

## State Water Resources Control Board

FEB 08 2016

Ms. Alison Dettmer  
California Coastal Commission  
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San Francisco, CA 94105  
[adettmer@coastal.ca.gov](mailto:adettmer@coastal.ca.gov)

Transmitted via U.S. Mail and Electronic Mail

Dear Ms. Dettmer:

RE: PROPOSED POSEIDON HUNTINGTON BEACH DESALINATION FACILITY – REQUEST FOR CONSULTATION REGARDING OCEAN PLAN COMPLIANCE EVALUATION

The purpose of this letter is 1) to advise the California Coastal Commission (Coastal Commission) that the State Water Resources Control Board's (State Water Board) Desalination Amendment to the Water Quality Control Plan for the Ocean Waters of California (Ocean Plan) is now effective as a new regulation and 2) to propose that staff of the State Water Board, Santa Ana Regional Water Quality Control Board (Santa Ana Regional Water Board), and Coastal Commission initiate a formal consultation to coordinate review of the Poseidon Water (Poseidon) proposed Huntington Beach Desalination Facility (proposed Facility) for compliance with the Desalination Amendment. The State Water Board and the Santa Ana Regional Water Board jointly prepared this letter.

The State Water Board adopted the Desalination Amendment on May 6, 2015. (State Water Board Resolution No. 2015-0033.) The Office of Administrative Law approved the Desalination Amendment on January 28, 2016. Therefore, the Desalination Amendment is now fully in effect for the purposes of state law. The Desalination Amendment establishes new requirements for regional water quality control boards (regional water boards) to approve seawater desalination facilities. Those requirements include very specific procedural and substantive provisions to ensure that all new seawater desalination facilities use the best available site, design, technology, and mitigation measures feasible to minimize the intake and mortality of all forms of marine life, in accordance with Water Code section 13142.5, subdivision (b) (13142.5(b)). The Desalination Amendment also includes new requirements for National Pollutant Discharge Elimination System (NPDES) permits issued by the regional water boards, to ensure that all new and existing desalination facilities limit impacts of their brine discharges to the ocean.

The Desalination Amendment requires project proponents to "submit a request for a Water Code section 13142.5(b) determination to the appropriate regional water board as soon as practicable. This request shall include sufficient information for the regional water board to conduct the analyses" required by the Desalination Amendment. (Ocean Plan, Chapter

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III.M.2.a.(1).) The Desalination Amendment directs the regional water boards to consult with State Water Board staff on several issues, including whether additional studies or information is needed to conduct the analysis. (Ibid.) Once the regional water board has received the needed information from the project proponent, the regional water board is required to analyze a range of feasible alternatives for the best available site, the best available design, the best available technology, and the best available mitigation measures to minimize intake and mortality of all forms of marine life. (Ocean Plan, Chapter III.M.2.a.(2).) The Desalination Amendment contains specific requirements for the site, design, technology, and mitigation factors, including both mandated analyses and prescriptive limitations on the use of certain designs and technologies. The Desalination Amendment also contains provisions that apply to desalination facilities that propose to co-locate with an existing power plant to take advantage of the power plant's ocean intakes for cooling water, where the power plant is scheduled to either shut down or switch to a different cooling method in the future. In order for a proposed new desalination facility to be approved, the regional water board must determine that it complies with the requirements of the Desalination Amendment.

The Desalination Amendment defines a "new" facility as any desalination facility that is neither an "existing" facility nor an "expanded" facility. (Ocean Plan, Chapter III.M.1.b.) Because the proposed Facility does not meet either of the Desalination Amendment's definitions of an existing or an expanded facility, it is considered a new facility and therefore is subject to all of the Desalination Amendment's requirements described above. As explained in a letter from the Santa Ana Regional Water Board to the Coastal Commission dated October 30, 2015, and copied to Poseidon Water, the Santa Ana Regional Water Board will need to conduct a new 13142.5(b) analysis and determination, as well as issue an updated NPDES permit for the brine discharge, in order to approve the proposed Facility. In a separate letter, the Santa Ana Regional Water Board will be requesting that Poseidon provide a timeline for submitting the information needed for the Santa Ana Regional Water Board to conduct its 13142.5(b) analysis and determination and to update its NPDES permit for the proposed Facility.

Coastal desalination facilities require a 13142.5(b) determination from the appropriate regional water board and a coastal development permit from the Coastal Commission. Both agency approvals are designed, in part, to address the potential environmental impacts of these facilities on the ocean. To reduce both unnecessary duplication and inconsistent decision-making by state agencies, the Desalination Amendment requires the regional water boards to consult with the Coastal Commission and other state permitting agencies as they conduct their 13142.5(b) analyses and determinations. (Ocean Plan, Chapter III.M.2.a.(4).) Staff of the State Water Board, Santa Ana Regional Water Board, and Coastal Commission have engaged in informal discussions regarding the proposed Facility, but now that the Desalination Amendment is in effect, State Water Board staff and Santa Ana Regional Water Board staff believe that it is appropriate to initiate a more formal consultation. State Water Board staff and Santa Ana Regional Water Board staff would like to work collaboratively with Coastal Commission staff and Poseidon to identify any additional data and analyses and any necessary revisions to the proposed Facility that Poseidon may need to submit to ensure compliance with the Desalination Amendment. Conducting this formal consultation now will help to ensure that the Coastal Commission and the Santa Ana Regional Water Board consider approving the same proposed Facility

While the Santa Ana Regional Water Board has not received a request for a 13142.5(b) determination from Poseidon to date, State Water Board staff has conducted a cursory review of information that Poseidon submitted to the Coastal Commission, and provides the following initial comments about additional information that Poseidon will likely need to submit to the

Santa Ana Regional Water Board. Please note that a more detailed review will be necessary to confirm these initial comments as well as provide additional, more detailed, comments. Also, note that Poseidon compiled much of this information prior to the State Water Board's adoption of the Desalination Amendment, so it is to be expected that the information provided to date by Poseidon is not fully consistent with the informational requirements of the Desalination Amendment.

