Santa Ana Regional Water Quality Control Board

July 29, 2016

Scott Maloni, Vice President
Poseidon Water
5780 Fleet Street, Suite 140
Carlsbad, CA 92008

PROPOSED POSEIDON WATER HUNTINGTON BEACH DESALINATION PROJECT, CALIFORNIA WATER CODE SECTION 13142.5 (b) DETERMINATION REQUEST AND REPORT OF WASTE DISCHARGE– REQUEST FOR ADDITIONAL INFORMATION AND THIRD PARTY ANALYSIS

Dear Mr. Maloni:

This letter provides an update of the status of the above-referenced process, identifies the key issues that remain open, and sets forth a process for resolving them. While the permitting requirements are complex and require substantial information and analysis, we are committed to resolving these issues as expeditiously as possible.

In 2012, the Santa Ana Regional Water Quality Control Board (Regional Water Board) adopted Order No. R8-2012-0007, NPDES No. CA8000403 (2012 Order). The 2012 Order conditionally permitted the Poseidon Water (Poseidon) Huntington Beach Desalination Project (Project), as proposed at that time, to intake seawater and to discharge waste in accordance with the provisions contained therein. The 2012 Order is set to expire on February 1, 2017. Due to Poseidon's material modifications to the proposed Project and State Water Resources Control Board's (State Water Board's) adoption of new requirements for desalination facilities described below, the 2012 Order is no longer valid for the Project as currently proposed.

On May 6, 2015, the State Water Board adopted the *Amendment to the Water Quality Control Plan for the Ocean Waters of California (Ocean Plan) Addressing Desalination Facility Intakes, Brine Discharges, and the Incorporation of Other Non-substantive Changes* (Desalination Amendment). The Office of Administrative Law approved the Desalination Amendment on January 28, 2016. The United States Environmental Protection Agency approved the portions of the Desalination Amendment that implement the federal Clean Water Act on April 7, 2016. Therefore, the Desalination Amendment is now fully in effect.

The Desalination Amendment requires the owner or operator of a proposed new or expanded desalination facility to submit sufficient information for the applicable regional

water quality control board to analyze 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 that may occur as the result of the construction and operation of the desalination facility, in order to comply with Water Code section 13142.5, subdivision (b) (13142.5(b)). (Ocean Plan, Chapter III.M.2.a(1).) The Desalination Amendment includes very specific analyses, studies, and considerations that the regional water quality control boards must evaluate in determining whether a proposed desalination facility utilizes the best available site, design, technology, and mitigation measures feasible. (Ocean Plan, Chapter III.M.2.) The Desalination Amendment also states that a regional water quality control board, in consultation with State Water Board staff, may require an owner or operator of a proposed desalination facility to provide additional studies or information, and may require the owner or operator to hire a neutral third party entity to review studies and models and make recommendations to the regional water quality control board. (Ocean Plan, Chapter III.M.2.a(1).)

The proposed Project is a "new" desalination facility. (Ocean Plan, Chapter III.M.1.b(3).) Therefore, it is necessary for Poseidon to submit the information required by the Desalination Amendment, and for the Regional Water Board to conduct a new Water Code section 13142.5(b) analysis for the Project in accordance with the requirements of the Desalination Amendment. Once the Regional Water Board receives and analyzes the information required by the Desalination Amendment, it will schedule a public hearing to determine whether the Project complies with Water Code section 13142.5, subdivision (b).

On March 15, 2016, Poseidon submitted its request for a Water Code section 13142.5(b) determination. Poseidon's submittal included a detailed matrix (Appendix A to the submittal) with Poseidon's key recommendations, conclusions, and findings as well as supporting studies and reports regarding the proposed Project's compliance with the Desalination Amendment. Over the past several months, the Regional and State Water Board staff and California Coastal Commission staff have conducted an initial review of Appendix A and the supporting documents during a formal interagency consultation process. Poseidon has also provided additional information, including proposed modifications to the Project, during the review and consultation process. On June 30, 2016, Poseidon submitted its Report of Waste Discharge for renewal of the 2012 Order (ROWD). The ROWD requests that the Regional Water Board establish requirements governing the Project under the co-located, temporary, and permanent stand-alone operations. The ROWD included an updated copy of materials submitted on March 15, 2016 addressing Project elements intended to comply with the Desalination Amendment and Water Code section 13142.5(b), as well as an update on compliance with the California Environmental Quality Act (CEQA) and documentation related to the operational marine life mitigation proposed to address impacts from the Project. The ROWD also included a request that the Regional Water Board utilize the NPDES public hearing process to consider all aspects of permitting the Project, as opposed to separately considering the Project's compliance with Water Code section

13142.5(b) and the Desalination Amendment and deferring consideration of the adoption of NPDES requirements for the Project to a later proceeding.

