

Santa Ana Regional Water Quality Control Board

May 5, 2016

Elizabeth M. Vissers, Certified Law Student
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Response to Petition to Reopen Order R8-2012-007 (Huntington Beach Desalination Facility)

Ladies and Gentlemen:

This letter responds to your February 22, 2016 petition to reopen Order No. R8-2012-007, NPDES No. CA8000403 (2012 Order) issued to Poseidon Resources (Surfside) L.L.C. (Poseidon) for the proposed Huntington Beach Desalination Facility (Facility). For the reasons stated below, the Regional Board will not reopen the 2012 Order at this time.

As I stated in my October 30, 2015 letter to the California Coastal Commission (enclosed), the 2012 Order remains valid and in full force and effect for the Facility as *proposed at that time*. The October 30, 2015 letter recognized the State Water Resources Control Board's (State Water Board's) May 6, 2015 adoption of amendments to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) to address effects associated with the construction and operation of seawater desalination facilities (Desalination Amendment). The October 30, 2015 letter explained that, absent changed circumstances under which the Facility would meet the definition of an existing facility under the Desalination Amendment, upon approval of the Desalination Amendment by the Office of Administrative Law (OAL), Poseidon would need to obtain a new Water Code section 13142.5(b) determination. The Desalination Amendment defines existing facilities as "desalination facilities that have been issued an NPDES permit and all building permits and other governmental approvals necessary to commence construction for which the owner or operator has relied in good faith on those previously-issued permits and approvals and commenced construction of the facility beyond site grading prior to [effective date of this Plan]." OAL approved the Desalination Amendment on January 28, 2016 and, consequently, since Poseidon has not obtained all necessary building permits and approvals and has not commenced construction of the Facility prior to the January 28, 2016 Desalination Amendment effective date, the project is not an existing facility, but is considered a new facility. Therefore, Poseidon must obtain a new

T Elizabeth M. Vissers
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May 5, 2016

section 13142.5(b) determination consistent with the Desalination Amendment prior to any discharge from the Facility.

Additionally, the October 30, 2015 letter further recognized that the as part of its Coastal Development Permit (CDP) Application No. 9-15-1731 to the Coastal Commission, Poseidon has proposed physical modifications to the existing seawater intake and discharge facilities that are intended to demonstrate compliance with the Desalination Amendment. The October 30, 2015 letter provided that, depending on the nature and extent of these changes, the Regional Board might need to modify the 2012 Order or adopt a new permit before Poseidon could discharge from the Facility.

As I believe you are aware, consistent with requirements under the Ocean Plan, by letter dated March 15, 2016, Poseidon has requested a Water Code section 13142.5(b) determination from the Regional Board and has submitted documents in support of that request. (March 15, 2016 letter enclosed) Regional Board staff is currently in the process of reviewing these documents, which detail changes to the Facility, as part of its formal consultation with both the State Water Board and the Coastal Commission in furtherance of this effort. (Feb. 8, 2016 State Water Board letter enclosed) The formal consultation process, in coordination with Poseidon, is expected to yield a project that complies with the Desalination Amendment.

It is possible that, as part of this consultation process, the proposed project may change in certain material aspects from what has been proposed by Poseidon. Given this uncertainty, rather than reopening the 2012 Order at this time, it would be more appropriate to take any action related to the 2012 Order once the consultation process concludes and we are more confident that that project description represents the Facility that will ultimately be constructed.

Although I decline your request to reopen the 2012 Order at this time, it is clear that, based on the material changes proposed to the Facility and which are necessary to comply with the Desalination Amendment, the Regional Board will need to make modifications to the 2012 Order or adopt a new permit for the Facility prior to any discharge from the Facility.

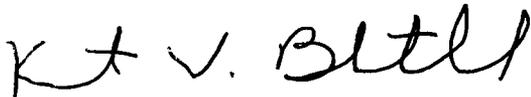
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John M. Ugai
Deborah A. Sivas
Environmental Law Clinic

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May 5, 2016

If you have any questions or would like to discuss further, please contact Hope Smythe at (951) 782-4493. Any legal questions may be directed to David Rice at (916) 341-5182.

