chiang  
Commissioner Michael  
Genest  
Commissioner Cindy  
Aronberg  
Commissioner Anne  
Sheehan  
Mr. Paul Thayer  
Ms. Barbara Dugal  
Ms. Judy Brown  
Ms. Jessica Jones

Ralph Bauer  
16511 Cotuit Circle  
Huntington Beach CA 92649

May 17, 2007

Chairman Pat Kruer  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

**Coastal Commission staff has received a copy of the enclosed communication**

Re: Coastal Development Permit Application #E-06-007  
Huntington Beach Water Desalination Facility  
Media Clipping

Dear Chairman Kruer:

I have been a resident of Huntington Beach for over 40 years and have been active leader in the community serving as Mayor, member of the City Council and on several school boards. Because of my profession as a research scientist (I am now retired), I have also been active in protecting our local coastal wetlands through my involvement with the Amigos de Bolsa Chica and the Bolsa Chica Land Trust.

I'm contacting you today to convey my support of the Huntington Beach Water Desalination Facility.

The city of Huntington Beach has spent more than four years examining all aspects of the project, the EIR has been approved, and the Regional Water Control Board -- Santa Ana Region has approved the project's discharge permit.

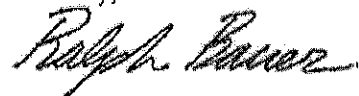
I hope you will carefully review the scientific and environmental effects of this project and I respectfully request that the Commission approve its permit application.

In addition, I've attached various newspaper clippings that convey the dire water situation that our state faces and the precarious situation Southern California, in particular, finds itself. Seawater desalination is not the cure-all for our state's water problems but it is a tool that should be utilized to alleviate the problems.

If you would like to discuss this further, feel free to call me at 714-846-3927 or e-mail at [rbauer1022@verizon.net](mailto:rbauer1022@verizon.net).

Thank you for your time and consideration.

Sincerely,



RALPH BAUER

cc:

Chairman Pat Kruer  
Vice Chairwoman Bonnie  
Neely  
Commissioner Ben Hueso  
Commissioner Steve Blank  
Commissioner Steve Kram  
Commissioner Khatchik  
Achadjian  
Commissioner Sara Wan  
Commissioner Mary  
Shallenberger  
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Commissioner Steve Kinsey  
Commissioner Brooks  
Firestone  
Commissioner Trent Orr

Mr. Peter Douglas  
Mr. Tom Luster  
Governor Arnold  
Schwarzenegger  
Speaker Fabian Nunez  
Senate President Pro Tem  
Don Perata  
Secretary Mike Chrisman  
Mr. Barry Sedlik  
Director Lester Snow  
Senator Dennis  
Hollingsworth  
Senator Jim Battin  
Senator Mark Wyland  
Senator Christine Kehoe  
Senator Denise Ducheny  
Senator Bob Margett  
Senator Dick Ackerman  
Senator Tom Harman  
Assemblymember George  
Plescia  
Assemblymember Kevin  
Jeffries  
Assemblymember Mimi  
Walters  
Assemblymember Martin  
Garrick  
Assemblymember Lori  
Saldana

Assemblymember Joel  
Anderson  
Assemblymember Shirley  
Horton  
Assemblymember Mary  
Salas  
Assemblymember Bob Huff  
Assemblymember Jim Silva  
Assemblymember Van Tran  
Assemblymember Chuck  
DeVore  
Assemblymember Todd  
Spitzer  
Assemblymember Mike  
Duvall  
Commissioner John  
Garamendi  
Commissioner John Chiang  
Commissioner Michael  
Genest  
Commissioner Cindy  
Aronberg  
Commissioner Anne  
Sheehan  
Mr. Paul Thayer  
Ms. Barbara Dugal  
Ms. Judy Brown  
Ms. Jessica Jones



Mrs. Margaret Carlberg  
17422 Lido Lane  
Huntington Beach, CA 92647

March 2, 2007

California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Coastal Commission staff has received a copy of the enclosed communication

Re: Coastal Development Permit Application #E-06-007  
Huntington Beach Seawater Desalination Project

Honorable Commissioners,

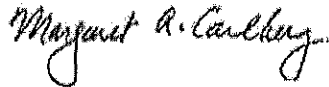
I wish to voice my support of the construction of the Poseidon Water Treatment Facility in Huntington Beach, knowing very well that there is a need for a clean and more dependable water source for our area for the future.

As a chemistry teacher I know that desalination using the reverse osmosis technique is environmentally sound, and reusing the effluent water from the adjacent power plant will reduce the temperature of the water returned to the ocean thereby benefiting, not harming, the marine environment as well.

The design and landscaping planned will certainly improve that industrial area and our special oceanfront, and the new water storage units will be a major asset to our community in an emergency.

Since 1968 I have enjoyed living in Huntington Beach, and volunteering in community environmental affairs. As one of many quiet but dedicated environmentalists in the area, I urge you to approve the project and support the construction of this water treatment facility in Huntington Beach.

Sincerely,



Margaret Carlberg  
mearlberg@ix.netcom.com

cc:

Chairman Pat Krueger  
Commissioner Meg Caldwell  
Commissioner Steve Kram  
Commissioner Bonnie Neely  
Commissioner Khatchik Aghadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
Commissioner William Burke  
Commissioner Dave Potter  
Commissioner Judy Blyviano Lloyd  
Commissioner April Vargas  
Commissioner Dan Secord  
Commissioner Adj. Liberman  
Commissioner Sharon Wright

Commissioner Steve Kinsey  
Commissioner Brooks Firestone  
Commissioner Trent Orr  
Commissioner David Allgood  
Mr. Peter Douglas  
Mr. Tim Luster  
Governor Arnold Schwarzenegger  
Speaker Fabian Nunez  
Senate President Pro Tem  
Don Perata  
Secretary Mike Chrisman  
Director Lester Snow  
State Lands Commission  
Senator Dennis Hollingsworth  
Senator Jim Battin  
Senator Mark Wyland

Senator Christine Kehoe  
Senator Denise Ducheny  
Assemblymember George Plescia  
Assemblymember Kevin Jeffries  
Assemblymember Mimi Walters  
Assemblymember Martin Gariok  
Assemblymember Lori Saldana  
Assemblymember Joel Anderson  
Assemblymember Shirley Horton  
Assemblymember Mary Salas  
Commissioner John Garamendi  
Commissioner John Chiang  
Commissioner Michael Genest  
Commissioner Cindy Aronberg  
Commissioner Anne Sheehan  
Ms. Judy Brown

Gary Gorman  
9122 Christine Drive  
Huntington Beach, CA 92646

February 28, 2007

Chairman Pat Kruer  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Coastal Commission staff has received a copy of the enclosed communication

Re: Coastal Development Permit Application # E-06-007  
Huntington Beach Seawater Desalination Project

Dear Chairman Kruer:

I have been a resident of southeast Huntington Beach for 29 years and have been active in protecting our local coastal wetlands for years. I have read all of the environmental documents regarding the Huntington Beach Seawater Desalination Project and have not found any creditable evidence that the project will do any harm to wetlands or the ocean.

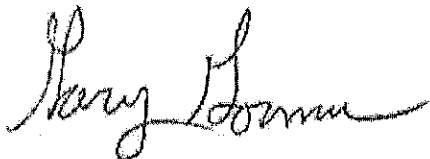
The City has spent more than four years examining all aspects of the project, the EIR has been approved, and the Regional Water Control Board - Santa Ana Region has approved the project's discharge permit.

I hope you will carefully review the scientific and environmental effects of this project and request that the Commission approve its permit application.

Please feel free to call me at 714-926-1945 or e-mail [gcgorman@verizon.net](mailto:gcgorman@verizon.net).

Thank you for your consideration.

Sincerely,



Gary Gorman

cc:

Chairman Pat Kruer  
Commissioner Meg Caldwell  
Commissioner Steve Kram  
Commissioner Bonnie Neely  
Commissioner Khatchik Achadjian  
Commissioner Sara Wan  
Commissioner Mary Shallenberger  
Commissioner Mike Reilly  
Commissioner Larry Clark  
Commissioner William Burke  
Commissioner Dave Potter  
Commissioner Judy Biviano Lloyd  
Commissioner April Vargas  
Commissioner Dan Secord  
Commissioner Adi Liberman  
Commissioner Sharon Wright

Commissioner Steve Kinsey  
Commissioner Brooks Firestone  
Commissioner Trent Orr  
Commissioner David Allgood  
Mr. Peter Douglas  
Mr. Tom Luster  
Governor Arnold Schwarzenegger  
Speaker Fabian Nunez  
Senate President Pro Tem  
Don Perata  
Secretary Mike Chrisman  
Director Lester Snow  
State Lands Commission  
Senator Dennis Hollingsworth  
Senator Jim Battin  
Senator Mark Wyland

Senator Christine Kehoe  
Senator Denise Ducheny  
Assemblymember George Plescia  
Assemblymember Kevin Jeffries  
Assemblymember Mimi Walters  
Assemblymember Martin Garrick  
Assemblymember Lori Saldana  
Assemblymember Joel Anderson  
Assemblymember Shirley Horton  
Assemblymember Mary Salas  
Commissioner John Garamendi  
Commissioner John Chiang  
Commissioner Michael Genest  
Commissioner Cindy Aronberg  
Commissioner Anne Sheehan  
Ms. Judy Brown

February 8, 2007

Chairman Pat Kruer  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

**Coastal Commission staff has received a copy of the enclosed communication**

Re: Huntington Beach Water Desalination Project – Coastal Development Permit Application  
# E-06-007

Dear Chairman Kruer:

The Huntington Beach Chamber of Commerce is proud to join the *Orange County Register*, the Orange County Association of Realtors, the Orange County Business Council, the Orange County Taxpayers Association, many other organizations and thousands of individuals in support of the proposed Huntington Beach desalination facility.

We support Huntington Beach's vision as a world-renowned tourist destination. With our beautiful beaches, world-class resorts and charming restaurants and shopping, Huntington Beach offers a unique seaside experience. We are pleased that Poseidon Resources Corporation is interested in building a desalination facility in our city to provide a reliable, safe water supply for our residents and visitors.

The desalination process is utilized at more than 12,000 installations throughout the globe to convert seawater into clean drinking water. The Huntington Beach facility will be located on a portion of the existing power plant property at PCH and Newland Avenue, so no new industrial area will be created. The proposed plan calls for the area around the power plant to be beautified with landscaping and other street improvements, which fits in perfectly with our city's continuing efforts to improve the appearance and functionality of our arterial and feeder streets along with our commercial and retail zones throughout Huntington Beach.

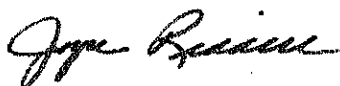
The Huntington Beach Water Treatment Desalination Facility will provide many benefits to the city and the community:

- The facility will pay millions of dollars each year in property, sales and utility taxes. These funds can be used to make Huntington Beach even more attractive as a great place to live; as a world-class resort; and as a prime location for business.
- The facility will create a reliable and environmentally sound source of 50 million gallons per day of fresh water. It will be a hedge against the economic consequences of drought or other possible disruptions to our water supply.

- Cosmetic improvements around the current power plant facility will beautify the area. New structures will not exceed two stories in height.
- The facility will create hundreds of direct and indirect jobs during the construction period. Once in operation, the facility will continue to provide full-time and indirect jobs in the city.
- Local control, local benefits. No cost to the city or taxpayers will be incurred; Poseidon Resources Corporation will put up the money and take the risk.

We respectfully request your thorough review of the Huntington Beach Water Desalination Facility when it comes before your Commission. Feel free to personally contact me if you have any questions, (714) 536-8888. Thank you.

Sincerely,



President

cc:

Commissioner Meg Caldwell  
 Commissioner Steve Kram  
 Commissioner Bonnie Neely  
 Commissioner Khatchik Achadjian  
 Commissioner Sara Wan  
 Commissioner Mary Shallenberger  
 Commissioner Mike Reilly  
 Commissioner Larry Clark  
 Commissioner William Burke  
 Commissioner Dave Potter  
 Commissioner Judy Biviano Lloyd  
 Commissioner April Vargas  
 Commissioner Dan Secord  
 Commissioner Adi Liberman  
 Commissioner Sharon Wright  
 Commissioner Steve Kinsey  
 Commissioner Brooks Firestone  
 Commissioner Trent Orr  
 Commissioner David Allgood  
 Mr. Peter Douglas  
 Mr. Tom Luster  
 Governor Arnold Schwarzenegger  
 Speaker Fabian Nunez  
 Senate President Pro Tem Don Perata  
 Secretary Mike Chrisman  
 Director Lester Snow  
 State Lands Commission - Office of Lieutenant Governor

State Senator Bob Margett  
 State Senator Dick Ackerman  
 State Senator Tom Harman  
 State Senator Bill Morrow  
 Assemblyman Bob Huff  
 Assemblyman Jim Silva  
 Assemblyman Van Tran  
 Assemblyman Chuck Devore  
 Assemblyman Todd Spitzer  
 Assemblyman Mike Duvall  
 Assemblywoman Mimi Walters  
 Commissioner John Garamendi, State Lands  
 Commissioner John Chiang, State Lands  
 Commissioner Michael Genest, State Lands  
 Commissioner Cindy Aronberg, State Lands  
 Commissioner Anne Sheehan, State Lands  
 Ms. Judy Brown, State Lands Commission



February 21, 2007

## Report: Climate change, population growth could overwhelm Colorado River

By Mike Lee

UNION-TRIBUNE STAFF WRITER

SAN DIEGO – Climate change and soaring population growth across the Southwest threaten to overwhelm the main water source for tens of millions of people, the National Research Council said Wednesday in a major report that synthesized decades of research on the Colorado River basin.

The potentially affected areas include San Diego County, which received about 60 percent of its water from the river last year.

The report said regional droughts may be longer and more severe than previously predicted, even before accounting for global warming. Its authors added that evidence strongly suggests that worldwide temperature increases will further reduce the river's flows.

"This will inevitably lead to increasingly costly, controversial and unavoidable trade-offs," said the study, which was released by the National Research Council, a branch of the National Academies.

The gloomy findings substantiate growing concerns among water managers in Southern California. They also highlight the need for ways to deal with climate change while California tries to reduce its impacts.

Last year, a report on the State Water Project – the other main source of San Diego County's water – also forecasted increasing difficulty in meeting competing demands for fish, farmers and cities in the face of global warming.

"It's not something that we can bide our time until we retire," state water chief Lester Snow said at a climate-change conference a few weeks ago. "We need to manage it now. We're not doing a particularly good job."

Several efforts are ramping up locally and statewide to address the changing water dynamics across the West. In Sacramento, Gov. Arnold Schwarzenegger is proposing new dams to store mountain runoff in Northern California. Down south, the San Diego County Water Authority is diversifying its water sources and promoting a new outdoor water-conservation program.

But Wednesday's report suggested that current efforts aren't enough and that future weather patterns could force substantial changes in how water is divvied up.

"There is no technical cure-all or panacea capable of resolving the region's increasing water supply-demand tensions," it said.

The sobering picture was put together using dozens of research papers on the Colorado River basin, which covers some 240,000 square miles in seven states and Mexico.

Studies of tree rings show that the Colorado River's ancient history includes long periods when the water levels were higher and lower than they have been in modern times. Specifically, the report said that the 1922 agreement that apportions the river's water was based on exceptionally wet years while recent years have been notably dry.

Global warming is likely to compound historic water variations, the national science panel said. Several climate models show a warmer future for the Colorado basin, where temperatures have risen markedly in recent decades.

Continued climate changes are expected to have several effects on water in the Southwest. They include increasing evaporation, growing public demand, decreasing snowpack and more extreme droughts and flooding.

---

■ Mike Lee: (619) 542-4570; [mike.lee@uniontrib.com](mailto:mike.lee@uniontrib.com)

Associated Press – February 27, 2007

## COLORADO RIVER

### Scientists say chances of river shortage rising

TUCSON, Ariz. (AP) - Scientists and public officials fear water from the Colorado River will run short more quickly than previously predicted because of booming population growth and drought.

There's a 10 percent chance of shortages in four to five years, and a 25 percent chance the river will run short between 2020 and 2025, according to two prominent water officials in Arizona.

"I have no doubt that within the next five to 10 years, we will be in a shortage," said David Modeer, Tucson Water's director and a member of the three-county board that manages the Central Arizona Project, which diverts water from the Colorado River to Arizona.

"It does not look good," Modeer said.

Larry Dozier, general manager of the Central Arizona Project, said when the shortages happen, they would not reduce water deliveries to cities.

Rather, he said it would primarily affect non-American Indian farms that are lower on the pecking order for getting water from the Central Arizona Project.

But Dozier said the pain from shortages should be eased, if not eliminated, because the state has been buying excess Central Arizona Project water and storing it in the ground for the past decade.

Originally, scientists who conducted a 1995 federal study predicted states would lose no more than 3 percent of their river supplies even in the worst drought year.

Instead, in the time since the study, Lake Powell and Lake Mead carried less water than had been predicted for the worst possible drought, users took more water than expected, and the river's flow was weaker than expected.

Ben Harding, an engineer and one of the authors of the 1995 study, said the Colorado River's woes are a "system drought," caused by the huge scale of the Colorado's reservoir system that 25 million people rely on for water, and by population growth that has come to rely on it.

"The bigger the reservoirs that you build, the bigger the system you build, the more sensitive it becomes to droughts (and) the longer it takes to recover," Harding said. "You have a bigger hole to fill."

Harding said the study's authors assumed the worst-case drought would be a very rare event and probably many years off and that the high cost of pumping water 300 miles uphill to Tucson from the Colorado would reduce the demand for the project's water.

"The current drought, however, has caught water managers unprepared," Harding wrote.



Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

**Re:    *Support - Huntington Beach Desalination Project***

Dear Chairwoman Shallenberger:


It is essential that the Coastal Commission consider science and not rhetoric when considering permit approval for a project. The Huntington Beach Seawater Desalination Facility has undergone extensive scientific analysis to consider its environmental impacts both at the local as well as the state level. Both times, the science has shown that the project is environmentally sound and both times the governing bodies approved the project (The City of Huntington Beach certified the SEIR and the Santa Ana Regional Water Quality Control Board approved the NPDES permit). The project has also been approved by the California State Lands Commission and has received conceptual approval to introduce desalinated seawater to the Orange County drinking water system by the California Department of Health. After more than 10 years of regulatory red tape, it's time to allow this project to proceed.

In addition to providing 50 million gallons of fresh drinking water per day from an entirely new untapped source – the Pacific Ocean – the project will also create more than 2,000 jobs at a time when the state should be encouraging private sector job growth and allowing Orange County to have the opportunity to build its own desalination plant just as the Coastal Commission has permitted San Diego County to do.

Our leaders in Sacramento are considering CEQA reform in order to prevent the needless delay of good infrastructure projects like this one. Please approve the Coastal Development Permit for this project based on its merits and the sound science that shows this project can be built in an environmentally sensitive way. We must find ways to reduce our reliance on imported water. Conservation and recycling are important tools that currently help us achieve that, but desalination should be considered as another important resource for our future water plan, just as our state department of water resources has identified.

In closing, I encourage you to approve this project, which will both create new jobs and put another arrow in the quiver of drinking water reliability for Orange County.

Sincerely,

  
(Curt Stanley)

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. William Burke, Commissioner, California Coastal Commission  
Mr. Robert Garcia, Commissioner, California Coastal Commission  
Ms. Carole Groom, Commissioner, California Coastal Commission  
Ms. Martha McClure, Commissioner, California Coastal Commission  
Ms. Wendy Mitchell, Commissioner, California Coastal Commission  
Ms. Esther Sanchez, Commissioner, California Coastal Commission  
Ms. Jana Zimmer, Commissioner, California Coastal Commission  
The Hon. Jerry Brown, Governor, State of California  
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The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California

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45 Fremont Street  
San Francisco, CA 94105-2219

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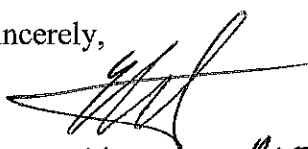
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Sincerely,



MARTIN MCINTOSH

33 GREENFIELD, IRVINE CA 92614

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
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The Hon. Jerry Brown, Governor, State of California  
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The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California

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California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

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Sincerely,

Josh Haskins  
246 Grotto  
Irvine, CA 92614

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
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Ms. Mary K. Shallenberger, Chairwoman  
California Coastal Commission  
45 Fremont Street  
San Francisco, CA 94105-2219

***Re: Support - Huntington Beach Desalination Project***

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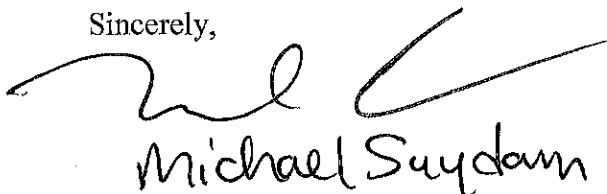
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Sincerely,



Michael Suydam

cc: Mr. Steve Kinsey, Vice Chair, California Coastal Commission  
Mr. Steve Blank, Commissioner, California Coastal Commission  
Ms. Danya Bochco, Commissioner, California Coastal Commission  
Mr. Brian Brennan, Commissioner, California Coastal Commission  
Dr. William Burke, Commissioner, California Coastal Commission  
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The Hon. Gavin Newsom, Lieutenant Governor, State of California  
The Hon. Darrell Steinberg, State Senate Pro Tem, State of California  
The Hon. John Perez, Speaker of the Assembly, State of California



**Re: Support - Huntington Beach Desalination Project**  
**California Coastal Commission staff has received a copy of this communication**

**Steven Christy**  
**21021 Lochlea**  
**Huntington Beach, CA 92646**

March 26, 2013

Ms. Mary Shallenberger  
Chairman, California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

***Re: Support - Huntington Beach Desalination Project***  
***California Coastal Commission staff has received a copy of this communication***

Desalinated water is becoming a reality in Southern California. I was thrilled to learn that Poseidon's Carlsbad desalination plant has received final approval. As an Orange County resident, however, the project's approval reminded me that the final permits for the Huntington Beach Poseidon plant have still not been issued. I am writing today to ask that you expedite this process to bring the water to Orange County! I know that you will be considering Poseidon's project soon. I hope you will approve it.