1. **Best available site and technology: subsurface intake feasibility** (Ocean Plan, Chapters III.M.2.b. and III.M.2.d.(1))

The Desalination Amendment includes a strong preference for subsurface intakes. The Desalination Amendment requires that a reasonable range of nearby sites, including sites that would likely support subsurface intakes, be evaluated. The Desalination Amendment also includes several detailed factors that must be analyzed to determine whether subsurface intakes are feasible at any given site. Poseidon conducted an alternative sites analysis, and the Independent Science and Technical Advisory Panels (ISTAP), which were jointly convened by Poseidon and the Coastal Commission, evaluated the feasibility of subsurface intakes at the proposed Facility's site. To determine whether sufficient alternative sites were evaluated, and all the necessary factors were analyzed, it will be necessary to perform a thorough assessment of Poseidon's alternative sites analysis, the ISTAP reports, and related information.

2. **Best available site: project need** (Ocean Plan, Chapters III.M.2.b.(2) and III.M.2.d.(1)(a))

The Desalination Amendment requires that the need for desalinated water be identified in appropriate water planning documents, and that a design capacity for a proposed facility that is greater than the identified need not be used to justify a determination that subsurface intakes are not feasible. The information does not appear to include a clearly identified local need for 50 million gallons per day (MGD) of desalinated water, so additional information may be needed to support the proposed Facility's planned design capacity. This additional information also will be relevant to any determination that subsurface intakes are infeasible for the proposed Facility.

3. **Best available site and design: surface water intake** (Ocean Plan, Chapters III.M.2.b.(3-5), III.M.2.c.(2), and III.M.2.d.(c))

If a regional water board determines that subsurface intakes are infeasible for a proposed facility, the Desalination Amendment requires that the proponent analyze potential designs for surface water intakes to minimize intake and mortality of all marine life. The Desalination Amendment also requires that all surface water intakes be screened with a 1.0 mm or smaller slot size screen unless an alternative that is at least as effective at preventing entrainment is approved, and that the through-screen velocity at the surface water intake not exceed 0.15 meters per second.

The information describes Poseidon's plan to install traveling water screens with 1.0 mm mesh in the screen well of the existing intake at AES Huntington Beach Generating Station and to install a fish return system. It is not clear whether this site or design would minimize intake and mortality of all marine life. In addition, the information does not appear to include a sufficient analysis of other potential surface water intake sites or designs. If subsurface intakes are determined to be infeasible, an analysis of alternative surface water intake sites and designs will be necessary. Given the successful operation of wedgewire screens in power plants and desalination facilities and their effectiveness at reducing impingement and

entrainment, it would be appropriate to analyze the feasibility of installing wedgewire screens.

4. **Mitigation** (Ocean Plan, Chapter III.M.2.e)

The Desalination Amendment contains extensive requirements for mitigation, including the preparation of a marine life mortality report and a mitigation plan. State Water Board staff understands that Poseidon plans to refine its 2013 proposed Marine Life Mitigation Plan for the proposed Facility. Poseidon must submit a Marine Life Mortality Report and Mitigation Plan that comply with the Desalination Amendment's for approval.

5. **Receiving water limitation for salinity** (Ocean Plan, Chapter III.M.3.b)

The Desalination Amendment includes a receiving water limitation for salinity that applies to the brine discharge from desalination facilities. Poseidon will need to conduct a dilution analysis to demonstrate that the proposed rosette diffusers will meet the Desalination Amendment's receiving water limitation for salinity.

6. **Monitoring and reporting programs** (Ocean Plan, Chapter III.M.4)

The Desalination Amendment requires Poseidon to submit a monitoring and reporting plan that establishes baseline biological conditions at the discharge location and at a reference location prior to commencement of construction. The Monitoring and Reporting Plan must also include monitoring of effluent and receiving water characteristics and impacts to all forms of marine life. Poseidon will need to submit a Monitoring and Reporting Plan for the Facility that complies with all of the requirements in the Desalination Amendment.

The State Water Board and Santa Ana Regional Water Board look forward to hearing from the Coastal Commission regarding this request for formal consultation. For questions regarding this letter, please contact Kim Tenggardjaja at (916-341-5473 or [Kimberly.Tenggardjaja@waterboards.ca.gov](mailto:Kimberly.Tenggardjaja@waterboards.ca.gov)) or Mariela Paz Carpio-Obeso at (916-341-5858 or [MarielaPaz.Carpio-Obeso@waterboards.ca.gov](mailto:MarielaPaz.Carpio-Obeso@waterboards.ca.gov)). Please include Kurt Berchtold, Executive Officer of the Santa Ana Regional Water Board, in any communications related to this matter.

Sincerely,



Jonathan Bishop  
Chief Deputy Director

cc: [hard copy and email]

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