Sincerely,



Kurt V. Berchtold
Executive Officer
Santa Ana Regional Water Quality Control Board

Enclosures: Santa Ana Regional Water Quality Control Board Letter Dated
October 30, 2015
Poseidon Letter Dated March 15, 2016 (without attachments)
State Water Resources Control Board Letter Dated February 8, 2016

cc: Scott Maloni, Poseidon Water, SMaloni@poseidon1.com
David Rice, State Water Resources Control Board – Office of the Chief Counsel,
David.Rice@waterboards.ca.gov
Kimberly Tenggardjaja, State Water Resources Control Board,
kimberly.tenggardjaja@waterboards.ca.gov,
Cy Oggins, State Lands Commission, Cy.Oggins@slc.ca.gov



Santa Ana Regional Water Quality Control Board

October 30, 2015

Mr. Tom Luster
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105

**Coastal Development Permit Application No. 9-15-1731 – Proposed Poseidon
Huntington Beach Desalination Facility**

Dear Mr. Luster:

This letter regards the proposed Poseidon Huntington Beach Desalination Facility (Facility). The Santa Ana Regional Water Quality Control Board ("Regional Water Board") is aware that Poseidon has submitted Coastal Development Permit (CDP) Application No. 9-15-1731 to the Coastal Commission. This letter provides a status update on the Regional Water Board's regulation of the Facility.

In February 2012, the Regional Water Board adopted Order No. R8-2012-0007, NPDES No. CA8000403—*Waste Discharge Requirements for Poseidon Resources (Surfside) L.L.C. Huntington Beach Desalination Facility, Orange County* (2012 Order). The 2012 Order permits the Facility, as proposed at that time, to intake seawater and discharge waste under the following two operational scenarios: 1) as a co-located operation in conjunction with the AES Huntington Beach Generating Station (HBGS), which would entail using HBGS cooling water discharge as the Facility's source water and 2) as a temporary stand-alone operation of HBGS's seawater intake and outfall while the adjacent HBGS's once-through cooling system is in use or during short-term and temporary shutdowns of that system. The 2012 Order found that the proposed co-located and temporary stand-alone operations of the Facility, as conditioned in the Order, satisfied the requirements of California Water Code section 13142.5(b). Upon the permanent shutdown of HBGS's once-through cooling system, currently required no later than December 31, 2020, the 2012 Order requires Poseidon to apply for a permit covering its stand-alone operations, necessitating a new analysis pursuant to California Water Code section 13142.5(b). The 2012 Order remains valid and in full force and effect for the Facility, as proposed at that time, with an expiration date of February 1, 2017.

On May 6, 2015, the State Water Resources Control Board (State Water Board) approved an amendment to the State's Water Quality Control Plan for the Ocean Waters of California (Ocean Plan) to address effects associated with the construction

and operation of seawater desalination facilities (Desalination Amendment). The Desalination Amendment will be effective upon approval by the Office of Administrative Law (OAL). The Desalination Amendment establishes new requirements related to Water Code section 13142.5(b) for new and expanded facilities, as well as new requirements related to receiving water limitations for salinity and monitoring and reporting programs for both new and existing facilities. The Desalination Amendment defines "existing facilities" as "desalination facilities that have been issued an NPDES permit and all building permits and other governmental approvals necessary to commence construction for which the owner or operator has relied in good faith on those previously-issued permits and approvals and commenced construction of the facility beyond site grading prior to [effective date of this Plan]." The Desalination Amendment defines "expanded facilities" as existing facilities that meet certain additional conditions. "New facilities" are defined as "desalination facilities that are not existing facilities or expanded facilities". As further explained in enclosed August 27, 2015 letter from Phil Wyels of the State Water Board to Deborah Sivas of the Mills Legal Clinic, the Facility currently does not meet the definition of an existing facility.

Absent changed circumstances under which the facility would meet the definition of an existing facility, upon approval of the Desalination Amendment by OAL, Poseidon will need to obtain a Water Code section 13142.5(b) determination from the Regional Water Quality Control Board that is consistent with the Desalination Amendment. The Desalination Amendment requires a new or expanded facility to submit a request for a section 13142.5(b) determination from the appropriate Regional Water Board as early as practicable. This section 13142.5(b) determination would address all operational scenarios, including the co-located and temporary stand-alone operations authorized in the current 2012 Order, as well as the full stand-alone operation. The Regional Water Board would need to ensure that the Facility is consistent with the Desalination Amendment. Among other things, in making the section 13142.5(b) determination, the Desalination Amendment requires the Regional Board to consult with and consider the project-specific decisions made by other state agencies involved in the permitting of the Facility.