Desalinated water will bring us reliable, clean drinking water. It will be drought-proof. In this day and age, with proven technology, local support, unreliable precipitation and other water supplies, why wait?

Sincerely,  
Steve Christy  
sctransportation55@gmail.com

cc:

Linda Sanchez

Member of Congress

38<sup>th</sup> Congressional District

Ed Royce

Member of Congress

39<sup>th</sup> Congressional District

John Campbell

Member of Congress

45<sup>th</sup> Congressional District

Loretta Sanchez

Member of Congress

46<sup>th</sup> Congressional District

Alan Lowenthal

Member of Congress

47<sup>th</sup> Congressional District

Dana Rohrabacher

Member of Congress

48<sup>th</sup> Congressional District

Darrell Issa

Member of Congress

49<sup>th</sup> Congressional District

Mr. Steve Kinsey, Vice Chair, California Coastal Commission

Mr. Steve Blank, Commissioner, California Coastal Commission

Ms. Danya Bochco, Commissioner, California Coastal Commission

Mr. Brian Brennan, Commissioner, California Coastal Commission

Dr. William Burke, Commissioner, California Coastal Commission

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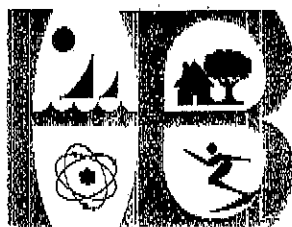
The Hon. Jerry Brown, Governor, State of California

The Hon. Darrell Steinberg, State Senate Pro Tem, State of California

**A-5-HNB-10-225 / E-06-007**  
**Poseidon Water**

## **OPPOSITION LETTERS**

### **•LOCAL GOVERNMENT**



# City of Huntington Beach

P. O. BOX 190

• 2000 MAIN STREET

• CALIFORNIA 92648

**Joe Shaw**  
**City Council Member**

June 10, 2013

Ms. Mary Shallenberger  
Chair  
California Coastal Commission  
P.O. Box 354  
Clements, CA 95227

**RECEIVED****JUN 12 2013****CALIFORNIA  
COASTAL COMMISSION**

Dear Chair Shallenberger:

**RE: COASTAL DEVELOPMENT PERMIT NO. 10-014, "POSEIDON SEAWATER  
DESALINATION PROJECT" (POSEIDON CDP).**

I am joining four other Huntington Beach City Council Members in writing to oppose the Poseidon Desalination Project in Huntington Beach.

In April, a majority of our City Council were prepared to authorize Mayor Connie Boardman to send you a formal letter from the City Council opposing the Poseidon project. However, Poseidon, through its attorneys Latham & Watkins, presented us with a letter saying they would sue us if we issued a joint letter opposing the Poseidon project. Therefore, to avoid legal fees, we have written five separate letters to you. I have attached the original letter we were going to send, which has many of our reasons for opposing this project under the Coastal Act.

There are a variety of other reasons why this project is bad public policy, including the issue of privatization of water, the extravagant costs of Poseidon's water, the fact that Orange County does not need the water, and the extraordinary amount of energy this plant will use to produce water.

Speaking directly to the Coastal Act, I would like to add two areas of deficiency that I believe exist in Poseidon's application:

1. I believe the application is deficient in addressing the effects of climate change and sea level rise. As a director serving on the board of the Orange County Sanitation District, located only a mile or so down the coast from the proposed Poseidon plant, I am aware of the concerns that agency has about sea level rise. Both the OCSD and Poseidon's proposed plant are at similar elevations ranging from 9-12 ft. above sea level.

The OCSD has the following concerns about sea-level rise:

1. Rising sea level impact on operation of our ocean outfall and pumping system.
2. Rising sea level impact on outlying sewage pump stations near the coast.
3. Rising sea level impact on potential flooding of Plant No. 2 in Huntington Beach.

Ms. Mary Shallenberger

Page 2

June 10, 2013

- Potential for changing precipitation patterns, such as larger more destructive winter storms resulting in higher peak flows.
- Potential for warmer temperatures resulting in increased corrosion in the collection system.
- Potential for warmer temperatures resulting in more frequent power outages during the summer

I believe these concerns are very real and would also impact Poseidon's proposed plant. However I do not believe these issues have been addressed in Poseidon's application.

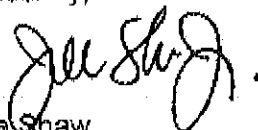
2. I believe that there is inadequate mitigation for the greenhouse gases that the proposed plant will generate.

Poseidon's application states that it will possibly install solar panels to offset some of the energy use; however, doing so would still only offset one percent of the 315,360 MWh per year it will take to run the proposed plant--*less than one percent*.

3. Imagine what it must be like to be a resident of Adelaide, Australia. Their water authority tripled their water rates to pay for a \$1.8 billion plant, one of the largest in the world. But guess what? They don't currently need any of the water! That's right! This \$2 billion plant will now sit idle at a cost to ratepayers of \$30 million a year.

For all of these reasons, plus those laid out in the attached letter, I add my letter to the four letters my City Council colleagues have already sent you.

Sincerely,



Joe Shaw  
City Council Member  
City of Huntington Beach

JS:cf

Attachment

Xc: Commissioners of the California Coastal Commission  
Alison Dettmer, Deputy Director, California Coastal Commission  
Charles Lester, Executive Director, California Coastal Commission  
✓ Tom Luster, Staff Environmental Scientist, California Coastal Commission  
Governor Jerry Brown  
Senator Barbara Boxer  
Senator Dianne Feinstein  
Assembly Member John Perez  
Senator Darrell Steinberg

California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Dear Commissioners:

In 2010, the Huntington Beach City Council approved Coastal Development Permit No. 10-014, conditionally approving the "Poseidon Seawater Desalination Project" (Poseidon CDP).

The City's approval of the Poseidon CDP was appealed by several organizations, as well as Commissioners Wan and Mirkarimi.

Subsequently, the Coastal Commission found "substantial issues" were raised in the several appeals. For the reasons summarized below, we now agree with the Coastal Commission's findings of "substantial issues", and that the issuance of the CDP did not adequately enforce several provisions of our Local Coastal Program (LCP), and recommend the Coastal Commission deny the CDP.

The Applicant can re-apply for a Project CDP from the City that is consistent with our LCP. However, we believe that significant changes to the project may be required to resolve the substantial issues we find were in violation of our Local Coastal Program.

We believe it would be premature for the Coastal Commission to issue a CDP for the "retained jurisdiction" portion of the project prior to the Applicant presenting a revised proposal consistent with our local CDP.

On the following pages you will find a list of our findings in regard to the "substantial issues" adopted by the Coastal Commission in 2010.

**ATTACHMENT A**

**Findings of the Huntington Beach City Council Regarding  
Appeal # A-5-HNB-10-225  
(Poseidon Seawater Desalination Project CDP)**

**1. Marine Biology and Water Quality (LCP: C6.1.1, C6.1.2, C6.1.3, C6.1.14, C6.1.19)**

**a. Water Quality**

We agree with the Coastal Commission findings and reject the Applicants response as unpersuasive and inadequate justification for issuance of the CDP by the City.

LCP Policy C 6.1.1 requires that the project at a minimum prevent the degradation of water quality. We believe the project will indeed degrade water quality. For example the highly saline effluent may arguably not affect areas that support sensitive species, but it will degrade water quality where it occurs. Our LCP policy C 6.1.2 states "marine resources shall be maintained, enhanced, and where feasible restored". This means all marine resources, not just sensitive species. Highly saline discharge will not enhance the marine environment.

We also find that the permit issued by the Regional Water Quality Control Board was limited to the time when the co-located power plant was still operating the "once-through cooling system." The CDP does not provide any opportunity for re-evaluation of the water quality degradation from the disposal of brine into the marine environment once the power plant ceases its current withdrawal of seawater.

**b. Marine Biological Productivity**

Our LCP (Policy C 6.1.3.) requires the "use of the marine environment in a manner that will... maintain healthy populations of all species of marine organisms."

We agree that the lack of a long-term analysis in the CDP, given that the power plant will stop once through cooling by 2020 if not sooner, is inadequate enforcement of the policies in the City's LCP related to ensuring against the degradation of all marine organisms.

We agree with the Coastal Commission finding that any effort to mitigate water quality degradation from the brine disposal by withdrawing additional volumes of seawater to dilute the brine before discharge, exacerbates the intake and mortality of marine life in violation of the City's LCP policies C 6.1.2, C 6.1.3, 6.1.4, and C 6.1.19.

We find that the Project, as it is currently proposed, attempts to resolve some mandates of our LCP policies in a manner that violates other equally mandatory policies included in our LCP.

The City Council finds this piecemeal attempt to segregate our LCP policies to justify the project now unacceptable.



**2. Protection of Wetlands & Environmentally Sensitive Habitat Areas (LCP: C 6.1.4, C 6.1.20, C 7.1.3, C 7.1.4, C 7.1.5)**

Given that commission staff ecologist Dr. Jonna Engel identified evidence of wetland vegetation and hydrology on the site in the spring of 2009, we agree that the EIR erred in concluding there are no wetland areas on the site that would be affected by the project. Wetland protection is important to this council and we would request that a wetlands delineation study be done as part of a revised project proposal.

This council also believes in protecting rare and endangered species that reside in wetlands. This includes assuring the project will not generate so much noise as to interfere with successful feeding, roosting, and nesting of these species.

The EIR did not evaluate the noise impacts on wetland species. This likely violates LCP policy C 7.1.4. In particular, we find that our CDP findings were insufficient to ensure that a larger buffer zone is not warranted to comply with the stated policy: "Sensitivity of species to disturbance: The buffer should be sufficiently wide to ensure that the most sensitive species will not be disturbed significantly by permitted development based on habitat requirements of both resident and migratory species and the adaptability of various species to human disturbance."

**3. Land Use (LCP C 1.2.1)**

A private business is not a public entity. The project is an industrial facility. The applicant describes it as such in the letter sent in response to the appeal. It is not allowed in areas designated as "Public" under the City's Land Use Plan. Therefore, we agree with the Commission that consistency with the City's LCP policy C 1.2.1 would first require an LCP amendment.

**4. Energy Use and Development (LCP C 8, C 8.2.2, C 8.2.4, C 8.3.1)**

We now find that the LCP, by incorporating Coastal Act policies, designates the entire site as being available for power plant expansion. AES is currently in the permitting process with the California Energy Commission to demolish the existing generators and replace them with newer more efficient generators.

To reduce noise impacts to residents of the AES plant, the new generators may need to be situated on the site currently planned for the desalination project. Therefore, we agree with the Coastal Commission finding that reducing the area available on the site will constrain the power plant's options for upgrading the facility, and consequently undermine the policy to "Accommodate energy facilities with the intent to promote beneficial effects while mitigating any potential adverse effects."

**5. Adequate Public Services (LCP C 1.1.1, C 1.2.3)**

In regards to LCP Policy C1.2.3, we find that the CDP did not adequately analyze all the public services necessary to serve the proposed development, consistent with the policies in the Coastal Element. In particular, we find that a delivery pipeline is an essential "public service" for the project that is not available. Further, the CDP failed to identify the route of the delivery pipeline and ensure that the as-yet to be determined pipeline would be consistent with the policies in the Coastal Element at the time of occupancy.

We also agree the project analyses incorrectly calculated the "net reduction in electricity" for the reasons stated in the Commission's findings.

**6. Effects on Public Recreation (LCP C3.1)**

We agree with the Commission's finding of "substantial issues" regarding the impact to recreational fishing from entrainment of marine organisms in the project's proposed intake, as well as displacement of recreational fisheries resulting from the improperly mitigated brine disposal. Withdrawal of seawater for a "stand alone" facility is inconsistent with the City's policy to "preserve, protect and enhance, where feasible, existing public recreation sites...." The entrainment of marine life, compounded by additional seawater withdrawal to dilute the concentrated brine disposal, would not "preserve or protect" recreational fishing opportunities.

The cessation of the ocean water intake system for power plant cooling water will enhance marine habitat and marine life. However, that benefit is lost if the proposed project is allowed to use these same intakes.

**7. Adequate Protection Against Seismic Events and Liquefaction (LCP C10.1.4)**

We agree that without a final determination of the pipeline route, it is premature to conclude that the CDP adequately "[requires] appropriate engineering and building practices for all new structures to withstand ground shaking and liquefaction...." Therefore, we now find that the final identification of the pipeline route, as well as proper studies, engineering and building practices to withstand ground shaking and liquefaction, are required prior to Issuance of the CDP.

**8. Mitigation to the Maximum Extent Possible [LCP C1.1]**

We agree with the Coastal Commission findings that the CDP did not "ensure that adverse impacts associated with [the project] are mitigated or minimized to the greatest extent feasible." A list of adverse impacts that were not minimized nor mitigated to the greatest extent feasible, includes:

- loss of marine life from entrainment;
- water quality degradation from the brine discharge;
- mitigation of the greenhouse gas emissions associated with the energy-intensive seawater desalination process;
- impacts on wetlands wildlife from noise disturbance.

**9. Coastal Dependency [LCP C1.1.2]**

Alternatives for moving the facility itself outside of the coastal zone are technically feasible, but were not adequately considered in issuing the CDP. The seawater desalination intakes are "coastal dependent", however the desalination facility itself is not necessarily "coastal dependent" and the CDP inadequately considered alternatives for the facility outside the coastal zone.

**NEW INFORMATION NOT CONSIDERED IN THE CDP**

The Huntington Beach City Council also wants to make the Coastal Commission and the Applicant aware of new information that we consider relevant to this project. We feel the information is important for future consideration.

1. **New Scientific Reports on Seawater Desalination Prepared for the State Water Resources Control Board:** See expert reports on desalination intakes and mitigation, brine discharge impacts and best technology for minimizing impacts, an brine toxicity studies at:  
[http://www.waterboards.ca.gov/water\\_issues/programs/ocean/desalination/](http://www.waterboards.ca.gov/water_issues/programs/ocean/desalination/)

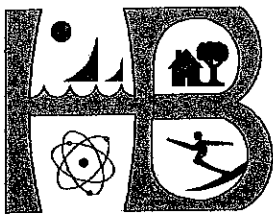
2. **AES Sub-Lease and Issues Related to Location of the AES Re-Power Project on the Site**

The City has been unable to obtain the lease agreement between AES and Poseidon Resources. We now feel this information is essential to a thorough review of potential locations of the desalination facility, and new replacement generators in a manner consistent with our LCP policies. Further, the timing and cumulative impacts of these large construction projects on the same site raise new questions about cumulative impacts yet to be resolved.

In conclusion the Huntington Beach City Council is requesting that the California Coastal Commission deny the CDP for the construction of the Poseidon desalination plant. We authorize Connie Boardman, Mayor of the City of Huntington Beach to sign this letter on our behalf.

Sincerely,

Connie Boardman  
Mayor, City of Huntington Beach



# City of Huntington Beach

2000 MAIN STREET

CALIFORNIA 92648

**Jill Hardy**  
**City Council Member**

May 29, 2013

**RECEIVED**

Ms. Mary Shallenberger  
Chair  
California Coastal Commission  
P.O. Box 354  
Clements, CA 95227

**JUN 03 2013**

CALIFORNIA  
COASTAL COMMISSION

Dear Chair Shallenberger:

I am writing to request that the California Coastal Commission deny the Coastal Development Permit for the Poseidon Desalination project. As a member of the Huntington Beach City Council, I have had the opportunity to evaluate the proposed project three times and have voted against the Environmental Impact Report and the project each time. There are four main reasons I believe the EIR and this project are deficient.

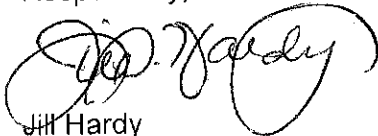
1. Negative Impact of the intake/outfall pipes into the ocean. The EIR assigns negative impacts to the existing AES power plant that currently uses the pipes. AES has proposed a new state-of-the-art generating station that eliminates the need for once-through cooling. When completed, all impacts from the intake/outfall pipes will be the result of Poseidon's project. If power plants using the once-through cooling process are required to end the use of intake/outfall pipes because they are harming the coast, why would Poseidon get approval to continue the use of such pipes?
2. Growth inducing impacts. Since Orange County's water agencies can purchase adequate supplies at one quarter to one half the cost of Poseidon's desalinated water, the only buyers for this water would be those communities that must demonstrate a sufficient supply of water for new development in compliance with SB 610 and SB 221.
3. Poseidon's water is simply not needed. The technology Poseidon proposes is costly and already dated. Before the facility is built, it is already obsolete. Water conservation has increased, and total water use has decreased, even though the population has gone up. Projected water needs for North Orange County are met for the next 25 years according to every Urban Water Management Plan in Orange County. The twenty-five year projections do not predict a crisis at the end of that time period, but rather that is only how far studies predict into the future. Poseidon is offering 30-year purchase contracts. There is no need for the water for nearly the length of the contracts.
4. Climate impacts. The EIR states that the analysis of impacts on GHG emissions is "based on the assumption that the imported water that would be replaced would be the SWP supply." First, per Metropolitan Water District, this project does NOT replace imported water. Second, agencies do not get to "choose" whether their imported water comes from the state water project or the Colorado River. Poseidon's analysis is bogus and the energy consumed to run this plant, 315,360 MW hours per year, should be analyzed for compliance with California's climate targets.

Ms. Mary Shallenberger  
Page 2  
May 29, 2013

The "benefits" Poseidon provides to Southern California are not beneficial at all. They will include continued use of environmentally damaging intake/outfall pipes that are already half a century old. Poseidon's project will increase growth. It will only succeed by encumbering public agencies with 30-year obligations to purchase expensive water that is not needed, and the project will significantly increase greenhouse gas emissions.

I urge you to oppose the Coastal Development Permit for the Poseidon Desalination project.

Respectfully,

A handwritten signature in black ink, appearing to read "Jill Hardy", written over a circular flourish.

Jill Hardy  
City Council Member  
City of Huntington Beach

JH:cf

xc: Commissioners of the California Coastal Commission  
Alison Dettmer, Deputy Director, California Coastal Commission  
Charles Lester, Executive Director, California Coastal Commission  
Tom Luster, Staff Environmental Scientist, California Coastal Commission  
Governor Jerry Brown  
Senator Barbara Boxer  
Senator Dianne Feinstein  
Senator Darrell Steinberg

Re: Poseidon Seawater Desalination Project CDP  
Appeal# A-5-HNB-10-225

**SUBSTANTIAL ISSUES TO BE CONSIDERED**

I. Marine Biology and Water Quality  
(LCP: C6.1.1, C6.1.2, C6.1.3, C6.1.4, C6.1.19)

A. Water Quality

I agree with the Coastal Commission findings and reject Poseidon's response as unpersuasive and inadequate in its request for issuance of the CDP by the City of Huntington Beach.

LCP Policy C 6.1.1 requires that the project at a minimum prevent the degradation of water quality. The project will indeed degrade water quality. Although the highly saline effluent may arguably not affect areas that support sensitive species, it will certainly degrade water quality where it occurs. LCP Policy C 6.1.2 states "marine resources shall be maintained, enhanced, and where feasible restored" -- this means all marine resources, not just sensitive species. Highly saline discharge will not enhance the marine environment.

The permit issued by the Regional Water Quality Control Board was limited to the time when the co-located power plant was still operating the "once-through cooling system." The CDP does not provide any opportunity for the re-evaluation of water quality degradation from the disposal of brine into the marine environment once the power plant ceases its current withdrawal of seawater.

B. Marine Biological Productivity

LCP (Policy C 6.1.3.) requires the "use of the marine environment in a manner that will ... maintain healthy populations of all species of marine organisms."

The lack of a long-term analysis in the CDP, given that the power plant will stop once through cooling by the Year 2020, if not sooner, is inadequate enforcement of the policies contained in the City's LCP relating to safeguarding against the degradation of all marine organisms.

The Coastal Commission found that any effort to mitigate water quality degradation from the brine disposal by withdrawing of additional volumes of seawater to dilute the brine before discharge exacerbates the intake and mortality of marine life and is in violation of the City's LCP policies C 6.1.2, C 6.1.3, 6.1.4, and C 6.1.19.

The Project, as currently proposed, attempts to resolve some mandates of the City's LCP policies, but in the process end up in violation of other equally mandatory policies contained therein, and is thus unacceptable.