Additionally, the Regional Water Board understands that as part of its CDP Application, Poseidon is proposing physical modifications to the existing seawater intake and discharge facilities that are intended to comply with the Desalination Amendment's requirements for intakes and discharges. Depending on the nature and extent of the changes, these changes may constitute a material change in design or operation from discharge requirements contained in the 2012 Order. Should this be the case, Poseidon would need to submit a new Report of Waste Discharge to the Regional Water Board and obtain a new/revised permit prior to discharging from the changed discharge facilities.

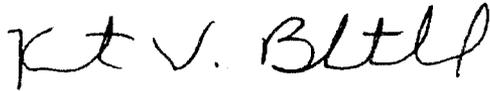
Tom Luster
California Coastal Commission

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October 30, 2015

We look forward to continuing collaboration efforts as the Coastal Commission review process moves forward. If you have any questions or would like to discuss further, please contact Milasol Gaslan of my staff at (951) 782-4419 or me at (951) 782-3286.

Sincerely,



Kurt V. Berchtold
Executive Officer
Santa Ana Regional Water Quality Control Board

Enclosure: State Water Resources Control Board Letter Dated August 27, 2015

cc: Scott Maloni, Poseidon Water, SMaloni@poseidon1.com
David Rice, State Water Resources Control Board – Office of the Chief Counsel,
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EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

August 27, 2015

[via U.S. Mail and email]

Deborah A. Sivas
Mills Legal Clinic
Stanford Law School
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Dear Ms. Sivas:

PETITION OF SURFRIDER FOUNDATION, COASTAL ENVIRONMENTAL RIGHTS FOUNDATION, ORANGE COUNTY COASTKEEPER, AND RESIDENTS FOR RESPONSIBLE DESALINATION FOR REVIEW OF ORDER NO. R8-2012-0007 (RENEWAL OF WASTE DISCHARGE REQUIREMENTS FOR POSEIDON RESOURCES L.L.C. (SURFSIDE), HUNTINGTON BEACH DESALINATION FACILITY), ISSUED BY THE SANTA ANA REGIONAL WATER QUALITY CONTROL BOARD: WITHDRAWAL OF PETITION

Thank you for your letter dated July 31, 2015, withdrawing the above-referenced petition in light of the State Water Resources Control Board's May 6, 2015, adoption of amendments to the Water Quality Control Plan for Ocean Waters of California that address desalination facilities ("desalination amendments.") You have also asked for confirmation of your understanding about how these amendments will apply to the proposed Huntington Beach desalination facility that was the subject of your petition, once the desalination amendments are approved by the Office of Administrative Law and take effect.

The portion of the desalination amendments that establish requirements related to Water Code section 13142.5, subdivision (b), apply to "new" and "expanded" facilities, but not to "existing facilities." The desalination amendments define "existing facilities" as "desalination facilities that have been issued an NPDES permit and all building permits and other governmental approvals necessary to commence construction for which the owner or operator has relied in good faith on those previously-issued permits and approvals and commenced construction of the facility beyond site grading prior to [effective date of this Plan]." The desalination amendments define "expanded facilities" as existing facilities that meet certain additional conditions. Lastly, the desalination amendments define "new facilities" as "desalination facilities that are not existing facilities or expanded facilities." On the other hand, both existing and new desalination facilities must comply with the portions of the desalination amendments that establish requirements related to receiving water limitations for salinity and monitoring and reporting programs.

FILED BY MARCOLO CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

1001 I Street, Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, CA 95812-0100 | www.waterboards.ca.gov

As you have correctly stated, the proposed Huntington Beach desalination facility currently does not meet the definition of an "existing facility," and is therefore considered a "new facility." If the proposed Huntington Beach desalination facility does not meet the definition of an "existing facility" on the date that the Office of Administrative Law approves the desalination amendments, the proposed Huntington Beach desalination facility will be subject to all of the requirements of the desalination amendments. In this case, Poseidon Resources (Surfside) L.L.C. would need to submit a new or revised request for a Water Code 13142.5, subdivision (b), determination by the Santa Ana Regional Water Quality Control Board that is consistent with the desalination amendments. The Santa Ana Regional Water Quality Control Board would then need to ensure that the proposed Huntington Beach desalination facility is consistent with all of the desalination amendments, including the conditional prohibition on using flow augmentation as a brine discharge technology.

Finally, you have requested that the State Water Resources Control Board review the Santa Ana Regional Water Quality Control Board's Order No. R8-2012-0007 on its own motion if the Office of Administrative Law does not approve the desalination amendments prior to the proposed Huntington Beach desalination facility receiving all approvals that are necessary to commence construction. We will defer acting on this request for now, but will consider your request if the Office of Administrative Law does not approve the desalination amendments in a timely manner.