II. Protection of Wetlands & Environmentally Sensitive Habitat Areas  
(LCP: C 6.1.4, c 6.1.20, c 7.1.3, c 7.1.4, c 7.1.5)

Since Commission Staff Ecologist Dr. Janna Engel identified evidence of wetland vegetation and hydrology on the site in the Spring of 2009, the EIR erred in concluding there are no wetland areas on the site that would be affected by the project. Wetland protection is of utmost importance, and a wetlands delineation study must be done as part of a revised project proposal.

Rare and endangered species that reside in wetlands must be protected. This include assuring the project will not generate noise audible enough as to interfere with the successful nesting, roosting, and survival of these species.

The EIR did not evaluate the noise impacts on wetland species. This likely violates LCP policy C 7.1.4. In particular, CDP findings were insufficient to ensure that a larger buffer zone requirement is needed to comply with the following policy: "Sensitivity of species to disturbance: The buffer should be sufficiently wide to ensure that the most sensitive species will not be disturbed significantly by permitted development based on habitat requirements of both resident and migratory species and the adaptability of various species to human disturbance."

III. Land Use  
(LCP C 1.2.1)

A private business is not a public entity. The project is being proposed in an industrial facility. Poseidon describes the project as a private entity in a response letter it sent in support of its appeal. This project is not allowed in areas designated as "Public" under the City's Land Use Plan, and the Commission concluded that to be in consistency with the City's LCP policy C 1.2.1, the Project would first require an LCP amendment.

IV. Energy Use and Development  
(LCP C 8, C 8.2.2, C 8.2.4, C 8.3.1)

The LCP, by incorporating Coastal Act policies, designates the entire site as being available for power plant expansion. AES is currently in the permitting process with the California Energy Commission to demolish the existing generators and replace them with newer and more efficient generators.

To reduce noise impacts to residents of the AES plant, the new generators may need to be situated on the site currently planned for the desalination project. The Coastal Commission found that reducing the area available on the site will constrain the power plant's options for upgrading the facility, and consequently undermine the policy to

"Accommodate energy facilities with the intent to promote beneficial effects while mitigating any potential adverse effects."

V. Adequate Public Services  
(LCP C 1.1.1, C 1.2.3)

In regards to LCP Policy C1.2.3, the CDP did not adequately analyze all the public services necessary to serve the proposed development, consistent with the policies in the Coastal Element. In particular, a delivery pipeline is an essential "public service" for the project that is not available. Further, the CDP failed to identify the route of the delivery pipeline and ensure that the as-yet to be determined pipeline would be consistent with the policies in the Coastal Element at the time of occupancy.

We also agree the project analyses incorrectly calculated the "net reduction in electricity" for the reasons stated in the Commission's findings.

VI. Effects on Public Recreation  
(LCP C3.1)

The Commission's found "substantial issues" regarding the impact to recreational fishing from entrainment of marine organisms in the project's proposed intake, as well as displacement of recreational fisheries resulting from the improperly mitigated brine disposal. Withdrawal of seawater for a "stand alone" facility is inconsistent with the City's policy to "preserve, protect and enhance, where feasible, existing public recreation sites .... " The entrainment of marine life, compounded by additional seawater withdrawal to dilute the concentrated brine disposal, would not "preserve or protect" recreational fishing opportunities.

The cessation of the ocean water intake system for power plant cooling water will enhance marine habitat and marine life. However, that benefit is lost if the proposed project is allowed to use these same intakes.

VII. Adequate Protection Against Seismic Events and Liquefaction  
(LCP C10.1.4]

Without a final determination of the pipeline route, it is premature to conclude that the CDP adequately "[requires] appropriate engineering and building practices for all new structures to withstand ground shaking and liquefaction .... " That the final identification of the pipeline route, as well as proper studies, engineering and building practices to withstand ground shaking and liquefaction, are required prior to issuance of the CDP.

VIII. Mitigation to the Maximum Extent Possible  
[LCP C1.1]

The Coastal Commission found that the COP did not "ensure that adverse impacts associated with [the project] are mitigated or minimized to the greatest extent feasible." A



list of these adverse impacts include: loss of marine life from entrainment; water quality degradation from the brine discharge; mitigation of the greenhouse gas emissions associated with the energy-intensive seawater desalination process; impacts on wetlands wildlife from noise disturbance.

IX. Coastal Dependency  
[LCP C1.1.2]

Alternatives for moving the facility itself outside of the coastal zone are technically feasible, but were not adequately considered in issuing the CDP. The seawater desalination intakes are "coastal dependent", however the desalination facility itself is not necessarily "coastal dependent" and the CDP inadequately considered alternatives for the facility outside the coastal zone.

**NEW INFORMATION THAT NEED FURTHER CONSIDERATION IN THE CDP**

The Coastal Commission and Poseidon should be made aware of new information of considerable relevance to this Project.

1. New Scientific Reports on Seawater Desalination Prepared for the State Water Resources Control Board: *see* expert reports on desalination intakes and mitigation, brine discharge impacts and best technology for minimizing impacts, and brine toxicity studies at: [http://www.waterboards.ca.gov/water\\_issues/programs/ocean/desalination](http://www.waterboards.ca.gov/water_issues/programs/ocean/desalination)

2. AES Sub-Lease and Issues Related to Location of the AES Re-Power Project on the proposed site

3. The lease agreement between AES and Poseidon Resources should also be reviewed since this document contain information needed when conducting a thorough review of potential locations of the desalination facility, as well as installation of replacement generators in a manner consistent with our LCP policies. The timing and cumulative impacts of these large construction projects all within the same perimeter raise new issues about cumulative impacts yet to be resolved.

**ATTACHMENT B**

## CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000  
SAN FRANCISCO, CA 94105-2219  
VOICE AND TDD (415) 904-5200  
FAX (415) 904-5400

**W9a**

Filed: 10/05/10  
49<sup>th</sup> Day: 11/22/10  
Staff: TL-SF  
Staff Report: 11/4/10  
Hearing Date: 11/17/10

**STAFF REPORT AND RECOMMENDATION ON APPEAL  
SUBSTANTIAL ISSUE**

**Local Government:** City of Huntington Beach  
**Decision:** Approval with Conditions  
**Appeal No.:** A-5-HNB-10-225  
**Applicant:** Poseidon Resources / AES Huntington Beach  
**Project Description:** Construction and operation of a desalination facility.  
**Project Location:** On the site of the AES Power Plant, 21730 Newland Avenue,  
Huntington Beach, Orange County  
**Appellants:** Orange County Coastkeeper, Surfrider Foundation, Residents For  
Responsible Desalination, Commissioners Wan and Mirkarimi

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**SUMMARY OF STAFF RECOMMENDATION:** Staff recommends the Commission determine that **substantial issue** exists with respect to the grounds on which the appeal has been filed. The appellants have raised substantial issues in that the project as approved and conditioned by the City through issuance of a coastal development permit and Tentative Parcel Map does not conform to applicable Local Coastal Program (LCP) policies. Staff recommends that the Commission find that there is a substantial issue related to inconsistency with LCP policies related to protection of marine life and water quality, protection of wetlands and environmentally sensitive habitat areas, land use, adequate public services, energy use and development, public recreation, protection against seismic events and liquefaction, growth-inducement, coastal dependency, and the requirement for mitigation to the maximum extent feasible. Staff additionally recommends the Commission find no substantial issue related to the project's consistency with the LCP's water conservation policy.

**SUBSTANTIVE FILE DOCUMENTS:**

- Certified City of Huntington Beach Local Coastal Program.
- City of Huntington Beach Coastal Development Permit (CDP) File No. 10-014.
- Coastal Commission Appeal File No. A-5-HNB-06-101.
- Appeal Applications from Orange County Coastkeeper, Surfrider Foundation, and Residents For Responsible Desalination (collectively the Environmental Group Appellants), and Commissioners Wan and Mirkarimi.

**TABLE OF CONTENTS:**

I.	Appellant Contentions .....	2
II.	Local Government Action.....	3
III.	Appeal Procedures .....	3
IV.	Motion & Resolution .....	4
V.	Findings and Declarations.....	4
1.	Project Description.....	4
2.	Permit Jurisdiction .....	5
3.	Permit History .....	5
4.	Appellants' Contentions & Standard of Review.....	6
5.	Appeal Issues Raising Substantial Issue .....	6
5A)	Appeal Issue: Marine Biology and Water Quality.....	6
5B)	Appeal Issue: Protection of Wetlands & Environmentally Sensitive Habitat Areas	10
5C)	Appeal Issue: Land Use .....	13
5D)	Appeal Issue: Energy Use and Development.....	14
5E)	Appeal Issue: Adequate Public Services.....	16
5F)	Appeal Issue: Effects on Public Recreation.....	18
5G)	Appeal Issue: Adequate Protection Against Seismic Events and Liquefaction.....	19
5H)	Appeal Issue: Mitigation to the Maximum Extent Feasible .....	20
5I)	Appeal Issue: Coastal Dependency.....	20
6.	Appeal Issues Not Raising Substantial Issue.....	21
6A)	Appeal Issue: Water Conservation.....	21

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**I. APPELLANT CONTENTIONS**

Appellants contend that the project does not conform to several provisions of the City's LCP related to protection of marine life and water quality, protection of wetlands and environmentally sensitive habitat areas, land use, adequate public services, energy use and development, public recreation, water conservation, protection against seismic events and liquefaction, growth-inducement, and the requirement for mitigation to the maximum extent feasible.

---

## II. LOCAL GOVERNMENT ACTION

The coastal development permit was approved by the City of Huntington Beach City Council on September 20, 2010, concurrent with approval of Tentative Parcel Map #10-013. Previously, on September 7, 2010, the City certified a Final Supplemental Environmental Impact Report for the project. Concurrent with the City's approval of this CDP, it rescinded a CDP it had previously issued to the applicant for a similar project in February 2006.

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## III. APPEAL PROCEDURES

After certification of a LCP, the Coastal Act provides for limited appeals to the Coastal Commission of certain local government actions on coastal development permits. Projects within cities and counties may be appealed if they are located within the appealable areas as defined by Section 30603(a) of the Coastal Act. The grounds for appeal are limited to the assertion that "development does not conform to the certified local coastal program." Where the project is located between the first public road and the sea or within 300 feet of the mean high tide line, the grounds of appeal are limited to those contained in Section 30603(b) of the Coastal Act. Those grounds are that the development does not conform to the standards set forth in the certified local coastal program or the access policies set forth in the Coastal Act.

Section 30625(b) of the Coastal Act requires the Commission to hear an appeal unless it determines that no substantial issue is raised by the appeal. If the staff recommends "substantial issue" and no Commissioner objects, the Commission will proceed to a *de novo* hearing on the merits of the project at the same meeting if the staff has prepared a recommendation on said merits, or at a subsequent meeting if there is no such recommendation.

If the staff recommends "no substantial issue" or the Commission decides to hear arguments and vote on the substantial issue question, proponents and opponents will have three minutes per side to address whether the appeal raises a substantial issue. It takes a majority of Commissioners present to find that no substantial issue is raised. If substantial issue is found, the Commission will proceed to a full public hearing on the merits of the project at either the same or a subsequent meeting as described above. If the Commission conducts a *de novo* hearing on the permit application, the applicable test for the Commission to consider is whether the proposed development is in conformity with the certified LCP. In addition, for projects located between the sea and the first public road paralleling the sea, Section 30604(c) of the Coastal Act requires a finding that the development conforms to the public access and public recreation policies of Chapter 3.

The only persons qualified to testify before the Commission at the "substantial issue" stage of the appeal process are the applicant, persons who opposed the application before the local government (or their representatives), and the local government. Testimony from other persons must be submitted in writing. At the time of the *de novo* portion of the hearing, any person may testify.

---

#### IV. MOTION & RESOLUTION

*I move that the Commission determine that Appeal No. A-5-HNB-10-225 raises NO substantial issue with respect to the grounds on which the appeal has been filed under Section 30603 of the Coastal Act.*

##### **Staff Recommendation of No Substantial Issue:**

Staff recommends a **NO** vote. Failure of this motion will result in a *de novo* hearing on the application, and adoption of the following resolution and findings. Passage of this motion will result in a finding of No Substantial Issue and the local action will become final and effective. The motion passes only by an affirmative vote by a majority of the appointed Commissioners present.

##### **Resolution to Find Substantial Issue:**

*The Commission finds that Appeal No. A-5-HNB-10-225 presents a substantial issue with respect to the grounds on which the appeal has been filed under section 30603 of the Coastal Act regarding consistency with the certified local coastal plan and/or the public access and recreation policies of the Coastal Act.*

#### V. FINDINGS AND DECLARATIONS

The Commission finds and declares as follows:

##### **1. PROJECT DESCRIPTION**

The development approved by the City is a desalination facility to be constructed and operated by Poseidon Resources within the AES Power Plant site in Huntington Beach. The project also includes a water delivery pipeline that will be constructed along a route yet to be determined, but that is estimated to range from about eight to 10 miles long. The pipeline would connect the facility to the regional water distribution system. The purpose of the project is to produce from seawater approximately 50 million gallons per day (MGD) of potable water for use within various parts of Orange County.

The approved development includes several buildings and structures that will house pre-treatment facilities, desalination equipment, a product water storage tank, administration offices, and other supporting structures and equipment. These structures would be located in portions of the northern part of the power plant site. Part of the proposed facility footprint includes fuel oil storage tanks formerly used by the power plant. Those tanks would be removed as part of the project. The project also includes pipelines connecting the power plant cooling system with the pre-treatment part of the facility.

To produce potable water, Poseidon would withdraw approximately 100 MGD of seawater from the once-through cooling system currently used by the power plant.<sup>1</sup> The cooling system's 14-foot diameter intake structure extends under the beach and seafloor to approximately 1700 feet offshore where it emerges into the water column, and a similar discharge structure extends under the beach and seafloor to about 1500 feet offshore where it emerges into the water column. With the 100 MGD pulled in by the desalination facility, it would produce 50 MGD of potable water and about 50 MGD of a high-salinity effluent. That effluent, along with up to 6.5 MGD of backwash water and cleaning fluids, would be routed to the outfall and mixed with the power plant cooling water discharge to create a combined discharge with salinities ranging up to more than 20% over ambient seawater salinity.

## 2. PERMIT JURISDICTION

Most of the land-based portions of the project are located within the Coastal Zone in the City of Huntington Beach and subject to the City's certified Local Coastal Plan (LCP). The project is also within the appeal jurisdiction of the Coastal Commission.<sup>2</sup> Additionally, a portion of the project is within the Commission's retained jurisdiction – the facility's intake and outfall are within coastal waters and the project involves both a “change in intensity of use” of those waters and a discharge to those waters – so the project will require a permit directly from the Commission.

## 3. PERMIT HISTORY

In February 2006, the City issued CDP #02-05 to Poseidon for construction and operation of a desalination facility similar to the current project, but at a different location within the power plant site. That CDP was appealed to the Commission, and on April 12, 2006, the Commission found that the appeal raised Substantial Issue with consistency to the City's Local Coastal Program.<sup>3</sup> In May 2006, Poseidon submitted a CDP application to Commission staff for those portions of the project within the Commission's retained jurisdiction; however, that application remains incomplete.

In early 2010, the City started review of a Supplemental Environmental Impact Report to address modifications to the original proposed project. In September 2010, the City certified the Supplemental EIR, rescinded its previously-issued CDP, and issued a new CDP. On October 4 and 5, 2010, Commission staff received timely appeals from the Environmental Group Appellants and from Commissioners Wan and Mirkarimi.

<sup>1</sup> Poseidon's current NPDES permit, which expires in August 2011, allows it to operate at its design capacity only when the power plant cooling system is using at least 126.7 MGD. Power plant operations have varied from very low intake flows when it is not generating electricity to up to 507 MGD. The power plant cooling system is scheduled to be shut down on or before 2020 and replaced with a system that does not use seawater.

<sup>2</sup> Pursuant to Coastal Act Section 30603, the Commission's appeal jurisdiction includes developments approved by a local government that are located within 100 feet of any wetland, estuary, or stream, within 300 feet of the inland extent of the mean high tide line of the sea where there is no beach, or on tidelands or public trust lands.

<sup>3</sup> In its April 2006 decision, the Commission found that substantial issue existed with respect to several of the LCP policies contested in this current appeal, including LCP policies related to protection of marine life and water quality (LCP Policies C6.1.1, C6.1.2, C6.1.3, C6.1.4, and C6.1.19), protection of environmentally sensitive habitat areas (LCP Policy C7.1.3), energy use and development (LCP Policy C8), and adequate public services (C1.2.3).

**4. APPELLANTS' CONTENTIONS & STANDARD OF REVIEW**

All appellants contend that approval of the project by the City is inconsistent with policies of the City's certified LCP related to marine resources and water quality, wetlands and environmentally sensitive habitat areas, land use, public services, energy use and development, and the LCP requirement that adverse impacts be mitigated to the maximum extent feasible. Environmental Group Appellants additionally contend the City's approval is inconsistent with LCP policies governing public recreation, growth-inducement, and water conservation. Appellants Wan and Mirkarimi additionally contend the City's approval is inconsistent with LCP policies related to protection against seismic and liquefaction events. The standard of review for this appeal is consistency with the certified LCP of the City of Huntington Beach.

**5. APPEAL ISSUES RAISING SUBSTANTIAL ISSUE**

**5A) Appeal Issue: Marine Biology and Water Quality**

LCP Policy C 6.1.1 states:

*"Require that new development include mitigation measures to enhance water quality, if feasible and at a minimum, prevent the degradation of water quality of groundwater basins, wetlands, and surface water."*

LCP Policy C 6.1.2 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."*

LCP Policy C 6.1.3 states:

*"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."*

LCP Policy C 6.1.4 states:

*"The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain organisms and for the protection of human health shall be maintained and, where feasible, restored."*

LCP Policy C 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."*



These LCP provisions apply to the approved project due to its use of seawater and its new pumping facilities.<sup>4</sup> The provisions generally require that marine resources and water quality be maintained, enhanced, and where feasible,<sup>5</sup> restored, and that maximum feasible mitigation measures be required to minimize entrainment. The City's findings state, for a number of reasons, that the project is consistent with the above policies. Appellants contend, for reasons described below, that the project is inconsistent with those policies. The Commission's Findings regarding overall consistency with the above policies are provided below, along with Findings on specific policies and appeal contentions.

For all the above policies, it appears that the City used several criteria or standards of review that were not adequate for defining the significance or severity of the project's impacts for purposes of LCP conformity. In several instances, it also analyzed project impacts in ways that were not sufficient to evaluate the project's conformity to these policies. Examples are provided below.

- **Use of Incorrect Review Standards:** In several instances, the City's nonconformity with the above LCP policies appears to be due to the City's reliance on standards and determinations of significance selected for use in the EIR rather than those required by the LCP. The focus of the EIR was to determine whether the project causes significant impacts; whereas many provisions of the LCP require that any impacts be identified and then mitigated, where feasible. Some of the criteria the EIR used to define a "significant impact" resulted in determinations of significance that fell far short of identifying the kinds of impacts for which the LCP requires avoidance, additional analysis, mitigation, or other measures.

The City acknowledges in the EIR that the project's conformity for purposes of the Coastal Act requires use of a more rigorous standard. The EIR's Response to Comments states that the EIR review was meant to determine whether the project would conflict with applicable plans and policies, and then states:

*"[d]etermining whether a conflict may arise that would preclude implementation of a plan or policy is entirely different from the more extensive process that may be involved in making a determination of "conformance" or "consistency" with a particular law, policy or other regulatory program. While it is understood that the Coastal Commission may apply a more rigorous standard in determining conformance of the project with the Coastal Act, such a standard is not required under CEQA."*

Even with this acknowledgement, the City used the EIR's less-than-adequate standards to determine LCP conformity. For example, the City's findings for LCP Policy 6.1.2 rely on the EIR's conclusions that the project would cause less than significant entrainment impacts; however, the EIR defined a significant entrainment impact, in part, as whether the project would affect a species' ability to sustain its population, which is a less protective standard than the LCP Policy's requirement that marine resources be "maintained, enhanced, and where feasible, restored". Similarly, regarding the effects of the project's chemical and saline discharges on marine life and coastal waters, LCP Policy C6.1.1 requires that the

<sup>4</sup> The City's General Plan Coastal Element includes waters of the Pacific Ocean in its definition of "surface waters."

<sup>5</sup> "Feasible" is defined in the LCP (and the Coastal Act) as "Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."

project "prevent the degradation" of water quality, whereas the EIR standards referenced in the CDP determined whether there were project impacts based on less stringent criteria, such as whether marine organisms experienced "substantial ecological losses of source populations". The City's findings on LCP Policy 6.1.3 state that the project's high salinity effluent will not affect areas that support sensitive species; however, the standard of review for that LCP policy is that the project will maintain healthy populations of all marine species.

In its findings for LCP Policy 6.1.4, the CDP merely states that the project is consistent with this policy because it would not degrade water quality or adversely affect marine life as described in the CDP's findings on LCP Policies 6.1.1 and 6.1.3. As noted elsewhere in these Findings, however, the CDP's conclusions about those policies are not adequate for ensuring LCP conformity. Further, the City's findings do not address the "feasible restoration" aspect of LCP Policy 6.1.4's standard of review. Regarding LCP Policy C6.1.19,<sup>6</sup> the CDP states that neither the project's entrainment nor its high-salinity effluent will negatively influence affected species' ability to sustain their populations, which is the incorrect standard of review for a policy requiring that damage to marine organisms be minimized. Overall, the standards of review and levels of significance the City used in the EIR cannot be relied upon to determine conformity of the project to these LCP policies.

- **Use of Incomplete/Inaccurate Analyses:** In several instances, the City's CDP findings relied on EIR analyses that were not adequate to determine the project's conformity to these LCP policies. For several of the policies, the City's findings state that the project does not require mitigation measures because the EIR identified the project's impacts as less than significant. However, because the cited EIR analyses were based on different, and generally less protective, standards of review than required under the LCP, they are not adequate for determining LCP conformity.

These include insufficient analyses of necessary and feasible mitigation measures required pursuant to LCP Policies C6.1.2, 6.1.4, and 6.1.19. For example, the CDP implies that the project intake does not require mitigation measures under LCP Policy 6.1.2 because it is not located within an Area of Special Biological Significance; however, the CDP does not acknowledge, as it should, that the facility's entrainment affects organisms from not just the immediate area, but from coastal waters up to several dozen miles away with areas of sensitive marine habitats. Similarly, for LCP Policy C6.1.19, which requires maximum feasible mitigation measures in accordance with state and federal law, the City's findings state that the project is not anticipated to conflict with applicable provisions of state Water Code Section 13142.5 regarding impingement, but the findings do not address that section's full requirements regarding the project's entrainment impacts.<sup>7</sup> For LCP Policy C6.1.4, the City refers to its findings for LCP Policies C6.1.1 and 6.1.3, which, as described elsewhere in these Commission Findings, are not adequate to ensure conformity to those policies.

<sup>6</sup> The project is subject to LCP Policy C6.1.19 because it includes new pumps to bring seawater into the desalination facility and may include new pumps to replace existing pumps within the power plant.

<sup>7</sup> Water Code Section 13142.5(b) states: "For each new or expanded coastal powerplant or other industrial installation using seawater for cooling, heating, or industrial processing, the best available site, design, technology, and mitigation measures feasible shall be used to minimize the intake and mortality of all forms of marine life."

Additionally, several of the City's analyses resulted in what are described as mitigation measures but are more appropriately defined as minor and incidental benefits that are caused by, and are incidental to, the project's adverse impacts. Regarding LCP Policy 6.1.1, for example, the CDP states that the EIR includes a number of mitigation measures meant to improve water quality and prevent water quality degradation; however, the measures cited are those resulting from substantial adverse project-related impacts. For instance, the CDP notes that the project will be "removing bacteria from source water", which is solely an incidental effect of the significant adverse entrainment impacts the project will cause by removing seawater containing fish eggs, larvae, plankton, and other important coastal resources. The CDP also notes that the project will be "reducing thermal footprint of the discharge from the power plant during the co-located operating condition"; however, this is similarly an incidental effect of the project's introduction of 50 MGD of highly saline effluent into the power plant outfall.

For both of the above examples, the measures the City claimed were sufficient for LCP adequacy were not supported by adequate analyses and the resulting findings were used either to require inadequate mitigation or to support the inclusion of incidental effects as adequate mitigation. As a result, neither the City's CDP nor the project EIR on which the City relied for its CDP findings identified or properly evaluated many of the project's expected adverse impacts or the potentially feasible mitigation measures that could be required of the project to avoid or minimize these impacts. The City's approved CDP therefore does not conform to the above LCP policies.

In sum, the project will clearly cause adverse impacts to marine resources, water quality, and other coastal resources in excess of those that would allow consistency with the above LCP policies. The City's approval did not adequately identify the full range of impacts, in part due to using incorrect standards of review, inaccurate determinations of significance, and incomplete analyses of feasibility and needed mitigation measures. As a result, the City did not adequately evaluate the project's impacts to coastal resources and did not identify necessary mitigation measures that would avoid or minimize those impacts. The City's approval is therefore not sufficient to determine whether the project conforms to the above LCP provisions. Based on the record provided by the City and the information provided by the appellants, the Commission finds that substantial issue exists with respect to the project's consistency with the City's certified LCP.<sup>8</sup>

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<sup>8</sup> Note: In its 2006 Substantial Issue Findings for the previous version of this project, the Commission found that substantial issue existed with respect to the project's consistency with LCP Policies C6.1.1, C6.1.2, C6.1.3, C6.1.4, and 6.1.19.

**5B) Appeal Issue: Protection of Wetlands & Environmentally Sensitive Habitat Areas**

LCP Policy C 6.1.4 states:

*"The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain organisms and for the protection of human health shall be maintained and, where feasible, restored."*

LCP Policy C6.1.20 states:

*"Limit diking dredging, and filling of coastal waters, wetlands, and estuaries to the specific activities outlined in Policy 30233 and 30607.1 of the Coastal Act and to those activities required for the restoration, maintenance, and/or repair of the Municipal Pier and marina docks. Conduct any diking dredging and filling activities in a manner consistent with Section 30233 and 30607.1 of the Coastal Act."*

LCP Policy C7.1.3 states:

*"Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas."*

LCP Policy C7.1.4 states:

*"Require that new development contiguous to wetlands or environmentally sensitive habitat areas include buffer zones. Buffer zones shall be a minimum of one hundred feet setback from the landward edge of the wetland, with the exception of the following:*

*A lesser buffer may be permitted if existing development or site configuration precludes a 100 feet buffer, or conversely, a greater buffer zone may be required if substantial development or significantly increased human impacts are anticipated. In either case, the following factors shall be considered when determining whether a lesser or wider buffer zone is warranted. Reduced buffer zone areas shall be reviewed by the Department of Fish and Game prior to implementation.*

- a) Biological significance of adjacent lands: The buffer should be sufficiently wide to protect the functional relationship between the wetland and adjacent upland.*
- b) Sensitivity of species to disturbance: The buffer should be sufficiently wide to ensure that the most sensitive species will not be disturbed significantly by permitted development, based on habitat requirements of both resident and migratory species and the short and long term adaptability of various species to human disturbance.*
- c) Susceptibility of parcel to erosion: The buffer should be sufficiently wide to allow for interception of any additional material eroded as a result of the proposed development based on soil and vegetative characteristics, slope and runoff characteristics, and impervious surface coverage.*

- d) *Use existing cultural features to locate buffer zones: The buffer zones should be contiguous with the environmentally sensitive habitat areas and make use of existing features such as roads, dikes, irrigation canals, and flood control channels where feasible.*"

LCP Policy C.7.1.5 states, in relevant part:

*"Notify County, State and Federal agencies having regulatory authority in wetlands and other environmentally sensitive habitats when development projects in and adjacent to such areas are submitted to the City."*

The above-referenced LCP policies require protection of wetlands and environmentally sensitive habitat areas and limit the kinds of development that may be approved in or near those areas. The City's findings do not evaluate the project's conformity to wetland protection components of LCP Policies C6.1.4 and C6.1.20. For LCP Policies C7.1.3 and C7.1.4, the City states that the project has been located to avoid significant impacts to the nearby Magnolia Marsh through setbacks and buffers, berms, grading, redirection of stormwater, and other measures. For LCP Policy C7.1.5, the City states that the project does not conflict with this policy because it involves no development in wetlands.

Appellants contend that the City's approval is inconsistent with the above policies for three main reasons – first, that the City did not properly delineate wetlands present within the project footprint and therefore did not adequately avoid and mitigate for wetland impacts; second, that the City's noise studies were inadequate to identify possible impacts to wetland-dependent wildlife species; and third, that the lack of an identified pipeline route makes it impossible to know whether the potential river crossing or the locations of pipelines and pump stations might adversely affect wetlands in a manner inconsistent with the above LCP policies.

Regarding the first appeal issue – the potential presence of wetlands within the project footprint – the project EIR evaluated site wetlands in a manner inconsistent with the Commission's wetland delineation methods.<sup>9</sup> As a result of the City's reliance on the EIR, the CDP findings do not properly identify the project's potential impacts to wetlands and do not adequately address the project's conformity to these LCP policies. Further, and contrary to Commission staff guidance, observations during a Commission staff site visit, and previous Commission determinations regarding similar wetland issues nearby, the EIR does not adequately examine site hydrology and improperly asserts that wetland vegetation at the site is not acting as wetland

<sup>9</sup> The City's definition of wetlands is similar to that of the Coastal Commission. The City's General Plan Coastal Element defines wetlands as: "Land which may be covered periodically or permanently with shallow water and includes saltwater marshes, freshwater marshes, open or closed brackish water marshes, mudflats, and fens. Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following attributes:

1. At least periodically, the land supports predominantly hydrophytes; or
2. The substrate is predominantly undrained hydric soil; or
3. The substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.

vegetation.<sup>10</sup> Because the EIR erroneously concludes that there are no wetland areas that would be affected by the project, the CDP apparently omits the necessary findings regarding those areas and the findings needed to determine the project's conformity to the above policies. At the very least, additional evaluation is necessary to make a conclusive wetland determination at the site and to properly assess the project's conformity to the LCP wetland protection policies. Regarding the second appeal issue about the impacts of project-related noise on nearby wetlands, the City heard testimony at its September 7, 2010 CEQA hearing that the project's noise studies misidentified the baseline noise levels in the project area and underestimated the effects on nearby residences of project-related noise from several types of pumps, construction equipment, and other machinery. At that hearing, Poseidon offered to conduct further studies after the facility started operating and to mitigate for any noise impacts that were at decibel levels above those allowed for residences. This proposed modification, however, does not address likely or potential noise effects on sensitive species in nearby wetland areas that are in some cases closer to the project site than the nearest residences. Some of the EIR's apparently underestimated noise levels at the nearby residences are at or above City noise standards, which suggests that nearby wetland species could experience noise at even higher levels. The EIR identified species known to exist in the wetlands include the endangered Belding's Savannah Sparrow and California least tern, several raptors (Cooper's hawk, Sharp-shinned hawk, Northern harrier, etc.), and other birds. However, the EIR did not identify noise standards for wetlands or environmentally sensitive habitat areas and did not identify those nearby areas as sensitive noise receptors. As a result, the EIR did not evaluate potential noise impacts on species in nearby wetland or environmentally sensitive habitat areas. Because these expected noise levels are likely to disturb or adversely affect various species – e.g., breeding and nesting birds – or may require additional buffering or mitigation measures, the City's findings do not ensure conformity to the above LCP policies.

Regarding the third appeal issue about the potential for additional wetland impacts due to subsequent selection of pipeline routes and pump station locations, neither the CDP nor EIR adequately address this issue for purposes of LCP conformity. Because the CDP relies on the inadequate EIR approach to wetland delineation, it is not apparent whether there are additional wetlands that may be affected in or near the possible pipeline routes, and therefore no certainty as to potential impacts or necessary mitigation measures.

Therefore, based on the record provided by the City and the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project's consistency with the above policies of the City's certified LCP.<sup>11</sup>

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<sup>10</sup> The EIR's conclusions contradict site characteristics identified by the Commission's ecologist, Dr. Jonna Engel, on a site visit in the spring of 2009 during which she identified evidence of wetland vegetation and hydrology.

<sup>11</sup> Note: In its 2006 Substantial Issue Findings for the previous version of this project, the Commission found that substantial issue existed with respect to the project's consistency with LCP Policy C7.1.3.

**5C) Appeal Issue: Land Use**

LCP Policy C1.2.1 states:

*"Accommodate existing uses and new development in accordance with the Coastal Element Land Use Plan and the Development and Density Schedule Table C-1."*

The City's findings state that "[t]he project is consistent with this policy because it is consistent with the Coastal Element Land Use Plan and Density Schedule." The Land Use Plan designates the project site as "Public", and the City states that the project falls within this designation because the project is similar to a utility, which is allowed under this designation.<sup>12</sup> Appellants contend that the City's CDP findings regarding this policy are insufficient to determine conformity to the LCP, since the findings merely assert that the project is consistent with the policy. Appellants also contend that the City's approval does not conform to this LCP policy because the project is not an allowable type of development under the Land Use Plan's site designation. Appellants further contend that allowing an industrial and non-public, non-utility use such as this project at this site would require an amendment to the City's LCP.

**Note:** See related appeal issues on land use designation below in Section 5D – Energy Use and Development.

The City's application of this policy is inconsistent with the LCP in at least two ways:

- First, the City partially supports its conclusion that the project is similar to a utility by referencing the City's zoning code that allows "water or wastewater treatment plants...and similar facilities of public agencies or public utilities."<sup>13</sup> However, this zoning code appears to allow only water treatment plants of public agencies or public utilities, which does not include the proposed project. The project is not public, as it is owned by a private entity. The City acknowledges that the project is not subject to oversight or regulation by the state Public Utilities Commission (PUC), so it is not a utility for purposes of state law, and neither the CDP nor the EIR cite the PUC as a permitting or regulating agency.<sup>14</sup>
- Second, in some instances, the City's review identifies the project as something other than a utility, including an "industrial use", which is not allowed under the Land Use Plan's site designation.<sup>15</sup> The City notes that the project will be subject to a "commercial/industrial" capital fee tax and the EIR incorporates the project's NPDES permit, which describes the project as an "industrial" facility conducting "industrial" activities and allowing the use of affected ocean waters for "industrial service supply" (that permit also specifically exempts

<sup>12</sup> Pursuant to the City's Zoning Code at Chapter 214, uses allowed under the Public and Semipublic classification are: Cemetery, Cultural Institutions, General Day Care, Government Offices, Hospitals, Maintenance & Service Facilities, Park & Recreation Facilities, Public Safety Facilities, Religious Assembly, General Residential Care, Public or Private Schools, Major Utilities, and Minor Utilities.

<sup>13</sup> Referenced in the City's findings for LCP Policy C10.1.4.

<sup>14</sup> At the time of the City's adoption of the relevant policy, the power plant site was owned by Southern California Edison, which was regulated as a utility by the state Public Utilities Commission.

<sup>15</sup> The City's Zoning Code at Section 214.06 prohibits uses that are not listed within the designation.

those waters from municipal and domestic supply). The U.S. EPA additionally categorizes the facility for NPDES purposes as an industry.<sup>16</sup> The City also notes that the project is subject to state Water Code Section 13142.5, which applies to industrial facilities. Further, Poseidon categorizes itself as something other than a "utility" – for example, in its City business license as a "government administrator of general economic programs" (through SIC Code 9611), and as a "manufacturing/industrial" entity rather than a "utility" in its declarations to the California Secretary of State.<sup>17</sup> Finally, the City and Poseidon have apparently disagreed as to whether the project is subject to certain City taxes or is exempt because Poseidon is a "water corporation," not a utility.

It is therefore not clear from the City's record whether the project is a utility, a non-allowed industrial use, or some other use. At the very least, additional evaluation is necessary to address these inconsistencies and to conclusively determine whether the project conforms to this LCP policy or whether the proposal may require an amendment to the land use designation. Therefore, based on the record provided by the City and the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project's consistency with LCP Policy C1.2.1 (see also the discussion of the site designation for energy facility expansion in Appeal Issue 5D – Energy Use and Development).<sup>18</sup>

**5D) Appeal Issue: Energy Use and Development**

LCP Policy C8 state:

*"Accommodate energy facilities with the intent to promote beneficial effects while mitigating any potential adverse effects."*

LCP Policy C8.2.2 states:

*"Require the mitigation of adverse impacts from new technologies employed in electricity generation to the maximum extent feasible."*

LCP Policy C8.2.4 states:

*"Accommodate coastal dependent energy facilities with the Coastal Zone consistent with Sections 30260 through 30264 of the Coastal Act."*

LCP Policy C8.3.1 states:

*"Promote the use of solar energy and encourage energy conservation."*

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<sup>16</sup> The EPA Facilities Registry System identifies the project as "SIC Code 4941: Industrial Group – Water Supply (link accessed 10/29/10) [http://iaspub.epa.gov/enviro/fil\\_query\\_dtl\\_disp\\_program\\_facility?p\\_registry\\_id=110027244480](http://iaspub.epa.gov/enviro/fil_query_dtl_disp_program_facility?p_registry_id=110027244480)

<sup>17</sup> See Poseidon's filings pursuant to Government Code 86104 at <http://cal-access.sos.ca.gov/Lobbying/Employers>.

<sup>18</sup> Note: In its 2006 Substantial Issue Findings for the previous version of this project, the Commission found that a substantial issue exists with respect to the project's consistency with the LCP land use policies.



The CDP findings for LCP Policy C8 state that the project is configured to accommodate both the existing power plant and its potential future plans to expand or switch to a different cooling system. The City did not evaluate the project for consistency with LCP Policy C8.2.2. For LCP Policy C8.2.4, the City states that the project is not an energy project, but that it has been configured to accommodate an existing energy facility and is therefore consistent with the policy. The City states that the project is consistent with LCP Policy C8.3.1 because the project will reduce energy used to pump water into Orange County (see also Appeal Issue 5E below). Appellants contend that the City's approval is inconsistent with the above policies for several reasons, including inadequate or inaccurate review to determine consistency with these policies and designation under both City and Coastal Commission policies of the entire power plant site as being available for power plant expansion. For LCP Policy C8.3.1, appellants contend that the City's conclusions about net energy use resulting from the project are based on an erroneous analysis and that the project EIR is internally inconsistent regarding this analysis.

The City's findings and the supporting EIR do not provide an adequate assessment for determining conformance to these policies. LCP Policy C8.2.4 incorporates by reference Coastal Act policies that designate the entire power plant site, including the area the City slated for the desalination facility, as being available for power plant expansion. The LCP's Coastal Element (at page IV-C-75) additionally states that vacant land adjacent to the power plant provides an opportunity for its potential expansion. The City's findings state only that the project was configured to accommodate the existing plant, with inadequate recognition of potential future expansion. Siting the desalination facility adjacent to the power plant may affect the ability of the plant to expand or to make the upcoming required changes to its cooling system; however, the City's review does not adequately describe how much of the area of the site may be needed for expansion, a new system, or both. Further, because the City did not evaluate the project's potential conflict with LCP Policy C8.2.2, it did not adequately address the project's likely non-conformity with this policy's requirement to address the expected new cooling technology needed at the power plant. Reducing the area available on the site will constrain the plant's options for either expansion or new and less environmentally harmful cooling technology, and therefore is not consistent with the first three policies above.<sup>19</sup> Regarding LCP Policy C8.3.1, and as described in Appeal Issue 5E below, because the City conducted an inaccurate analysis of the project's expected energy use, it downplays the project's likely substantial effects on local energy supplies and is not supportive of energy conservation.

Therefore, and based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project's consistency with the City's certified LCP.

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<sup>19</sup> The Commission previously identified areas inland of the existing power plant as suitable for expansion in its 1978 consideration of a proposal by Southern California Edison to construct additional combined-cycle power units at Huntington Beach.

**5E) Appeal Issue: Adequate Public Services**

LCP Policy C1.1.1 states:

*"With the exception of hazardous industrial development, new development shall be encouraged to be located within, contiguous or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services, and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources."*

LCP Policy C1.2.3 states:

*"Prior to the issuance of development entitlement, the City shall make the finding that adequate services (i.e., water, sewer, roads, etc.) can be provided to serve the proposed development, consistent with the policies contained in the Coastal Element, at the time of occupancy."*

These LCP provisions require in general that new development be sited in areas able to accommodate it or in areas with adequate public services, and that the development not result in significant adverse effects. The City's CDP findings state that the project is consistent with LCP Policy C1.1.1 because it is to be located in close proximity to the Huntington Beach Generating Station and that it is consistent with LCP Policy C1.2.3 because there are adequate services available. Appellants contend that the City's findings are inadequate to support the project's consistency with the requirements of these LCP policies to avoid potential adverse effects and to ensure the availability of needed public services.

Regarding LCP Policy C1.1.1, which requires that projects avoid significant adverse impacts, the City's approval does not adequately acknowledge or evaluate the expected adverse impacts resulting from the project extending the life of the intake and discharge used by the power plant cooling system. The project would extend and expand the system's impacts to marine life and water quality due to its planned continual use (24 hours per day, 365 days per year) for several additional decades, which represents a significant increase over the power plant system's current relatively intermittent operations and its currently scheduled retirement on or before 2020 (see also the discussion of the project's marine life and water quality impacts in Appeal Issue 5A above).

Regarding the policies' requirements related to adequate public services, the City's findings essentially state that the project will be consistent with these policies because adequate services can be provided. Those findings refer to Section 4.6 – Public Services and Utilities – of the project EIR; however, neither the assertion in the City's findings nor the EIR analyses show that the City's approval is consistent with these policies, particularly as they relate to the facility's expected electricity use. The EIR states that the facility's continual use of from 30 to 35 megawatts of electricity (or about 306,680 megawatt hours per year, which is equal to that used by about a quarter-million households) will result in a net reduction of electricity because the project will eliminate the electricity used by the State Water Project (SWP) to import water into Orange County – that is, because the project will provide 56,000 acre-feet of water annually for Orange County, the SWP will reduce its pumping and its electricity demand.

For several reasons, however, the City's analysis and conclusion are incorrect and understate the project's impact on local electricity supplies.<sup>20</sup> First, no element of the project ensures reduced SWP water imports into Southern California or Orange County, so there is no basis for the City's assumption of reduced electricity use, either locally or at the state level. As the Coastal Commission determined earlier this year regarding Poseidon's similar assertions for its Carlsbad project,<sup>21</sup> the project does not ensure a one-for-one reduction of water imports to Southern California and would therefore not necessarily reduce electricity use.