If you have any questions regarding this letter, please contact me at (916) 341-5178.

Sincerely,



Philip G. Wyels
Assistant Chief Counsel

cc: See next page

cc: **[via U.S. Mail and email]**
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March 15, 2016

VIA E-MAIL AND COURIER

Ms. Milasol Gaslan
Santa Ana Regional Water Quality Control Board
3737 Main Street, Suite 500
Riverside, CA 92501

***RE: HUNTINGTON BEACH DESALINATION FACILITY REQUEST FOR
WATER CODE 13142.5 (b) COMPLIANCE DETERMINATION***

Dear Milasol:

I am writing to request from the staff of the Santa Ana Regional Water Quality Control Board ("Regional Board") a Water Code Section 13142.5(b) compliance determination for Poseidon Water's proposed Huntington Beach Desalination Project ("Project").

Enclosed please find a detailed Water Code Section 13142.5(b) compliance matrix [**Appendix A**] and supporting studies and reports.

Project Background

In February 2012, the Regional Board approved the Project's Order No. R8-2012-0007, NPDES No. CA8000403, which permits the proposed facility's use of the Huntington Beach Generating Stations ("HBGS") existing seawater intake and discharge facilities under the co-located and temporary stand-alone operating conditions, and finds that under these two operating conditions that the Project complies with the requirements of California Water Code Section 13142.5(b). Order No. R8-2012-0007, NPDES No. CA8000403 remains valid and in full force and effect today and is due for renewal in February 2017.

It is anticipated that the HBGS could decommission its cooling water system within the proposed Project's next 5-year NPDES cycle (2017-2021), consequently at this time Poseidon is requesting from the staff of the Regional Board a new 13142.5(b) determination for its long term stand-alone operation of the desalination Project.

Poseidon Water LLC

17011 Beach Boulevard, Suite 900 Huntington Beach, California 92647 Phone: (714) 596-7946 Fax: (714) 596-7947
www.poseidonwater.com

Compliance with State Water Board Desalination Amendment

On May 6, 2015, the State Water Resources Control Board ("State Water Board") adopted Amendments to the Water Quality Control Plan for Ocean Waters of California Addressing Desalination Facility Intakes, Brine Discharges, and Incorporating Other Non-substantive Changes (the "Desalination Amendment"). The Desalination Amendment took effect as new regulation on January 28, 2016. The State Water Board's approval of the Desalination Amendment affirms the discretion of the state's nine Regional Water Quality Control Boards to determine on a project and site-specific basis compliance with California Water Code (Porter-Cologne) Section 13142.5(b), which requires projects to use the best available site, design, technology and mitigation measures feasible to minimize the intake and mortality of all forms of marine life.

The Desalination Amendment requires that projects first analyze separately as independent considerations a range of feasible alternatives for the best available site, design, technology, and mitigation measures to minimize intake and mortality of all forms of marine life. Then, consideration should be given to all four factors collectively and determine the best combination of feasible alternatives to minimize intake and mortality of all forms of marine life. The best combination of alternatives may not always include the best alternative under each individual factor.¹ Furthermore, the Desalination Amendment defines feasible as, "*Feasible means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.*").

The following is a brief explanation of how the proposed Project proposes to comply with the Desalination Amendment's requirements under California Water Code (Porter-Cologne) Section 13142.5(b):

Site: Enclosed is an alternative site analysis that was developed to evaluate a reasonable range of alternative nearby sites along the coast of Orange County **[Appendix E]**. The alternative site analysis expands upon the alternative site analysis found in the Project's 2010 Final Subsequent Environmental Impact Report ("FSEIR") and was conducted consistent with the guidance provided by the Desalination Amendment (i.e., the site meets the identified need for desalinated water; avoids impacts to sensitive habitats and species; minimizes direct and indirect effects on all forms of marine life from the facility's construction

¹ Amendment to the Water Quality Control Plan for Ocean Waters of California Addressing Desalination Facility Intakes, Brine Discharges, page 3.

and operation; minimizes the intake and mortality of all forms of marine life; uses where available existing discharge infrastructure and ensures the intake and discharge structures are not located within a Marine Protected Area ("MPA") or State Water Quality Protection Area). The alternative site analysis concludes that there are no other nearby sites within a reasonable range of the proposed site that meet the Project's objectives² and where subsurface intakes would be feasible.