Further, even if the SWP were to reduce its electrical use due to the project, the project itself would continue to demand 30 to 35 megawatts of electricity. The EIR bases its review on the project obtaining electricity from either the adjacent power plant or from the grid; however, neither the EIR nor the CDP assess how the desalination facility's local demand on electricity from the power plant would affect coastal resources and how or whether such use would conform to the requirement of LCP Policy C.1.2.3 to be consistent with the City's Coastal Element policies. For example, if the power plant produces more electricity than it would otherwise to provide power to the adjacent desalination facility, it would result in more entrainment than it would otherwise, at least until the power plant's current cooling system is retired. However, neither the City's CDP nor EIR identifies measures to avoid or mitigate this impact, and the resulting increased operations of the power plant may not be consistent with the marine biology provisions of the City's Coastal Element.

Appellants additionally contend that the City's approval does not conform to LCP Policy C1.2.3 because the City did not identify a selected pipeline route for the project, and it is therefore not possible to determine whether pipeline-related impacts and needed mitigation for those impacts will conform to that policy. Depending on the yet-to-be selected route, the project could cause additional adverse effects due to a potential river crossing or due to the likelihood of liquefaction along some areas of the route. Either of those elements could require more substantial excavations or construction methods than contemplated by the City, and those methods could result in more significant harm or disruption to public services than was addressed in the City's review. For example, evidence provided to the City during its review suggests that pipeline placement along roadways in areas with high liquefaction potential could require much more extensive excavations (in both width and depth) than the City evaluated, which could lead to major public access disruptions and could render all or some of the routes infeasible. It is not apparent from the record that the City adequately considered this information (see also Appeal Issue 5G below).

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<sup>20</sup> Note: The City's analysis for these policies is also inconsistent with its findings regarding the project's growth-inducing impacts. See Appeal Issue 5H below.

<sup>21</sup> See the Commission's "Final Adopted Findings for R2-E-06-13 – Request For Revocation on Poseidon's Carlsbad Desalination Facility", February 2010. The Commission found for the Carlsbad project, which uses the same proposed approach as this Huntington Beach proposal for energy and greenhouse gas reduction, that, at best, the region's main water importer – the Metropolitan Water District of Southern California – might occasionally forego marginal transfers or purchases of imported water if it deems Poseidon's supply more suitable. Additionally, many of those transfers or purchases are not necessarily foregone, but are instead stored for later transport to Southern California, which would require the use of electricity that the CDP incorrectly presumes would not be needed.

Therefore, based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project's consistency with the above policies of the City's certified LCP.<sup>22</sup>

**5F) Appeal Issue: Effects on Public Recreation**

LCP Policy C3.1 states:

*"Preserve, protect, and enhance, where feasible, existing public recreation sites in the Coastal Zone."*

The City's findings state that the project is consistent with this policy because it will have a negligible impact on parks and recreational facilities. With regard to the project's effects on fishing due to its intake of seawater and its discharge of high-salinity effluent, the CDP states that fish with high commercial or recreational value are uncommon in the source water and that nearby areas do not support sensitive species. Applicants contend that the project's continuance of the system used by the power plant to draw in and discharge seawater causes adverse effects that run counter to this policy's requirement to protect existing recreational fishing opportunities.

Regarding the intake, and as noted by the appellants, the City's findings are inconsistent with conclusions of numerous state and federal agencies about the adverse effects of open water intakes on marine life. The findings are also inconsistent with the entrainment study done at this power plant showing its effects on commercially- and recreationally-important species, such as halibut, crab, and others. The most recent entrainment study for the power plant showed that the intake drew in and killed organisms originating along the Southern California shoreline from up to several dozen miles away, which is a much larger source water area than considered in the City's findings.

Regarding the discharge, concerns raised during the City's review include the potential that the project's high-salinity effluent will adversely affect marine life. The effluent's salinity concentration is expected to be about 40 parts per thousand, which is about 20 percent higher than ambient seawater salinity and about 10 percent higher than naturally-occurring variability. Discharge modeling shows that the project will create areas of higher than natural salinity covering from about five to several dozen acres of nearshore benthic habitat, and affecting similarly-sized areas of the nearshore water column. The City's findings state that this would not represent substantial ecological effects or water quality degradation because those immediate areas do not include special biological areas or endangered or threatened species and because many of the species present in the nearby waters are also present in higher-salinity waters elsewhere – e.g., in the Gulf of California. However, this conclusion does not address the likelihood that local organisms not acclimated to higher salinities may avoid areas within the effluent plume, resulting in loss of foraging habitat as well as loss of recreational fishing opportunities within that area. The findings also state that any species exposed to elevated salinities would have low exposure times and that the areas represent insubstantial foraging areas; however, the City has not cited *in situ* tests or monitoring results to support such findings.

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<sup>22</sup> Note: In its 2006 Substantial Issue Findings for the previous version of this project, the Commission found that substantial issue existed with respect to the project's consistency with LCP policy C1.2.3.

Therefore, and based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project's consistency with the City's certified LCP.

**5G) Appeal Issue: Adequate Protection Against Seismic Events and Liquefaction**

LCP Policy C10.1.4 states:

*"Require appropriate engineering and building practices for all new structures to withstand ground shaking and liquefaction such as those stated in the Uniform Building Code."*

The City's findings state that its approval provides consistency with this policy because it requires the project to meet all appropriate and adequate building standards related to ground shaking and liquefaction and because it will be consistent with applicable provisions of the Uniform Building Code. Appellants contend that the City's findings are inadequate because the project does not yet include an identified pipeline route, and the City can therefore not yet determine what measures are needed to withstand potential liquefaction. Appellants further contend that the City did not adequately address testimony provided at its September 7, 2010 CEQA hearing documenting that the City's approval would not sufficiently avoid liquefaction impacts.

The EIR review is based on pipelines being located largely within existing public streets, easements, or other rights-of-way and states that the alignments will not disturb native vegetation or adversely affect sensitive resources. It identifies anticipated traffic effects as being limited to no more than two traffic lanes during construction, and further states that a project-specific geotechnical evaluation will be needed before pipelines are placed. At the same time, the City has identified the project site and the entire area surrounding the power plant site, including portions of likely pipeline routes, as having high liquefaction potential.<sup>23</sup> Testimony provided to the City suggests that soil and subsurface characteristics within potential pipeline routes may require trenching that is much more extensive (in both width and depth) than evaluated in the EIR and may require a type of fill that is incompatible with roadways. Both the additional trenching and alternative fill could result in significant disruptions to traffic and coastal access, as well as substantially increase the project's construction-related and air quality impacts. It does not appear that the City evaluated these concerns sufficiently to ensure conformity to this LCP policy, and, in fact, put off until some future date the geotechnical analysis needed to identify and mitigate potential impacts. Therefore, based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project's consistency with the City's certified LCP.

<sup>23</sup> See the "Liquefaction Potential" Map at page IV-C-93 of the City's General Plan Coastal Element.

**5H) Appeal Issue: Mitigation to the Maximum Extent Feasible**

LCP Policy C1.1 states:

*"Ensure that adverse impacts associated with coastal zone development are mitigated or minimized to the greatest extent feasible."*

The City's findings for this LCP Policy state that all the project's potential adverse impacts have either been mitigated or have been minimized to the greatest extent feasible.<sup>24</sup> As described in the appeal issues above, appellants contend that the City failed to address or adequately mitigate many of the project's potential or likely impacts, resulting in non-conformity with the above-referenced policies as well as with LCP Policy C1.1.

In addition, appellants contend that the City's findings are contradictory with regards to the project's anticipated growth-inducement, and that these contradictory findings prevent conformity to this policy. The City evaluates the project both as not being growth-inducing – for example, in its analyses of the project's electrical use and greenhouse gas emissions – and as being growth-inducing – in the EIR's discussion of growth-inducement and the associated Statement of Overriding Considerations. The City's analyses inconsistently determined both that the project would provide "replacement water" – that is, it would only replace an existing source of water – as well as "new water" – that is, it would result in new water being brought into the area, resulting in potential additional growth. As a result of this inconsistency, it is not clear that the City's review evaluated all potential mitigation measures that may be needed to address the project's impacts. Therefore, based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project's consistency with the City's certified LCP.

**5I) Appeal Issue: Coastal Dependency**

LCP Policy C1.1.2 states:

*"Coastal dependent developments shall have priority over other developments on or near the shoreline. Coastal-related developments should be accommodated within reasonable proximity of the coastal-dependent uses they support."*

The City's findings state that the project is a coastal-dependent development because it needs to be sited on or adjacent to the ocean in order to function at all. The City states the project is similar to other coastal-dependent developments, such as electrical generating facilities, refineries, and offshore oil and gas production. Appellants contend that the City is incorrect in categorizing the project as coastal-dependent since it does not need to be "on or adjacent to the sea in order to function at all."<sup>25</sup>

<sup>24</sup> The findings also note, however, that the City adopted a Statement of Overriding Considerations to address adverse impacts related to growth-inducement and construction that have not been mitigated to a level of insignificance.

<sup>25</sup> The City's Coastal Element defines "coastal dependent" as "any development or use which requires a site on, or adjacent to, the sea to be able to function at all."

While the current proposed project would rely in part on existing coastal-dependent infrastructure – i.e., the intake and discharge of the power plant – the desalination facility itself would be located about a quarter-mile from the ocean, not “on or adjacent” to the ocean. Further, as evidenced by many desalination facilities that are similarly set back from the shoreline and by many inland desalters that draw brackish water from inland aquifers, desalination facilities do not necessarily require a location “on or adjacent” to the ocean. The City’s findings do not make it clear that this particular project is coastal dependent. Therefore, based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that a substantial issue exists with respect to the project’s consistency with the City’s certified LCP.

**6. APPEAL ISSUES NOT RAISING SUBSTANTIAL ISSUE**

**6A) Appeal Issue: Water Conservation**

LCP Policy C6.1.12 states:

*“Periodically review the City’s policies on water conservation, including the Water Conservation Ordinance, to ensure the use of state of the art conservation measures for new development and redevelopment, and retrofitting of existing development, where feasible and appropriate, to implement these measures.”*

The City states that the project is consistent with this policy in that it must comply with applicable provisions of the City’s Water Conservation Ordinance. Appellants contend the City’s approval is inconclusive regarding consistency with this policy.

The policy primarily provides direction to the City to ensure it updates elements of City requirements related to water conservation. The City’s Water Conservation Ordinance is one of those elements, and includes conservation provisions applicable to new and existing development, such as limits on water use, timing of landscape watering, limits on new development during severe declared water shortages, and other similar measures. Because the policy provides guidance to the City rather than to particular new projects, the City’s approval does not result in an inconsistency with this policy. Further, as noted in the City’s findings, the approved project will be subject to applicable provisions of the Water Conservation Ordinance. Therefore, based on the record provided by the City, the information provided by the appellants, and for the reasons cited above, the Commission finds that *no* substantial issue exists with respect to the project’s consistency with LCP Policy C6.1.12.

**Re: Request for Denial and/or Further Review of the Proposed Poseidon Seawater Desalination Project in the City of Huntington Beach, CA (Poseidon CDP) Coastal Development Permit No. 10-014**

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Dear Commissioners:

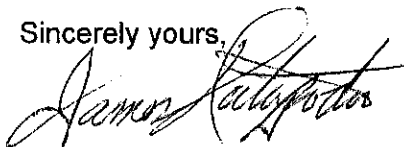
As a concerned citizen of the City of Huntington Beach and a strong advocate of responsible government, I respectfully request that the CDP application of the proposed Poseidon Desalination Project for the City of Huntington Beach, pending appeal to the Commission, be given a more thorough review.

Although the Huntington Beach City Council approved CDP Permit No. 10-014 in 2010, the unfortunate decision was appealed by several organizations, including Coastal Commissioners Sara Wan and Ross Mirkarimi, and based the objections on substantial issues that the CDP did not adequately enforce several provisions of our Local Coastal Program. Attachment A and B have been enclosed for your convenience.

The proposed Poseidon project is in dire need of a more advanced technology that will have less negative impact to the environment and marine life, and lacks the utilization of more cost effective process in its current form.

I hope you will find that approval of such a desalination project in its current form is not feasible.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Jim Katapodis", written over the typed name.

Jim Katapodis



Jim Katapodis  
Councilmember, City of Huntington Beach  
5901 Warner Ave #434  
Huntington Beach, CA 92649

Telephone: 714 308 7376  
Email: [jimkatapodis@gmail.com](mailto:jimkatapodis@gmail.com)  
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**RECEIVED**  
South Coast Region

JUN 6 2013

**COPY OF THIS CORRESPONDENCE HAS BEEN  
SIMULTANEOUSLY SENT BY U.S. FIRST CLASS MAIL TO THE  
CALIFORNIA COASTAL COMMISSION STAFF AS ADDRESSED BELOW**

**CALIFORNIA  
COASTAL COMMISSION**

**Sent via:** U.S. First Class Mail

**Date:** May 22, 2013

Commissioner Mary Shallenberger  
Chair, California Coastal Commission  
P.O. Box 354  
Clements, CA 95227-0354

Commissioner Esther Sanchez  
California Coastal Commission - Oceanside  
c/o City Council City of Oceanside 300 North  
Coast Hwy Oceanside, CA 92054

Commissioner Dayna Bochco  
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Dr. Robert Garcia, Commissioner  
California Coastal Commission  
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Commissioner Steve Kinsey  
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San Rafael, CA 94903-4193

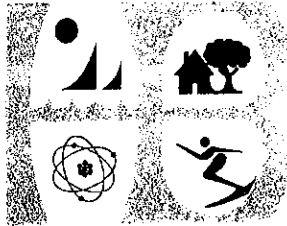
Commissioner Carole Groom  
California Coastal Commission  
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Justice 400 County Center Redwood City, CA 94063

Commissioner Brian Brennan  
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**cc:** Sherilyn Sarb, Deputy Director  
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Mr. Tom Luster  
Staff, California Coastal Commission  
45 Fremont St., Suite 2000  
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Mr. Charles Lester  
Staff, California Coastal Commission  
45 Fremont St., Suite 2000  
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# City of Huntington Beach

P. O. BOX 190 • 2000 MAIN STREET • CALIFORNIA 92648

**Connie Boardman**  
**Mayor**

May 22, 2013

Ms. Mary Shallenberger  
Chair  
California Coastal Commission  
P.O. Box 354  
Clements, CA 95227

Dear Chair Shallenberger:

At the May 6 meeting of the Huntington Beach City Council, I placed an item on our agenda for the City Council to communicate to you that the Council no longer supported the plan to construct the Poseidon water desalination plant in Huntington Beach. Based on statements made by City Council Members during the discussion of the item, I believe I had the votes to pass this item. However, earlier in the day, Poseidon sent an email to one of our City Attorneys threatening to sue the city if we as a body sent such a letter to the Commission. I have attached the email from Poseidon that I read at the Council Meeting and it is part of the public record.

My suggested action in no way reconsidered the project or changed any prior approval. However, given the threat of an expensive lawsuit, the City Council decided that individual Council Members would write their own letters to the Coastal Commission.

I am requesting that the Commission deny the CDP for the Poseidon desalination plant when it comes before you. I have detailed my reasons below.

In 2010, the Huntington Beach City Council approved Coastal Development Permit No. 10-014, conditionally approving the "Poseidon Seawater Desalination Project" (Poseidon CDP). The city's approval of the Poseidon CDP was appealed by several organizations, as well as Commissioners Wan and Mirkarimi. Subsequently, the Coastal Commission found that "substantial issues" were raised in the several appeals. Neither the city nor the Applicant opposed the Coastal Commission's finding of "substantial issues" in the several appeals, but the Applicant did submit comments regarding those findings.

I agree with the Coastal Commission's findings of "substantial issues" and that the issuance of the CDP did not adequately enforce several provisions of our Local Coastal Program (LCP), and recommend the Coastal Commission deny the CDP.

The Applicant can re-apply for a Project CDP from the city that is consistent with our LCP. However, I believe that significant changes to the project may be required to resolve the substantial issues that were in violation of our Local Coastal Program.

I believe it would be premature for the Coastal Commission to issue a CDP for the "retained jurisdiction" portion of the project prior to the Applicant presenting a revised proposal consistent with our local CDP.

Below you will find a list of my reasons I believe the project violates our LCP in regard to the "substantial issues" adopted by the Coastal Commission in 2010.

**1. Marine Biology and Water Quality (LCP: C6.1.1, C6.1.2, C6.1.3, C6.1.4, C6.1.19)**

**a. Water Quality**

I agree with the Coastal Commission findings and reject the Applicants response as unpersuasive and inadequate justification for issuance of the CDP by the City.

LCP Policy C 6.1.1 requires that the project at a minimum prevent the degradation of water quality. I believe the project will indeed degrade water quality. For example the highly saline effluent may arguably not affect areas that support sensitive species, but it will degrade water quality where it occurs. Our LCP policy C 6.1.2 states "marine resources shall be maintained, enhanced, and where feasible restored". This means all marine resources, not just sensitive species. Highly saline discharge will not enhance the marine environment.

I also think that the permit issued by the Regional Water Quality Control Board was limited to the time when the co-located power plant was still operating the "once-through cooling system." The CDP does not provide any opportunity for re-evaluation of the water quality degradation from the disposal of brine into the marine environment once the power plant ceases its current withdrawal of seawater.

**b. Marine Biological Productivity**

Our LCP (Policy C 6.1.3.) requires the "use of the marine environment in a manner that will... maintain healthy populations of all species of marine organisms."

I agree that the lack of a long-term analysis in the CDP, given that the power plant will stop once through cooling by 2020, if not sooner, is inadequate enforcement of the policies in the City's LCP related to ensuring against the degradation of all marine organisms.

I agree with the Coastal Commission finding that any effort to mitigate water quality degradation from the brine disposal by withdrawing additional volumes of seawater to dilute the brine before discharge exacerbates the intake and mortality of marine life in violation of the city's LCP policies C 6.1.2, C 6.1.3, 6.1.4, and C 6.1.19.

I think that the Project, as it is currently proposed, attempts to resolve some mandates of our LCP policies in a manner that violates other equally mandatory policies included in our LCP. I find this piecemeal attempt to segregate our LCP policies to justify the project now unacceptable.

**2. Protection of Wetlands & Environmentally Sensitive Habitat Areas (LCP: C 6.1.4, C 6.1.20, C 7.1.3, C 7.1.4, C 7.1.5)**

Given that the Commission's Staff Ecologist, Dr. Jonna Engel, identified evidence of wetland vegetation and hydrology on the site in the spring of 2009; I agree that the EIR erred in concluding that there are no wetland areas on the site that would be affected by the project. Wetland protection is important to me and the people of Huntington Beach, and I request that a wetlands delineation study be done as part of a revised project proposal.

I also believe in protecting rare and endangered species that reside in wetlands, and part of this is assuring the project will not generate so much noise as to interfere with successful feeding, roosting, and nesting of these species. The EIR did not evaluate the noise impacts on wetland species. This likely violates LCP policy C 7.1.4. Our CDP findings were insufficient to ensure that a larger buffer zone is not warranted to comply with the stated policy: "Sensitivity of species to disturbance: The buffer should be sufficiently wide to ensure that the most sensitive species will not be disturbed significantly by permitted development, based on habitat requirements of both resident and migratory species and the adaptability of various species to human disturbance."

**3. Land Use (LCP C 1.2.1)**

I do not see how a private business could be considered a public entity. The project is an industrial facility and not allowed in areas designated as "Public" under the city's Land Use Plan. Therefore, I agree with the Commission that consistency with the city's LCP Policy C 1.2.1 would first require an LCP amendment.

**4. Energy Use and Development (LCP C 8, C 8.2.2, C 8.2.4, C 8.3.1)**

I think that the LCP, by incorporating Coastal Act policies, designates the entire site as being available for power plant expansion. AES is currently in the permitting process with the California Energy Commission to demolish the existing generators and replace them with newer more efficient generators.

To reduce noise impacts to residents of the AES plant, the new generators may need to be situated on the site currently projected for the desalination project. Therefore, I agree with the Coastal Commission finding that reducing the area available on the site will constrain the power plant's options for upgrading the facility and consequently undermine the policy to "Accommodate energy facilities with the intent to promote beneficial effects while mitigating any potential adverse effects."

**5. Adequate Public Services (LCP C 1.1.1, C 1.2.3)**

In regards to LCP Policy C1.2.3, I find that the CDP did not adequately analyze all the public services necessary to serve the proposed development, consistent with the policies in the Coastal Element. In particular, I find that a delivery pipeline is an essential "public service" for the project that is not available. Further, the CDP failed to identify the route of the delivery pipeline and ensure that the as-yet to be determined pipeline would be consistent with the policies in the Coastal Element at the time of occupancy.

I also agree the project analyses incorrectly calculated the "net reduction in electricity" for the reasons stated in the Commission's findings.

In regards to LCP Policy C1.1.1, while I agree with the findings that the CDP inadequately analyzed energy demand and mitigation to reduce adverse impacts, I disagree with the Commission's finding that an alternative site would be preferable for resolving these adverse impacts. These issues are not a function of the location of the facility. Further, I agree with the Commission's finding that the increased or continued use of the existing intake and discharge, without employing design and technology improvements, would extend and expand the current marine life mortality and water quality degradation. However, a different site for the facility itself would necessarily resolve these adverse impacts. In conclusion, I find that the CDP analyses were inadequate for the several LCP policies identified in the Commission's findings and the CDP should be denied for those reasons.