Design: The annual average 50 MGD Project is designed to take advantage of existing infrastructure that will minimize construction impacts to the coastal and marine environments and the intake and mortality of all forms of marine life. The use and location of the existing outfall will allow for a diffuser retrofit that will decrease intake flow volume requirements and avoid adverse impacts to sensitive habitat and minimize suspension of benthic sediments.

Technology:

Intake technology – In order to minimize the impingement and entrainment of marine life, the Desalination Amendment allows for the use of a variety of different active (e.g., traveling) or passive (e.g., wedge wire) screening technologies for open ocean intakes for projects where subsurface intakes are first deemed infeasible.³ According to the Desalination Amendment, entrainment occurs when organisms are drawn in with the source water and transported into the system. Mortality via entrainment occurs as a result of shearing and compressive forces within pumps, exposure to high pressures and temperature occurring during processing, and osmotic shock from exposure to significantly higher salinities during processing and discharge.⁴

The proposed Project's alternative subsurface seawater intake feasibility analyses include, but are not limited to, the City of Huntington Beach's 2010 Final Certified SEIR; Regional Water Board's 2012 Order No. R8-

² The stated Project objectives identified in the 2005 Re-circulated Environmental Impact Report and 2010 FSEIR include 1. *Use proven technology to affordably provide a long-term, local and reliable source of water not subject to the variations of drought or regulatory constraints;* 2. *Reduce local dependence on imported water and strengthen regional self-reliance* 3. *Contribute desalinated water to satisfy regional water supply planning goals.*

³ California State Water Resources Control Board's Seawater Desalination Ocean Plan Amendment Substitute Environmental Document, Pages 57-68.

⁴ California State Water Resources Control Board's Seawater Desalination Ocean Plan Amendment Substitute Environmental Document, page 16.

2012-0007, NPDES No. CA8000403 and Water Code 13142.5(b) compliance determination; 2014-15 California Coastal Commission's ISTAP Phase 1 and Phase 2 reports; 2013 and 2015 Geosyntec technical memoranda entitled "Feasibility Assessment of Shoreline Subsurface Collectors for the Huntington Beach Seawater Desalination Project; 2016 Dr. Russell Detwiler technical memorandum entitled "Review of groundwater flow modeling developed by Geosyntec to simulate pumping from slant wells beneath the beach in Huntington Beach; Orange County Water District ("OCWD") comments on the Coastal Commission's Well Investigation Team ("WIT") expert third-party review of the Hydrologic Model for the Poseidon Huntington Beach Project.

The information and analysis from these aforementioned Project and site-specific reports provide incontrovertible evidence that subsurface seawater intakes are infeasible for the proposed project based on the Desalination Amendment's definition of feasibility.

Based on the determination by the Coastal Commission's ISTAP that subsurface intake systems are infeasible at and in proximity to the Project site, once the HBGS' once-through-cooling system has been permanently decommissioned the Project will retrofit the existing intake fore bay with 1 millimeter ("mm") traveling screens and a fish return system. The existing velocity cap, and its large mammal exclusion bars, that have demonstrated impingement reductions as high as 90%, will remain in place.⁵ A combination of the existing velocity cap, 1 mm traveling screens with a through screen velocity of no more than 0.5 feet per second and fish return system represent the best available and feasible technology to eliminate impingement and minimize entrainment mortality. The traveling screens, and their location in the fore bay, will minimize entrainment mortality that results from being transported into the system and being exposed to shearing and compressive forces within pumps, exposure to high pressures and temperature occurring during processing.

Discharge technology - The Desalination Amendment's preferred technologies for brine discharge are: (1) comingling with treated municipal wastewater unless wastewater can be sufficiently treated and distributed locally; and (2) multiport

⁵ Velocity caps can be used in conjunction with other technologies to reduce impingement and entrainment. One of the first facilities to employ a velocity cap was the Huntington Beach Generating Station (approximately 240 MGD average/514 maximum intake capacity), after study results showed that small fishes could swim away to avoid being pulled into the intake pipe when a velocity cap was in place; Desalination Amendment, Page 61.