#### **6. Effects on Public Recreation (LCP C3.1)**

I agree with the Commission's finding of "substantial issues" regarding the impact to recreational fishing from entrainment of marine organisms in the project's proposed intake, as well as displacement of recreational fisheries resulting from the improperly mitigated brine disposal. Withdrawal of seawater for a "stand alone" facility is inconsistent with the City's policy to "preserve, protect and enhance, where feasible, existing public recreation sites..." The entrainment of marine life, compounded by additional seawater withdrawal to dilute the concentrated brine disposal, would not "preserve or protect" recreational fishing opportunities.

The cessation of the intake system for power plant cooling water would enhance marine habitat and marine life. However, that benefit is lost if the proposed project is allowed to use these same intakes from the power plant

#### **7. Adequate Protection Against Seismic Events and Liquefaction (LCP C10.1.4)**

I agree that without a final determination of the pipeline route, it is premature to conclude that the CDP adequately "[requires] appropriate engineering and building practices for all new structures to withstand ground shaking and liquefaction..." I think the final identification of the pipeline route, as well as proper studies, engineering and building practices to withstand ground shaking and liquefaction, are required prior to issuance of the CDP.

#### **8. Mitigation to the Maximum Extent Possible [LCP C1.1]**

I agree with the Coastal Commission findings that the CDP did not "ensure that adverse impacts associated with [the project] are mitigated or minimized to the greatest extent feasible." A list of adverse impacts that were not minimized nor mitigated to the greatest extent feasible includes:

- Loss of marine life from entrainment;
- Water quality degradation from the brine discharge;
- Mitigation of the greenhouse gas emissions associated with the energy-intensive seawater desalination process;
- Impacts on wetlands wildlife from noise disturbance.

## 9. Coastal Dependency [LCP C1.1.2]

Alternatives for moving the facility itself outside of the coastal zone are technically feasible but were not adequately considered in issuing the CDP. The seawater desalination intakes are "coastal dependent." However, the desalination facility itself is not necessarily "coastal dependent" and the CDP inadequately considered alternatives for the facility outside the coastal zone.

### NEW INFORMATION NOT CONSIDERED IN THE CDP

I also want to make the Coastal Commission aware of new information that I consider relevant to this project. I feel the information is important for future consideration.

1. New Scientific Reports on Seawater Desalination Prepared for the State Water Resources Control Board: See expert reports on desalination intakes and mitigation, brine discharge impacts and best technology for minimizing impacts, an brine toxicity studies at: [http://www.waterboards.ca.gov/water\\_issues/programs/ocean/desalination/](http://www.waterboards.ca.gov/water_issues/programs/ocean/desalination/)

#### 2. AES Sub-Lease and Issues Related to Location of the AES Re-Power Project on the Site

The City has been unable to obtain the lease agreement between AES and Poseidon Resources. This information is essential to a thorough review of potential locations of the desalination facility, and new replacement generators in a manner consistent with our LCP policies. Further, the timing and cumulative impacts of these large construction projects on the same site raise new questions about cumulative impacts yet to be resolved.

In conclusion, I request that the California Coastal Commission deny the CDP for the construction of the Poseidon desalination plant.

Sincerely,



Connie Boardman  
Mayor  
City of Huntington Beach

#### Attachment

cc: Commissioners of the California Coastal Commission  
Alison Dettmer, Deputy Director, California Coastal Commission  
Charles Lester, Executive Director, California Coastal Commission  
Tom Luster, Staff Environmental Scientist, California Coastal Commission  
Governor Jerry Brown  
Senator Barbara Boxer  
Senator Dianne Feinstein  
Senator Darrell Steinberg

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**From:** CHRISTOPHER.GARRETT@LW.com [mailto:CHRISTOPHER.GARRETT@LW.com]  
**Sent:** Monday, May 06, 2013 12:10 PM  
**To:** Vigliotta, Mike  
**Subject:** Letter to City Council re Agenda Item No. 17, consideration of Boardman letter

Dear Mr. Vigliotta:

Thank you for returning my call this morning. As discussed, I am a lawyer representing Poseidon Resources (Surfside) LLC.

Poseidon believes that proposed Agenda Item 17 on the Huntington Beach City Council for this evening, Monday May 6, 2012, is contrary to law and intends to exercise its legal rights and remedies if the Council were to take collective action to adopt the item. For purposes of the Brown Act, please consider this email and the attached letter to be "threatened" or "potential litigation" which would justify a closed session item on this matter with the City Council during the Council's closed session meeting today at 4:30 pm..

To address our legal concerns and to remove the threat of potential litigation by any interested parties, we suggest that Agenda Item 17 be modified to remove all references to collective action by the City Council as a whole, so that it would instead be a discussion of potential letters that members of the Council might individually send to the Commission regarding the Poseidon project.

We believe that any action by the Council to take action as a collective body on the Poseidon project at its meeting tonight would violate the Huntington Beach Municipal Code, the Coastal Act, the approved Local Coastal Program, and the Brown Act. The Council is also without jurisdiction to take action since the matter concerns a pending appeal before the Coastal Commission.

Agenda Item 17 raises the same legal issues concerning jurisdiction to "reconsider" prior decisions, (and requirements under the Brown Act, the Huntington Beach Municipal Code and the State Planning and Zoning law regarding requirement for prior notice to the public and the applicant whenever a local agency proposes to take collective action regarding an applicant's project)—as the City of Huntington Beach faced in the recent litigation with the Pacific Mobile Home Park in Orange County Superior Court. See the news article referenced below.

<http://www.ocregister.com/articles/court-408761-council-city.html>

Given the City's familiarity with these issues due to this recent litigation, we do not believe any reasonable attorney or reasonable City Councilmember could now have a "good faith" belief that Agenda Item 17 is in compliance with the law and was not a violation of due process and Poseidon's procedural rights granted under federal state and local law..

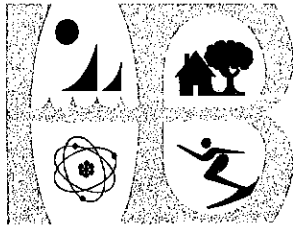
Since the Council lacks jurisdiction to take any collective action on the Poseidon project as this time, and because of the lack of proper notice to the public and Poseidon even if there were jurisdiction, we do not believe that the Council can cure any defects by accepting public comments at the time it discusses Agenda Item 17 and other "Councilmember Items," rather than taking comments on Item 17 at the start of the meeting during the overall public comment period. The only way to remedy the defects in Item 17 is to remove any references to collective action by the City Council as suggested above.

Regards,

Chris

**Christopher W. Garrett**

**LATHAM & WATKINS LLP**  
600 West Broadway, Suite 1800  
San Diego, CA 92101-3375  
Direct Dial: +1.619.238.2827  
Fax: +1.619.696.7419  
Email: [christopher.garrett@lw.com](mailto:christopher.garrett@lw.com)  
<http://www.lw.com>



# City of Huntington Beach

P. O. BOX 190 • 2000 MAIN STREET • CALIFORNIA 92648

**Dave Sullivan**  
**City Council Member**

May 15, 2013

CALIFORNIA  
COASTAL COMMISSION

MAY 28 2013

RECEIVED

California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Dear Commissioners:

I am opposed to the Poseidon project in Huntington Beach. I oppose the project because Poseidon has never successfully built a desalination plant! Under these circumstances, I feel that it is unwise to allow Poseidon to attempt a major project on our coast.

I urge you to wait until the Carlsbad project has been proven successful before considering an additional desalination plant.

Sincerely,

Dave Sullivan  
City Council Member  
City of Huntington Beach

DS:cf



**LETTERS / E-MAILS**

**TO**

**CCC COMMISSIONERS /**

**CCC STAFF**

## **4000 Individuals had submitted this letter via e-mail as of 10/31/13**

**Luster, Tom@Coastal**

---

**From:** Dagny SanMiguel <dagsan@care2.com>  
**Sent:** Friday, October 04, 2013 4:53 PM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** Huntington Beach Desalination Project needs revision.

Dear Chair Shallenberger and Coastal Commissioners:

I am writing to oppose the proposed Huntington Beach Ocean Desalination project as currently detailed, which you will consider at your November hearing.

This massive ocean desalination project is just one of many the Coastal Commission will consider in the near future. Many facilities are currently being planned, and many more may be proposed in the future, but each one must be evaluated for its unique impact to local coastal resources AND ALSO for its cumulative impact combined with other proposed facilities statewide.

In its current form, the Huntington Beach project fails to meet the recommendations of the science community or the requirements of the Coastal Act to:

- (1) Protect against the intake and mortality of marine life;
- (2) Protect against degradation of water quality and habitat destruction from the discharge of concentrated brine; and
- (3) Ensure that the energy-intensive facility will fully mitigate its increased greenhouse gas emissions.

An appropriate facility would

- (1) Have intake protections in place to prevent killing or maiming marine life;
- (2) Provide for adequate dilution and wide dispersal of resulting brine back into the ocean; and
- (3) Use as close to 100 percent clean renewable energy (wind, solar, tidal) to operate as possible.

Additionally, while fresh water supply is a major concern now and for the future, local water agencies have NOT yet committed to purchase water from the proposed facility. This is something else that needs to be locked down while refining the details of the project.

As a Californian who supports protecting and restoring our coast and ocean, I favor STRICT enforcement of the Coastal Act and strongly encourage the Commission to deny the Huntington Beach Ocean Desalination permit as it stands until the project design is revised to adequately address the concerns detailed above.

Sincerely,

Dagny SanMiguel  
E Street  
Sacramento, CA 95814

**110 INDIVIDUALS HAD SUBMITTED THIS LETTER AS OF 10/31/13**

**Chairman Shallenberger and Commissioners:**

**I am opposed to Poseidon's plans for a Desalination Plant in HB. Do not support this project.**

**Our city already has the AES Power Plant and the Sewage Plant that dump 200,000,000 gallons of waste into the ocean at Huntington Beach daily.**

**Poseidon's plans will make our ocean more dirty and will jeopardize Huntington Beach's tourism industry.**

**Name**

*Carolyn Ross*

**Email**

*gardengirl016@gmail.com*

**Address**

*2012 Polynesian Lane  
Huntington Beach, CA 92646*

**Signature**

*Carolyn Ross*

**RECEIVED**  
South Coast Region

OCT 7 2013

CALIFORNIA  
COASTAL COMMISSION

42 Individuals had submitted this letter or via e-mail as of  
10/30/13

Mr. R. Colin Kelley  
9892 Vicksburg Dr  
Huntington Beach, CA 92646-5336

Oct 3, 2013

California Coastal Commissioners  
200 Oceangate, 10th Floor  
Long Beach, CA 90802-4416

Dear California Coastal Commissioners,

The proposed Poseidon Huntington Beach Desalination Facility should not be awarded a Coastal Development Permit.

The Poseidon Desalination Facility would harm our marine resources and would negatively impact the Southern California coast and the region's tourist-driven economy. Further, it contradicts the State of California's commitment to reduce greenhouse gas emissions and efforts to phase out Once Through Cooling technology along our coast.

Creating freshwater from saltwater is an expensive and energy-intensive process which contributes to climate change and sea level rise. The proposed plant is projected to use enough electricity to power 30,000 homes!

The proposed site for the facility is located in a tsunami runup zone and next to a earthquake fault.

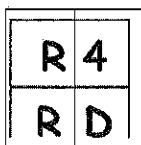
The facility would harm the local marine environment. Poseidon's outdated technology would suck in and kill fish and plankton that play a critical role in our coastal ecosystem. Operations at the plant would also produce hyper-saline brine that degrades water quality and harms marine life.

This desalination plant would also harm the Marine Protected Areas along our coast. We have already made large investments into implementing these protected areas and should ensure they remain protected.

Protect the coast and deny Poseidon's Coastal Development Permit.

Sincerely,

  
Mr. R. Colin Kelley



## Residents for Responsible Desalination

*"Organized for coastal protection advocacy and education about seawater desalination."*

October 29, 2013

**W19a. & 20a.**

California Coastal Commission  
c/o Tom Luster  
45 Fremont, Suite 2000  
San Francisco, California 94105- 2219  
Fax: (415) 904-5400

**Re: Sustain Appeal No. A-5-HNB-10-225**

Dear Coastal Commissioners:

**Residents for Responsible Desalination (R4RD)** requests that the Commission sustain **Appeal No. A-5-HNB-10-225** and remand the coastal development permit (CDP) to the City of Huntington Beach for compliance with its local coastal program (LCP) and further deliberations.

**R4RD** believes strongly that the subject Poseidon Water (a.k.a. Poseidon Resources) seawater desalination project does not comply with the Coastal Element, which functions as the adopted LCP, of the General Plan for the City of Huntington Beach.

The desalination project has undergone substantive changes from the project that the City approved in February 2006 and subsequently in September 2010. **R4RD** believes the City should reevaluate the project to deliberate on these changes. Of particular note are the proposed size, routing and environmental impacts of locating and constructing necessary water delivery pipelines, which, in and of themselves, are inconsistent with the City's LCP concerning infrastructure.

**R4RD** is also concerned that any future approval be contingent upon the project's future compliance with the State Water Resources Control Board Ocean Plan Amendment on Desalination. So far, Poseidon Water has shown no willingness to comply with the most probable policies of that Ocean Plan Amendment regarding seawater intakes and brine discharge.

**R4RD** has other concerns as well:

- The project's proximity to the Magnolia Marsh and probable impacts on that protected coastal resource;
- The project's location in known active fault and tsunami run-up zones together with being built in an area of very high liquefaction; and,
- The project's proximity to the ASCON toxic waste site and plans to lay a large pipeline along Hamilton Avenue adjacent to the ASCON site.

**Residents for Responsible Desalination** opposes Poseidon Water construction and operation of a seawater desalination plant on the proposed coastal site in Huntington Beach.

We request that the Coastal Commission deny the CDP for the project and return the matter to the City of Huntington Beach for a more thorough review and deliberation.

Regards,

Dave Hamilton  
v.p., *Residents for Responsible Desalination*

Mark W. Dixon  
Sandra S. Fazio  
21612 Bahama Lane  
Huntington Beach CA 92646-7810  
714 965-0104

October 29, 2013

California Coastal Commission  
c/o Tom Luster  
45 Fremont, Suite 2000  
San Francisco, California 94105-2219  
Fax: (415) 904-5400

**RECEIVED**

**OCT 30 2013**

CALIFORNIA  
COASTAL COMMISSION

**Re: Sustain Appeal No. A-5-HNB-10-225**

Dear Coastal Commissioners:

We request that the Commission sustain **Appeal No. A-5-HNB-10-225** and remand the coastal development permit (CDP) to the City of Huntington Beach for compliance with the City's local coastal program (LCP) and further deliberations.

We believe strongly that the subject Poseidon Water seawater desalination project does not comply with the Coastal Element, which functions as the adopted LCP, of the General Plan for the City of Huntington Beach.

The desalination project has undergone substantive changes from the project that the City approved in February 2006 and subsequently in September 2010. We believe the City should reevaluate the project to deliberate on these changes. Of particular note are the proposed size, routing and environmental impacts of locating and constructing necessary water delivery pipelines, which, in and of themselves, are inconsistent with the City's LCP concerning infrastructure.

We are also concerned that any future approval be contingent upon the project's future compliance with the State Water Resources Control Board Ocean Plan Amendment on Desalination. So far, Poseidon Resources has shown no willingness to comply with the most probable policies of that Ocean Plan Amendment regarding seawater intakes and brine discharge.

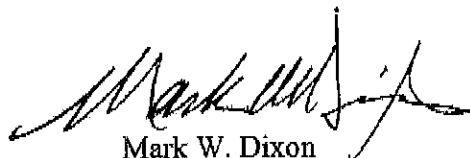
We have other concerns as well:

- The project's proximity to the Magnolia Marsh and probable impacts on that protected coastal resource;
- The project's location in known active fault and tsunami run-up zones together with being built in an area of very high liquefaction; and,
- The project's proximity to the ASCON toxic waste site and plans to lay a large pipeline along Hamilton Avenue adjacent to the ASCON site.

We oppose Poseidon Resources' construction and operation of a seawater desalination plant on the proposed coastal site in Huntington Beach.

We request that the Coastal Commission deny the CDP for the project and return the matter to the City of Huntington Beach for a more thorough review and deliberation.

Sincerely,

  
Mark W. Dixon

  
Sandra S. Fazio

October 29, 2013

**W19a. & 20a.**

California Coastal Commission

c/o Tom Luster

45 Fremont, Suite 2000

San Francisco, California 94105- 2219

Fax: (415) 904-5400

**Re: Sustain Appeal No. A-5-HNB-10-225**

Dear Coastal Commissioners:

I (and I have modified this letter so please read it) request that the Commission sustain **Appeal No. A-5-HNB-10-225** and remand the coastal development permit (CDP) to the City of Huntington Beach for compliance with the City's local coastal program (LCP) and further deliberations.

I believe strongly that the subject Poseidon Water seawater desalination project does not comply with the Coastal Element, which functions as the adopted LCP, of the General Plan for the City of Huntington Beach.

The desalination project has undergone substantive changes from the project that the City approved in February 2006 and subsequently in September 2010. I believe the City should reevaluate the project to deliberate on these changes. Of particular note are the proposed size, routing and environmental impacts of locating and constructing necessary water delivery pipelines, which, in and of themselves, are inconsistent with the City's LCP concerning infrastructure.

I am also concerned that any future approval be contingent upon the project's future compliance with the State Water Resources Control Board Ocean Plan Amendment on Desalination. So far, Poseidon Resources has shown no willingness to comply with the most probable policies of that Ocean Plan Amendment regarding seawater intakes and brine discharge.

I have other concerns as well:

- The project's proximity to the Magnolia Marsh and probable impacts on that protected coastal resource;
- The project's location in known active fault and tsunami run-up zones together with being built in an area of very high liquefaction; and,
- The project's proximity to the ASCON toxic waste site and plans to lay a large pipeline along Hamilton Avenue adjacent to the ASCON site.

I oppose Poseidon Resources construction and operation of a seawater desalination plant on the proposed coastal site in Huntington Beach.

I request that the Coastal Commission deny the CDP for the project and return the matter to the City of Huntington Beach for a more thorough review and deliberation.

I was a member of the Huntington Beach Environmental Board for 2 terms (or about 8 years) and am quite surprised that this has gotten this far. Besides what is mentioned above, there are also issues of air, water and noise pollution in a fairly unique environmental community. As you know most of California's Wet Lands are gone...this place does not need more intrusion, it needs to have the current intrusions remediated. The power plant is so out of date that it is ridiculous. Instead of adding to it, we should be removing it and allowing the rare and natural wetland habitat to return.

Sincerely,

Fred J. Galluccio, MD, FAAFP



## **Luster, Tom@Coastal**

---

**From:** Char9041 <char9041@aol.com>  
**Sent:** Tuesday, October 29, 2013 7:43 PM  
**To:** Luster, Tom@Coastal  
**Subject:** Sustain Appeal No. A-5-HNB-10-225

October 29, 2013

### **W19a. & 20a.**

California Coastal Commission  
c/o Tom Luster  
45 Fremont, Suite 2000  
San Francisco, California 94105- 2219  
Fax: (415) 904-5400

### **Re: Sustain Appeal No. A-5-HNB-10-225**

Dear Coastal Commissioners:

I request that the Commission sustain **Appeal No. A-5-HNB-10-225** and remand the coastal development permit (CDP) to the City of Huntington Beach for compliance with the City's local coastal program (LCP) and further deliberations.

I believe strongly that the subject Poseidon Water seawater desalination project does not comply with the Coastal Element, which functions as the adopted LCP, of the General Plan for the City of Huntington Beach.

The desalination project has undergone substantive changes from the project that the City approved in February 2006 and subsequently in September 2010. I believe the City should reevaluate the project to deliberate on these changes. Of particular note are the proposed size, routing and environmental impacts of locating and constructing necessary water delivery pipelines, which, in and of themselves, are inconsistent with the City's LCP concerning infrastructure.

I am also concerned that any future approval be contingent upon the project's future compliance with the State Water Resources Control Board Ocean Plan Amendment on Desalination. So far, Poseidon Resources has shown no willingness to comply with the most probable policies of that Ocean Plan Amendment regarding seawater intakes and brine discharge.

I have other concerns as well:

- The project's proximity to the Magnolia Marsh and probable impacts on that protected coastal resource;
- The project's location in known active fault and tsunami run-up zones together with being built in an area of very high liquefaction; and,
- The project's proximity to the ASCON toxic waste site and plans to lay a large pipeline along Hamilton Avenue adjacent to the ASCON site.

I oppose Poseidon Resources construction and operation of a seawater desalination plant on the proposed coastal site in Huntington Beach.

I request that the Coastal Commission deny the CDP for the project and return the matter to the City of Huntington Beach for a more thorough review and deliberation.

Regards,  
Charlotte Lyon  
9041 Bobbie Circle  
H.B.  
92646

**Luster, Tom@Coastal**

---

**From:** condoncc@verizon.net  
**Sent:** Tuesday, October 29, 2013 7:08 PM  
**To:** Luster, Tom@Coastal  
**Subject:** Poseidon Plant

October 29, 2013

W19a. & 20a.

California Coastal Commission  
c/o Tom Luster  
45 Fremont, Suite 2000  
San Francisco, California 94105- 2219  
Fax: (415) 904-5400

Re: Sustain Appeal No. A-5-HNB-10-225

Dear Coastal Commissioners:

I request that the Commission sustain Appeal No. A-5-HNB-10-225 and remand the coastal development permit (CDP) to the City of Huntington Beach for compliance with the City's local coastal program (LCP) and further deliberations.

I believe strongly that the subject Poseidon Water seawater desalination project **does not comply** with the Coastal Element, which functions as the adopted LCP, of the General Plan for the City of Huntington Beach.

The desalination project has undergone substantive changes from the project that the City approved in February 2006 and subsequently in September 2010. I believe the City should reevaluate the project to deliberate on these changes. Of particular note are the proposed size, routing and environmental impacts of locating and constructing necessary water delivery pipelines, which, in and of themselves, are inconsistent with the City's LCP concerning infrastructure.

I am also concerned that any future approval be contingent upon the project's future compliance with the State Water Resources Control Board Ocean Plan Amendment on Desalination. So far, Poseidon Resources has shown no willingness to comply with the most probable policies of that Ocean Plan Amendment regarding seawater intakes and brine discharge.

I have other concerns as well:

- The project's proximity to the Magnolia Marsh and probable impacts on that protected coastal resource;
- The project's location in known active fault and tsunami run-up zones together with being built in an area of very high liquefaction; and,
- The project's proximity to the ASCON toxic waste site and plans to lay a large pipeline along Hamilton Avenue adjacent to the ASCON site.

**I oppose Poseidon Resources construction and operation of a seawater desalination plant on the proposed coastal site in Huntington Beach.**

I request that the Coastal Commission **deny** the CDP for the project and return the matter to the City of Huntington Beach for a more thorough review and deliberation.

Regards,  
Mr. Christopher Condon

## **Luster, Tom@Coastal**

---

**From:** Louis Kesselman <kesselman1@verizon.net>  
**Sent:** Tuesday, October 29, 2013 9:22 PM  
**To:** Luster, Tom@Coastal  
**Subject:** Poseidon

Hi Tom,

Please, please, please vote against the Poseidon project! It is not in the best interest of the people of Huntington Beach and we gain nothing from it.

- The byproducts that Poseidon system releases into the ocean includes water that is 500 degrees. (No one seems to know how it will affect the water, or at what distance from the release the water temperature will return to normal.) As you may know, HB has a very healthy and large dolphin population - what will this do to them and our other ocean wild life?

- We get VERY LITTLE revenue from it. (I think just over \$300,000K per year.) That is NOTHING! Why we are we selling our precious coastline for so little? Doesn't the ocean belong to everyone?

- And now this system includes some big, loud fans that will sound like an airport??? What?? Are you serious??

This is horrible project - on every level!

We don't have this water source now, and we are fine without it.

Please vote NO on this. Thank you!!

Nancy Kesselman



## HUNTINGTON BEACH TOMORROW

*Making a difference today for Huntington Beach tomorrow*

P.O. Box 865, Huntington Beach, California 92648

(714) 840-4015

HBTomorrow.org

**HBT's Mission**  
is  
to promote and maintain  
a high quality of life  
in Huntington Beach.

HBT advocates for:

Citizen Participation  
Clean & Healthy Environment  
Efficient & Safe Traffic Flow  
Open & Responsive Government  
Preserve Open Space  
Preserve Our Quality of Life  
Recreational Opportunities for All  
Responsible Planned Growth  
Sound Infrastructure  
Sustainable Tax Base

Board of Directors

Officers

*President*  
Karen Jackle

*Vice President*  
Monica Hamilton

*Treasurer*  
Tim Kowal

*Secretary*  
Linda D. Couey

Directors  
Greg Griffin  
Robert Sternberg

**CALIFORNIA COASTAL COMMISSION**

45 FREMONT, SUITE 2000

SAN FRANCISCO, CA 94105- 2219

October 18, 2013

RE: A-5-HNB-06-101 Poseidon

Dear Coastal Commission:

HB Tomorrow (HBT) recommends the Commission sustain Appeal No. A-5-HNB-06-101 and remand the coastal development permit (CDP) to the City of Huntington Beach for compliance with its local coastal plan (LCP) and further deliberations.

Furthermore, the desalination project has undergone substantive changes from the project that the City approved in February 2006 and subsequently in September 2010. HBT believes the City is deserving of another look at the project to deliberate on the changes, especially the size, routing, and environmental impacts of locating and constructing the necessary water delivery pipelines. These proposed delivery pipelines, in and of themselves, are inconsistent with the City's LCP concerning available infrastructure.

HBT is also concerned about the project's future compliance with the State Water Resources Control Board Ocean Plan Amendment on Desalination. So far, Poseidon Resources has shown no willingness to comply with the most probable policies of that Ocean Plan Amendment regarding seawater intakes and brine discharge.

HBT has other concerns as well: 1) the project's proximity to the Magnolia Marsh and probable impacts on that protected coastal resource; 2) the project's location in known active fault and tsunami run-up zones together with being built in an area of very high liquefaction; and, 3) the project's proximity to ASCON toxic waste site and plans to lay a large pipeline along Hamilton Avenue adjacent to the ASCON site.

Huntington Beach Tomorrow opposes Poseidon Resources construction and operation of a seawater desalination plant on the proposed site as currently planned. We request that the Coastal Commission deny the CDP for the project and return the matter to the City of Huntington Beach for a more thorough review.

Sincerely,

Karen Jackle, President

RECEIVED

OCT 28 2013

CALIFORNIA  
COASTAL COMMISSION

RECEIVED  
South Coast Region

Oct 25, 2013

OCT 28 2013

CALIFORNIA  
COASTAL COMMISSION

California Coastal Commissioners  
200 Oceangate, 10th Floor  
Long Beach, CA 90802-4416

California Coastal Commissioners,

The proposed Poseidon Huntington Beach Desalination Facility should not get a Coastal Development Permit.

The Poseidon Desalination Facility would harm our marine resources and would negatively impact the Southern California coast and the region's tourist-driven economy. Further, it contradicts the State of California's commitment to reduce greenhouse gas emissions and efforts to phase out Once Through Cooling technology along our coast.

Creating freshwater from saltwater is an expensive and energy-intensive process which contributes to climate change and sea level rise. The proposed plant is projected to use enough electricity to power 30,000 homes!

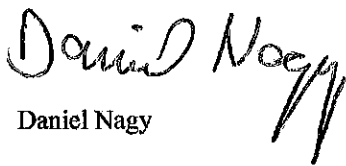
The proposed site for the facility is located in a tsunami runup zone and next to a earthquake fault.

The facility would harm the local marine environment. Poseidon's outdated technology would suck in and kill fish and plankton that play a critical role in our coastal ecosystem. Operations at the plant would also produce hyper-saline brine that degrades water quality and harms marine life.

This desalination plant would also harm the Marine Protected Areas along our coast. We have already made large investments into implementing these protected areas and should ensure they remain protected.

Protect the coast and deny Poseidon's Coastal Development Permit.

Respectfully yours,



Daniel Nagy

321 19th St  
Santa Monica, CA 90402

## **Luster, Tom@Coastal**

---

**From:** Paul Couillard <paulcouillard@yahoo.com>  
**Sent:** Tuesday, October 22, 2013 4:18 AM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** Please Deny Huntington Beach Desalination

Dear Chair Shallenberger and Coastal Commissioners,

I am writing to oppose the Huntington Beach Ocean Desalination project you will consider at your November hearing.

This massive ocean desalination project is just one of many the Coastal Commission will consider in the near future. Many facilities are currently being planned, and many more may be proposed in the future. Each project must be evaluated not only for its unique impact to local coastal resources, but also for its cumulative impact in tandem with multiple proposed facilities statewide.

The Huntington Beach Ocean Desalination project fails to meet the recommendations of the science community, and the requirements of the Coastal Act, to:

- protect against the intake and mortality of our precious marine life;
- protect against degradation of water quality and habitat destruction from the discharge of concentrated brine;
- ensure that the extremely energy-intensive facility will fully mitigate its increased greenhouse gas emissions.

A thorough evaluation of the proposal would also include an assessment as to the need for the project. Less costly water supply options exist that would actually restore and protect coast and ocean water quality and habitat. Local water supply agencies have not committed to purchase the water from the proposed facility, so it is not necessary to approve this flawed project at this time.

I am a Californian that supports efforts to restore and protect our precious coast and ocean, for this and future generations, through strict enforcement of the Coastal Act. I strongly encourage the Commission to deny the Huntington Beach Ocean Desalination permit until the proponent can demonstrate it is absolutely necessary, and the project design is revised to protect our precious coast and ocean environment.

Sincerely,

Paul Couillard  
6176 Beadnell Way #74  
San Diego, CA 92117

**Luster, Tom@Coastal**

---

**From:** Deborah Koken <dkoken@hmausa.com>  
**Sent:** Monday, October 07, 2013 8:20 AM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** Please Deny Poseidon Permit

Dear Chair Shallenberger and Coastal Commissioners,

I am writing to oppose the Huntington Beach Ocean Desalination project you will consider at your November hearing.

This massive ocean desalination project is just one of many the Coastal Commission will consider in the near future. Many facilities are currently being planned, and many more may be proposed in the future. Each project must be evaluated not only for its unique impact to local coastal resources, but also for its cumulative impact in tandem with multiple proposed facilities statewide.

The Huntington Beach Ocean Desalination project fails to meet the recommendations of the science community, and the requirements of the Coastal Act, to:

- protect against the intake and mortality of our precious marine life;
- protect against degradation of water quality and habitat destruction from the discharge of concentrated brine;
- ensure that the extremely energy-intensive facility will fully mitigate its increased greenhouse gas emissions.

A thorough evaluation of the proposal would also include an assessment as to the need for the project. Less costly water supply options exist that would actually restore and protect coast and ocean water quality and habitat. Local water supply agencies have not committed to purchase the water from the proposed facility, so it is not necessary to approve this flawed project at this time.

I am a Californian that supports efforts to restore and protect our precious coast and ocean, for this and future generations, through strict enforcement of the Coastal Act. I strongly encourage the Commission to deny the Huntington Beach Ocean Desalination permit until the proponent can demonstrate it is absolutely necessary, and the project design is revised to protect our precious coast and ocean environment.

Sincerely,

Deborah Koken  
1778 Kenwood Place  
Costa Mesa, CA 92627



October 11, 2013

California Coastal Commission  
200 OceanGate, 10th Floor  
Long Beach, CA 90802-4416  
Phone (562) 590-5071  
FAX (562) 590-5084

c/o Coastal Commission Staff, Deputy Director Sherilyn Sarb and District Manager Teresa Henry

RE: Proposed Poseidon Resources Desalination Plant, Huntington Beach

Dear California Coastal Commissioners,

I am writing on behalf of the Cabrillo Wetlands Conservancy, Inc. regarding the proposed Poseidon desalination plant. We ask that you deny this project. We concur with the Orange County Coastkeeper, Surfrider Foundation, Residents for Responsible Desalination, and the CCC Staff that substantial issues exist in that the project approved and conditioned by the Huntington Beach City issuance of a Coastal Development Permit and Tentative Parcel Map does not conform to applicable Local Coastal Program (LCP) Policies.

We agree with the Staff recommendations that the Commission find that there is substantial issue related to inconsistency with the Huntington Beach City LCP policies governing protection of marine life and water quality protection services, energy use and development, public recreation, water conservation, protection against seismic events and liquefaction, growth-inducement, coastal dependency, and the requirement for mitigation to the maximum extent feasible.

In the Subsequent Environmental Impact Report (SEIR), the City, in many cases, used the SEIR's less-than-adequate standards and inaccurate analyses to determine LCP conformity. LCP Policy 6.1.2 requires that marine resources be "maintained, enhanced, and where feasible, restored." Regarding LCP Policy C1.1.1, which requires that projects avoid significant adverse impacts, the City's approval does not adequately acknowledge or evaluate the expected adverse impacts resulting from the project extending the life of the intake and discharge used by the power plant cooling system. There is currently a serious entrainment impact whenever the AES Generating Plant uses its intake water. Compare the amount of water taken in periodically now by the AES plant with the 100 MGD proposed by the Poseidon desalination plant 24 hours per day, 365 days per year. The resultant multiplication factor of destruction of marine life is unacceptable. We have witnessed a conveyor belt at the intake vat filled with shellfish, crab, small fish and an assortment of other matter. In the holding tank vat were eight-inch-long fish swimming around. According to former SCE workers, the dumpster into which the entrained marine life was dumped, filled almost daily.

Entrainment and impingement potentially harms millions of aquatic organisms each year, including fish, fish larvae and eggs, crustaceans, shellfish, sea turtles, and marine mammals. The largest impacts are likely to come from the removal of early life stages of fish and shellfish. Also, the project's chemical and

saline discharge affects marine life and coastal waters, and according to LCP C6.1.1 requirement, the project must prevent the degradation of water quality and prevent substantial ecological losses of source populations of marine organisms.

Concerning LCP Policy C3.1, we agree with the CCC Staff concerns regarding the potential that the project's high-salinity effluent will adversely affect marine life. The effluent's salinity concentration is expected to be about 40 parts per thousand, which is about 20 percent higher than ambient seawater salinity and about 10 percent higher than naturally-occurring variability. Discharge modeling shows that the project will create areas of higher than natural salinity covering from about five to several dozen acres of nearshore benthic habitat, and affecting similarly-sized areas of the nearshore water column. Staff noted the likelihood that local organisms not acclimated to higher salinities may avoid areas within the effluent plume, resulting in loss of foraging habitat as well as loss of recreational fishing opportunities within that area.

We agree that the City did not adequately evaluate the project's impacts to coastal resources and did not identify necessary mitigation measures that would avoid or minimize those impacts.

We agree with the CCC Staff Report, that inadequate noise studies were done, and unacceptable solutions were proposed in the SEIR. There are substantial issues regarding the noise generated during the construction phase of the project and in the operational stage of the plant. We are very concerned about the noise impact on both humans and wetlands wildlife. The construction noise level range is stated in the SEIR to be between 77dBA to 85dBA for an expected duration of approximately 27 months. The combined noise levels (decibels) from all the desalination plant pumps have a range between 101dBA and 108dBA. Both the construction noise range and the pump noise range are not acceptable because they would exceed the City's applicable exterior noise standards, which are 55dBA during the day and 50dBA at night. Applying the mitigation NO-1 reduction of 20dBA by the addition of pump enclosures, will not be sufficient.

Even taking into account the distance of the homes to the project site, the decibel levels can cause serious human health problems. The mobilehomes in the mobilehome park across Newland Street are just over 200 feet away. These homes have little sound-proofing, and even keeping their windows closed will not lower the noise to acceptable levels.

The SEIR in both Section 4.5 and Appendix F acknowledges that noise can affect human health, and that even moderate noise levels can produce disruptive after-effects, such as noise-induced hearing loss, effects on noise-induced sleep interference, noise stress factors, communication problems, performance and behavior changes, hypertension, increase in hostile behavior, and annoyance. Approximately 10 percent of people living in industrialized areas have substantial hearing loss.

At issue too, is the affect on the Humane Society animals directly north across Edison Street from the project.

We are extremely concerned that the City is not in compliance with LCP Policies C7.1.3 and C7.1.4 on their assessment of the present wetlands in close proximity to the proposed plant. The project is not in

compliance, in that this project is being developed adjacent to environmentally sensitive habitat areas, and will impact these areas with noise and vibrations above the ambient levels.

Although the SEIR identified the City's noise standards for humans, it did not identify noise standards for wetlands or environmentally sensitive habitat areas. No provisions have been sufficiently brought forward regarding potential noise effects on sensitive species in the nearby wetland areas that are closer to the project site than the nearest residences.

These wetlands do exist and are environmentally sensitive habitat areas with endangered and threatened species of birds such as the Belding's Savannah Sparrow, California Least Tern, Cooper's Hawk, Sharp-shinned Hawk, Northern Harrier, White Tailed Kite, and other resident and migratory birds living there. The SEIR, because it did not adequately examine the site hydrology and wetland vegetation, concluded that there were no wetland areas that would be affected by the project. There is an environmentally sensitive habitat area to the northwest of the project, the Newland Marsh, where a study was conducted some years ago by Richard Zembal that determined that, at that time there were 18 pairs of Belding's Savannah Sparrows nesting on that particular wetland. There is a small wetlands directly east of the project that has periodic ponding and hydrophytic vegetation. This small wetlands is not recognized in the SEIR but is in close proximity to the project, approximately 100 feet or less, and can be seen on any Google Map. An adequate buffer needs to be established for this wetlands.

Any increase in ambient noise and frequencies can significantly affect the local wildlife. Birds, bats and small creatures communicating in the vicinity of the proposed Poseidon facility may be unable to communicate distress or mating calls effectively.

Ambient noises, especially those with similar frequencies, can significantly mask a bird's song, affecting such aspects as its amplitude, frequency, rhythm, timbre, and call band-width.

Clear song transmission is critical to most birds because their reproductive success may depend on it. Song is important in resolving conflicts between males, allowing them to maintain their territories and repel intruders. During the critical juvenile period of song learning. "Juveniles living in noisier areas may not hear, and thus not learn to sing the low-frequency notes of the previous generation. So song sparrows have to sing at a higher frequency and louder in a noisy environment. Singing loudly does have a cost - increased rates of oxygen consumption and energy expenditure. Also, the birds are more apt to be caught by a predator.

Two key metrics for measuring the effects of noise on animals are as follows:

The first, "alerting distance," is the distance at which sounds can be heard. These may be sounds made by a species to alert others to danger, or sounds made by predators (which the prey animals want to hear, so as to take cover).

The second, is "listening area," the full area around an animal in which it can hear other animals' calls, footsteps, and wing beats. A key insight offered by this approach is that even moderate increases in

background noise (from nearby roads, pumps, and generators) can drastically reduce an animal's listening area.

For example, an owl needs to be able to acutely hear a mouse burrowing under the grasses .

The following is a quote from Karen Trevino, director of the National Park Service's Natural Sounds Program Center. "Noise increases exponentially, not linearly. In any given area an increase of three decibels reduces our ability to hear by 50 percent. That means that if I can hear a bird singing 100 feet away and a noise intrusion raises the ambient baseline by 3 decibels, I would have to move to within 70 feet of the bird to still hear it. People often assume that a 5- or 10-decibel increase is insignificant or barely noticeable. That's not the case."

In summary, I will again state that we, the Cabrillo Wetlands Conservancy recommend a denial of the Huntington Beach Poseidon Resources Desalination Plant in its entirety.

Respectfully submitted,

A handwritten signature in cursive script, reading "Mary Jo Baretich".

Mary Jo Baretich, President  
Cabrillo Wetlands Conservancy  
21752 Pacific Coast Hwy #23A  
Huntington Beach, CA 92646  
(714) 960-9507

**Luster, Tom@Coastal**

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**From:** Dagny SanMiguel <dagsan@care2.com>  
**Sent:** Friday, October 04, 2013 4:53 PM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** Huntington Beach Desalination Project needs revision.

Dear Chair Shallenberger and Coastal Commissioners:

I am writing to oppose the proposed Huntington Beach Ocean Desalination project as currently detailed, which you will consider at your November hearing.

This massive ocean desalination project is just one of many the Coastal Commission will consider in the near future. Many facilities are currently being planned, and many more may be proposed in the future, but each one must be evaluated for its unique impact to local coastal resources AND ALSO for its cumulative impact combined with other proposed facilities statewide.

In its current form, the Huntington Beach project fails to meet the recommendations of the science community or the requirements of the Coastal Act to:

- (1) Protect against the intake and mortality of marine life;
- (2) Protect against degradation of water quality and habitat destruction from the discharge of concentrated brine; and
- (3) Ensure that the energy-intensive facility will fully mitigate its increased greenhouse gas emissions.

An appropriate facility would

- (1) Have intake protections in place to prevent killing or maiming marine life;
- (2) Provide for adequate dilution and wide dispersal of resulting brine back into the ocean; and
- (3) Use as close to 100 percent clean renewable energy (wind, solar, tidal) to operate as possible.

Additionally, while fresh water supply is a major concern now and for the future, local water agencies have NOT yet committed to purchase water from the proposed facility. This is something else that needs to be locked down while refining the details of the project.

As a Californian who supports protecting and restoring our coast and ocean, I favor STRICT enforcement of the Coastal Act and strongly encourage the Commission to deny the Huntington Beach Ocean Desalination permit as it stands until the project design is revised to adequately address the concerns detailed above.

Sincerely,

Dagny SanMiguel  
E Street  
Sacramento, CA 95814

**Luster, Tom@Coastal**

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**From:** Belinda Smith <belindasmithsd@gmail.com>  
**Sent:** Friday, October 04, 2013 2:27 PM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** No desalination

Desalination is highly destructive to our coastal environment. It should be a measure of last resort after recycled water options, storm water capture, and conservation measures etc have been implemented.  
Please also consider that Poseidon is a for-profit, private firm, not managing our water resources. This is not a benefit to our communities either.