brine diffuser. The 2010 certified FSEIR evaluated the ability to comingle the Project's concentrated seawater with municipal waste water and determined it was not a feasible alternative.⁶ Since certification of the FSEIR in 2010, the Orange County Sanitation District ("OCSD") has adopted a 5-year Strategic Plan that establishes a goal of 100% re-use of its effluent.⁷ Furthermore, the Orange County Water District ("OCWD") anticipates recycling the remaining effluent from OCSD's Plant 2 for the final phase of its Groundwater Replenishment System.⁸ Because comingling the Project's concentrated seawater discharge with waste water is not feasible, the Project will include a brine diffuser. The March 27, 2015 technical memorandum from Michael Baker International entitled *Conventional Diffuser Retrofit at Huntington Beach Desalination Facility* provides site-specific hydrodynamic modeling to support a diffuser design that will maximize dilution, minimize the size of the brine mixing zone, minimize the suspension of benthic sediments, and minimize mortality of all forms of marine life due to Project construction and operation. The memorandum concludes that the diffuser will reduce the salinity in the concentrated seawater discharged by the Project to no more than 2 ppt. (35.5 ppt.) above ambient within 46 feet of the discharge pipe's ocean outfall, which is well within the 328 feet (100 meters) specified in the Desalination Amendment. The area of seafloor exposed to salinity levels at or above 35.5 ppt. will be approximately 0.15 acres.

Mitigation: A Marine Life Mortality Report [**Appendix U**] has been prepared based upon the guidance for calculating the Area of Production Foregone ("APF") found in the Desalination Amendment. The APF related to the intake and discharge of seawater under the long term stand-alone operation of the proposed Project is estimated to be 39.4 acres. Additionally, the brine discharge modeling indicates an area of 0.15 acre will be exposed to salinity in excess of the receiving water limitation and 0.1 acres will be temporarily impacted by the construction of the intake and discharge modifications, resulting in a total mitigation requirement of 39.65 acres.

Consistent with the requirements of the Desalination Amendment, Poseidon is proposing to work in consultation with Regional Board staff and other state and federal resource agencies to finalize a Marine Life Mitigation Plan ("MLMP") that mitigates the proposed Project's unavoidable marine life impacts.

⁶ Subsequent Environmental Impact Report (SEIR) Findings of Fact and Statement of Overriding Considerations, Page 77

⁷ Orange County Sanitation District 5-year Strategic Plan, Approved November 20, 2013

⁸ Orange County Water District April 8, 2015 Staff report "Final Expansion of the GWRS, Effluent Reuse Study"

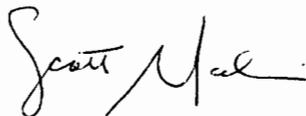
Conclusion

Poseidon appreciates the Regional Board's continued interest in the proposed Project since it first approved the Project's NPDES permit in 2006 and again in 2012, and we are grateful for staff's willingness to engage Poseidon at this early date in the Water Code Section 13142.5(b) determination. We understand from our recent meeting with the State Water Board on March 3rd and from the "formal interagency consultation process" planning document provided to us at the meeting that the purpose of the consultation process is for the Regional Board staff to identify information that may not yet be included in our Coastal Development Permit application but is necessary for the 13142.5(b) compliance determination.

The formal interagency consultation process was initiated on February 17th and weekly meetings are scheduled through the end of April. Before the end of March, Regional Board staff will meet with us to address any clarifications to Poseidon's Water Code Section 13142.5(b) compliance plan and discuss any additional information that may be required. The goal of the formal consultation is to ensure the Project description considered by the Coastal Commission is consistent with the requirements of Water Code Section 13142.5(b).

Consistent with Governor Brown's April 28, 2015 directive to "*help local water agencies reduce the time required to comply with state-required environmental reviews*", we appreciate State and Regional Water Board staff's and Coastal Commission staff's acknowledgment that the interagency consultation process will be conducted in a timely manner so the Coastal Commission can consider the Project's pending CDP application this spring-summer as previously planned.

Sincerely,



Scott Maloni
Vice President, Project Development

cc: Kurt Berchtold, Santa Ana Regional Water Quality Control Board
David Rice, State Water Resources Control Board-Office of the
Chief Counsel
Phil Wyels, State Water Resources Control Board -Office of the
Chief Counsel

Jonathan Bishop, State Water Resources Control Board
Kimberly Tenggardjaja, State Water Resources Control Board
Tom Luster, California Coastal Commission
Cy Oggins, State Lands Commission
Cathy Green, Board Chairwoman Orange County Water District



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

FEB 08 2016

Ms. Alison Dettmer
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105
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) or Mariela Paz Carpio-Obeso at (916-341-5858 or 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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