Thank you,  
Belinda Smith

Belinda Smith  
3593 Union St  
None  
San Diego, CA 92103

## **Luster, Tom@Coastal**

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**From:** Kathryn Wild, PhD <kathrynwildphd@gmail.com>  
**Sent:** Friday, October 04, 2013 1:26 PM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** Deny Huntington Beach Desalination

I am a Californian who supports efforts to restore and protect our precious coast and ocean, for this and future generations, through strict enforcement of the Coastal Act. I strongly encourage the Commission to deny the Huntington Beach Ocean Desalination permit until the proponent can demonstrate the project design is revised to protect our precious coast and ocean environment.

Sincerely,

Kathryn Wild, PhD  
7275 Canyon Breeze  
San Diego, CA 92126

RECEIVED  
South Coast Region

October 1, 2013

OCT 3 2013

California Coastal Commissioners  
200 OceanGate, 10th Floor  
Long Beach, CA 90802-4416

CALIFORNIA  
COASTAL COMMISSION

Dear California Coastal Commissioners,

The proposed Poseidon Huntington Beach Desalination Facility should not be awarded a Coastal Development Permit.

The Poseidon Desalination Facility would harm our marine resources and would negatively impact the Southern California coast and the region's tourist-driven economy. Further, it contradicts the State of California's commitment to reduce greenhouse gas emissions and efforts to phase out Once Through Cooling technology along our coast.

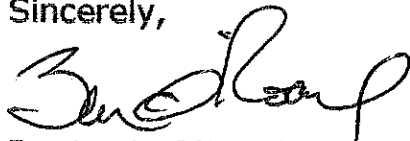
Creating freshwater from saltwater is an expensive and energy-intensive process, which contributes to climate change and sea level rise. The proposed plant is projected to use enough electricity to power 30,000 homes! The proposed site for the facility is located in a tsunami run-up zone and next to an earthquake fault.

The facility would harm the local marine environment. Poseidon's outdated technology would suck in and kill fish and plankton that play a critical role in our coastal ecosystem. Operations at the plant would also produce hyper-saline brine that degrades water quality and harms marine life.

This desalination plant would also harm the Marine Protected Areas along our coast. We have already made large investments into implementing these protected areas and should ensure they remain protected.

Please protect the coast and **deny** Poseidon's Coastal Development Permit.

Sincerely,



Benjamin O'Roark  
8402 Doncaster Dr.  
Huntington Beach, CA 92646-6906



## **Luster, Tom@Coastal**

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**From:** april430@earthlink.net  
**Sent:** Wednesday, August 14, 2013 1:40 PM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** No Poseidon

To Whom it May Concern:

As a 30-year resident of Huntington Beach, I have witnessed many changes to our city and coastline; some positive, some not. One of the most negative changes I can imagine is the one being proposed to you regarding the Poseidon Desal Plant. I own a home in the SE part of the city and am extremely opposed to anything that threatens the quality of life for which we pay handsomely.

I urge you to say "no" to this technology which is not needed and has been proven harmful to valuable ocean resources. Poseidon's own advertising material acknowledged the impact of this plant on food sources of the brown pelican. Isn't it part of the Coastal Commission's directive to protect California's coastal resources?

Also, please consider that residents in SE Huntington Beach already have to deal with the Ascon landfill clean-up AND the AES power plant operation practically in our backyards. We receive no reduction in property taxes or compensation for living near these hazards. You can prevent residents in this area from being hit yet again -- by the disruption of construction, creation of another eyesore, and unpredictable damage to our ocean resources!

Please say "no!"

Sincerely,  
April LeMense  
21061 Greenboro Lane  
Huntington Beach, CA 92646

## **Luster, Tom@Coastal**

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**From:** Jerry Jimenez <jtjpi@yahoo.com>  
**Sent:** Friday, July 26, 2013 12:17 PM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** Po\$eidon

STOP THE RIP OFF. UNTRUSTWORTHY COMPANY AND WRONG ON ALL LEVELS. THIS VOTER, HIS FAMILY AND FRIENDS WILL BE WATCHING WHO SUPPORTS THIS GARBAGE.

**Luster, Tom@Coastal**

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**From:** jojst@aol.com  
**Sent:** Wednesday, July 24, 2013 4:08 PM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** Poseidnn Desalination

A 'BIG NO' TO POSEIDON. Their past history with other similar plants have been and still is terrible. As I understand it, we have enough water for our demands through all kinds of changes for at least 30 years. Our water rates will go even higher....than the already high prices we pay.

The 44" pipelines for this project will go up very close to my home (Hamilton)....noise, major traffic disruption, trucks carrying toxic waste direct from the Ascon LANDFILL ( been putting up with that for over 30 years). Enough is enough! Been fighting this for years. Where is Poseidon getting all it money to continue this over all these years? Anyone ever ask them that question?

Joetta Thompson  
21731 Impala Lane  
HB 92646

## Luster, Tom@Coastal

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**From:** phillip wilder <wooddude41@aol.com>  
**Sent:** Tuesday, July 23, 2013 4:51 PM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** DOUBTFUL DESAL

SIRS--- AS YOU AWEARE OF THIS BOGUS NEED FOR DRINKING WATER IN THIS STATE--

IF there is a true shortage of potable water, Why hasn't there been a ban on lawns, and swimming pools--?????

Like has been in place in the state of Arizona, for more than twenty years, the state and counties in Arizona, pay you to put very low mainitaious plants--- You don't even require covers on pools, that have an evaporation rate of 10-25% each day--- The requirement that all counties recycle at least 75% of the sewage discharge must be mandatory-- And if discharging into ocean or river, be of potable level-- Lets do some thoughtful, realistic , low cost recovery--- and send those swede shoe guys back to Alabama-- and no intermingling of public moneys into these very doubtful ventures---

The worst example is the plant built in Australia, it has produced zero water and, billions to maintain-- And the one in tampa bay Florida---also Nada --zip--zero---and again Billions of public money, running down the drain-- phil wilder--88 year Cal Native

## **Luster, Tom@Coastal**

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**From:** Jason Pyle <jasonpyle@me.com>  
**Sent:** Thursday, June 06, 2013 11:34 AM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** No more industrial industry on residential neighborhoods

As a tax payer, voter homeowner and resident of the area of southeast Huntington Beach , enough is enough. We the people and residents DO NOT WANT ANY MORE INDUSTRIAL FACILITIES!!

We do not want anymore noise or pollution in our neighborhoods.

Both the desalination project and the new AES projects are detrimental to our community. The projects are driven by developers who do not live or care about the area. The developers are not using best practices, but instead are basing decisions on profit.

Please listen to the community that is going to have to bear the burden of these projects for the next 50 years.

No to AES and Poseidon.

Thank you for your assistance.

Jason Pyle  
949-500-8979

## Luster, Tom@Coastal

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**From:** phillip wilder <wooddude41@aol.com>  
**Sent:** Thursday, June 06, 2013 11:58 AM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** RE:South east huntington pollution

Coastal Commission Members -

I am an 80 year old native born Californian--

50 years living under the fall-out from the very close AES/Edison plant that has showered us with sulfuric acid, mercury, and numerous other poorly burned hydrocarbons and has destroyed millions of marine larvae hourly, discharging them directly into the middle of our State Beach Park- We now have the highest cancer rate in the city of Huntington Beach--

The first twenty years living here we also had the most god-awful odors from an open-pooled sewage plant that discharged 350 million gallons a day of partially treated sewage directly into the ocean--- right in front of our State Beach Park---

We have also endured a forty acre toxic waste dump that was once on the Federal Super Fund list--This has had very little cleanup done to make it safe, and on very hot days it releases dreadful odors---

And now we are threatened with an enormous salt water Desal plant that will operate several thousand high pressure pumps to separate the salt and sewage impurities, 24/7-- This project is not for our city or any cities close by, but for developers 40 plus miles from Huntington Beach, at five to ten times the cost of water we purchase now---And now the desal folks want to take us to court if we speak out against them---

There has to be an end to this somewhere---

Phil and Elaine Wilder  
Huntington beach, Ca. 92646  
[wooddude41@aol.com](mailto:wooddude41@aol.com)  
714-968-9798

## Luster, Tom@Coastal

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**From:** Guy Adams <bermudafam@verizon.net>  
**Sent:** Thursday, June 06, 2013 1:46 PM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** Southeast Huntington Beach

There will be no long list of grievances about environmental wrongs. I have lived at 9021 Bermuda Dr. Huntington Beach CA 92646 since 1980. I am 300 feet from the ASCON toxic waste dump. I am between the AES power plant and Sewerage Treatment facility.

Hardly the picture of a beautiful beach front location. In the past we needed a power plant with a supply of water and crude oil. The oil industry needed a close by dump site for the oil production done in town. These were farms and tourism was not part of the picture. Moreover, toxic waste was dumped in the local waters in 50 gallon barrels. Back then there was no serious effort to protect the coastline.

You are part of a governmental effort to redress past environmental malpractice and to move to an improved future. The AES Plant does not have to be on the beach, the water desalinization project is a shining example of poor use of public land and resources and the ASCON dump is a further example of government failing to do its duty.

These three current topics of discussion call out for you to be bold and do the right thing.

Have AES move to another location away from the coast line, away from the surrounding homes and the wild life that should be using the property. Don't allow the poseidon group to further destroy marine life, pollute the ocean and burden the locals with unneeded costs for water.

( They spread needless fear that if they do not build, all will be lost to drought.) Finally, lets get it together and clean up that dump.

Sincerely,

Guy Adams

Sent from my iPad

**Luster, Tom@Coastal**

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**From:** Milt Dardis <mdardis@verizon.net>  
**Sent:** Sunday, June 30, 2013 7:07 AM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** A Billion Dollar Desal Plant Worth \$0

When the Poseidon 4 HB City Council members approved the Poseidon Resources Desal Plant their dream was based upon No Revenues and a shaky non-existent Balance Sheet. The company's technology is likely of limited value as its outdated and does not meet several of the Ca Coastal Commission's requests. Only Revenues forecasted are based upon nonexistent water purchase contracts from various water districts, while other districts have dropped out.

All the taxpayers are being told have been from dubious press releases and campaign contributions to local HB city council members and candidates. Poseidon Resources has very little substance behind them. Where is the Performance Bond and the Completion Bond? Poseidon Resources failed in Tampa Bay and the burden ended up on the shoulders of the taxpayers. Build it and they will not come.

Milt Dardis  
22052 Capistrano Lane  
Huntington Beach



**Luster, Tom@Coastal**

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**From:** Milt Dardis <mdardis@verizon.net>  
**Sent:** Wednesday, May 01, 2013 2:38 AM  
**To:** CoastalHuntingtonBeachDesalComments  
**Subject:** Questions for Poseidon Resources

Poseidon Resources is attempting to sign up the various OC water districts to non binding contracts to purchase their water. If the contract is nonbinding, how can it be legal? Just like the Poseidon 4 who approved this boondoggle while on the HB City Council, no consideration was given in case of default by Poseidon Resources. No Performance Bond, No Completion Bond, No Financial information on the creditworthiness of Poseidon Resources was ever explained or made available. Only people who will benefit will be Poseidon Resources, the faceless bureaucrats and the campaign monies being dealt out and it's the taxpaying ratepayers who have to take the risks as Poseidon Resources failed in building a desal plant in Tampa Bay. Stick it to the taxpayers as they know nothing is the motto of this project.

Milt Dardis  
Huntington Beach Ca

**110 INDIVIDUALS HAD SUBMITTED THIS LETTER AS OF 10/31/13**

**Chairman Shallenberger and Commissioners:**

**I am opposed to Poseidon's plans for a Desalination Plant in HB. Do not support this project.**

**Our city already has the AES Power Plant and the Sewage Plant that dump 200,000,000 gallons of waste into the ocean at Huntington Beach daily.**

**Poseidon's plans will make our ocean more dirty and will jeopardize Huntington Beach's tourism industry.**

**Name**

*Cardyn Ross*

**Email**

*gardengirl@rothmatt.com*

**Address**

*21012 Polynesian Lane  
Huntington Beach, CA 92646*

**Signature**

*Cardyn Ross*

**65 Individuals had submitted this letter as of 10/31/13**

**RECEIVED**  
South Coast Region

October 1, 2013

OCT 3 2013

California Coastal Commissioners  
200 Oceangate, 10th Floor  
Long Beach, CA 90802-4416

CALIFORNIA  
COASTAL COMMISSION

Dear California Coastal Commissioners,

The proposed Poseidon Huntington Beach Desalination Facility should not be awarded a Coastal Development Permit.

The Poseidon Desalination Facility would harm our marine resources and would negatively impact the Southern California coast and the region's tourist-driven economy. Further, it contradicts the State of California's commitment to reduce greenhouse gas emissions and efforts to phase out Once Through Cooling technology along our coast.

Creating freshwater from saltwater is an expensive and energy-intensive process, which contributes to climate change and sea level rise. The proposed plant is projected to use enough electricity to power 30,000 homes! The proposed site for the facility is located in a tsunami run-up zone and next to an earthquake fault.

The facility would harm the local marine environment. Poseidon's outdated technology would suck in and kill fish and plankton that play a critical role in our coastal ecosystem. Operations at the plant would also produce hyper-saline brine that degrades water quality and harms marine life.

This desalination plant would also harm the Marine Protected Areas along our coast. We have already made large investments into implementing these protected areas and should ensure they remain protected.

Please protect the coast and **deny** Poseidon's Coastal Development Permit.

Sincerely,



Benjamin O'Roark  
8402 Doncaster Dr.  
Huntington Beach, CA 92646-6906

**43 Individuals had submitted this letter as of 10/25/13**

**RECEIVED**  
South Coast Region

October 1, 2013

OCT 3 2013

California Coastal Commissioners  
200 OceanGate, 10th Floor  
Long Beach, CA 90802-4416

CALIFORNIA  
COASTAL COMMISSION

Dear California Coastal Commissioners,

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Please protect the coast and **deny** Poseidon's Coastal Development Permit.

Sincerely,



Benjamin O'Roark  
8402 Doncaster Dr.  
Huntington Beach, CA 92646-6906

RECEIVED  
South Coast Region

JUN 7 2013

**Niall and Ann Elliott**

8011 Driftwood Drive • Huntington Beach, CA 92646-5001  
(714) 960-6450

CALIFORNIA  
COASTAL COMMISSION

California Coastal Commission  
Attn: Teresa Henry, District Manager  
200 Oceangate, 10<sup>th</sup> Floor  
Long Beach, CA 90802-4416

5 June 2013

**Re: Seeking your support in opposing the proposed Poseidon desalination plant in Huntington Beach**

Dear Ms. Henry:

For over a decade, we have been observing the planning process for a proposed desalination plant to be built by Poseidon Resources in Huntington Beach. After listening to both proponents and opponents of the project, we reached the conclusion that this project should not be allowed to proceed. We assumed that our local government felt the same way but to our surprise, the permitting process has moved along in Poseidon's favor. With a California Coastal Commission hearing on the desalination plant scheduled for the Fall, we felt compelled to write to you to express our concerns and request your support in opposing this project.

Several aspects about this project concern us, including:

1. **Proposed location** – Poseidon is looking to build their plant in Southeast Huntington Beach, an area that has a disproportionate number of industrial sources. These include the AES power plant, the Orange County Sanitation District Sewage Treatment Plant and a 38-acre ASCON toxic waste landfill. Issues relating to the toxic waste dump include increased truck traffic and toxic dust. Introducing a fourth industrial facility into this dense environment is likely to complicate cleanup efforts, which should be the top priority.
2. **Pipeline construction** – To transport water to customers, Poseidon will need to construct an underground pipeline. This pipeline will require lane closures on local roads, including a section that was only recently dug up to facilitate construction of a pipeline for the Sanitation District. The pipeline will run beside the toxic waste landfill, which is a risky route for potable drinking water.
3. **Impact on beach tourism** – For many decades, Huntington Beach's status as an oil town made it acceptable to have an industrial zone in close proximity to the beach. Now that Huntington Beach has become an international tourist destination, we believe that this industrial zone should be phased out. Adding a fourth industrial project would diminish the beach experience for tourists and locals alike.
4. **Limited demand for desalinated water in Huntington Beach** – Californians know that water is scarce and we have collectively taken steps to reduce our

consumption. Pricing strategies, low-flow toilets and drought-resistant plants have all helped to reduce water usage over the past several years and Californians are likely to continue reducing our consumption in the future. The data that we have seen does not present a compelling case for installing a high-cost water plant when Huntington Beach residents are unlikely to need this water in the near future.

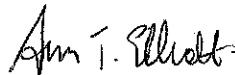
5. **Lack of transparency by Poseidon Resources and local water agencies** – Poseidon has been negotiating purchase agreements with several local water agencies in anticipation of this project receiving approval. These agreements are confidential, which limits ratepayers' and taxpayers' understanding of the financing of this project. The conduct of Poseidon so far does not inspire much confidence in the future relationship between Poseidon and the water agencies.
6. **Dirty politics against councilmember Jill Hardy** – During the Fall 2012 election campaign, city councilmember Jill Hardy was the target of a vicious smear campaign sent through the mail. It later emerged that a portion of the funding for this mailing came from Poseidon Resources. The ads were apparently directed at Ms. Hardy because of her opposition to the Poseidon project during her prior term on the city council. This incident is particularly unsavory as it demonstrates to us the lengths Poseidon is prepared to go to insure that the company gets its way

The adverse environmental effects, limited demand for desalinated water, lack of transparency and dirty politics have convinced us that the Poseidon desalination plant is an unsuitable project for the City of Huntington Beach. We respectfully ask for your support in opposing this project so that residents can focus on improving the quality of life in Southeast Huntington Beach.

Sincerely,



Niall Elliott



Ann Elliott

coastal Commioner200 Ocean#gate #4000  
Long Beach, CA 90802

Monday, June 03, 2013

RECEIVED  
South Coast Region

JUN 4 2013

June 3,2013

CALIFORNIA  
COASTAL COMMISSION

Dear Coastal Commissioners:

Please vote NO when Poseidon's  
Desalination item is on your agenda soon.

Desalination Plan is on your agenda . Their  
plan

to bring their desalination plant to  
Huntington Beach.

I think desalination is a great way to convert  
ocean water to potable but the science to do  
so isn't perfected economically yet.

Furthermore, Poseidon is a " for profit"  
company. Water is a. necessity for life and  
should not be in private hands. HB has a  
great aquafir. HB is getting none of the  
water. Poseidon has never successfully  
produced this quanity of water. They are  
putting the brine from 100 million gallons of  
ocean water per day back into the ocean  
and sav the fish like it. Have anv of you read

any interviews with the fish?

Please vote NO on this desalination company .

I am 97 and have lived in beautiful Huntington Beach for 50 Years, We don't need desalination until it's perfected.

Respectfully

*Eileen Murphy*

Eileen Murphy

201 21st Street

Huntington Beach, CA

92648



February 21, 2012

Dear State Coastal Commission,

I hope that you will not approve the development of a desalination plant on the coastline at Huntington Beach, California or any other California beaches. Environmentalists have warned that the desalination plant's ocean water intake system would pull fish, plankton, larvae and other sea creatures while releasing back into the ocean very salty water called brine - the discarded water would be tainted with iron and cleaning fluids - and would be toxic to the ocean. The desalination process would unbalance the delicate balance of the chemical composition of the Ocean water and would probably have negative, far reaching effect on the health of the

ocean proximal to these  
desalination plants. And  
would unbalance the biological  
eco structure of the proximal  
surrounding beaches and ocean.  
Because the water intake system  
will kill fish, plankton,  
larvae and other sea creatures  
and releasing the resulting  
brine (after the desalination  
process) will toxify the  
water, so that fish, sea  
creatures cannot live in it  
and people who swim in it  
will get sick.

Please do not approve  
the proposals for desalination  
plants along the California  
coastline - We need to protect  
our beaches, oceans and sea  
creatures and keep all the  
ocean healthy.

Sincerely,

Liz Provenzano

Ms. Alisa Risso  
28 Calendula  
Rancho Santa Margarita, CA 92688  
(949) 584-1804

RECEIVED  
South Coast Region

MAY 21 2013

CALIFORNIA  
COASTAL COMMISSION

May 17, 2013

California Coastal Commissioners  
200 Oceangate, 10th Floor  
Long Beach, CA 90802-4416

Dear California Coastal Commissioners,

As a resident of this lovely coastal area, I am distressed by the proposed Poseidon Huntington Beach Desalination Facility. I respectfully ask that you not award a Coastal Development Permit.

The Poseidon Desalination Facility would harm our marine resources and would negatively impact the Southern California coast and the region's tourist-driven economy. Further, it contradicts the State of California's commitment to reduce greenhouse gas emissions and efforts to phase out Once Through Cooling technology along our coast.

Creating freshwater from saltwater is an expensive and energy-intensive process which contributes to climate change and sea level rise. The proposed plant is projected to use enough electricity to power 30,000 homes!

The proposed site for the facility is located in a tsunami run up zone and next to a earthquake fault.

The facility would harm the local marine environment. Poseidon's outdated technology would suck in and kill fish and plankton that play a critical role in our coastal ecosystem. Operations at the plant would also produce hyper-saline brine that degrades water quality and harms marine life.

This desalination plant would also harm the Marine Protected Areas along our coast. We have already made large investments into implementing these protected areas and should ensure they remain protected.

I respectfully request as a resident of this area that you protect the coast and deny Poseidon's Coastal Development Permit.

Sincerely,



Ms. Alisa Risso