On July 14, 2016, representatives from the Regional Water Board, State Water Board, and California Coastal Commission met with Poseidon to provide an update on the formal consultation process and to provide initial feedback on Appendix A and the supporting documentation. During the meeting, State and Regional Water Board staff explained that certain information and data gaps exist and need to be filled before Regional Water Board staff will have sufficient information to make recommendations to the Regional Water Board regarding compliance with the Desalination Amendment and a new Water Code section 13142.5(b) determination, as well as to process Poseidon's ROWD. In terms of requesting additional information, State and Regional Water Board staff intend to utilize a step-wise approach to focus additional information requests on larger unresolved items that will inform other factors in the determination analysis. As explained at the meeting, analysis and review of the information submitted related to these larger unresolved items may lead to additional requests for information pursuant to the Desalination Amendment and Water Code section 13142.5(b).

At the meeting, State and Regional Water Board staff identified the following main unresolved items: (1) the identified need for the desalinated water (Ocean Plan, Chapter III.M.2.b(2)); (2) analysis of alternative sites (Ocean Plan, Chapter III.M.2.b); and (3) potential neutral third party analysis of certain portions of the Independent Scientific Technical Advisory Panel (ISTAP) Phase 2 Report related to economic analysis. (Ocean Plan, Chapter III.M.2.a). Following discussion of these unresolved items, State and Regional Water Board staff agreed to provide Poseidon with more detailed information requests related to these areas. Regarding the identified need for desalinated water, on July 26, 2016, Poseidon submitted additional documentation responsive to concerns raised at the July 14 meeting. State and Regional Water Board staff will review this material and respond with any additional information requests or questions. Regarding the analysis of alternative sites, please see the enclosed document which contains specific information requests. Regarding third party analysis of portions of the ISTAP Phase 2 Report related to economic analysis, State and Regional Water Board staff agreed to more clearly identify the analysis necessary to comport with the Desalination Amendment and will request any additional information/analysis in the near future.

Additionally, at the July 14, 2016 meeting, we were informed that Orange County Water District (OCWD) is conducting additional CEQA analysis related to its preferred engineering approach for transporting and ultimately injecting the projected desalinated water into its groundwater basin. Our understanding is that OCWD is targeting the first or second quarter of 2017 for completion of its CEQA process. As we explained during the meeting, it may be difficult for the Regional Water Board to make a determination regarding the Project's compliance with Water Code section 13142.5(b) before OCWD, as the lead agency, has completed its CEQA analysis.

Finally, the Regional Water Board intends to consolidate into one proceeding the two upcoming decisions: the determination of compliance with Water Code section 13142.5(b) and the consideration of adoption of NPDES requirements for the Project. To ensure an efficient process and effective public participation, the Regional Water Board intends to consider all aspects of permitting the Project during one proceeding. This proceeding will comply with all public hearing and process requirements applicable to an NPDES permit.

We look forward to assisting you in developing a time schedule for deliverables identified in the enclosure, and will be in contact soon regarding any additional information requests related to the need for desalinated water and/or the economic analysis for the Project contained in the ISTAP Phase 2 Report.

If you have any questions or would like to discuss further, please contact me at (951) 782-3286 or Milasol Gaslan at (951) 782-4419.

Sincerely,

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

Enclosure: Alternative Site Analysis Information Needs

cc w/ enclosure:
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Information Requests for Huntington Beach Desalination Project (HBDP) Related to Analysis of Alternative Sites

July 29, 2016

Ecological data

Please provide local ecological data (e.g., from the Southern California Bight Monitoring Program) on population density and diversity for all forms of marine life as a function of depth and also distance from the Orange County shoreline. Additionally, based on Poseidon's technical memo titled "Evaluation of a Long-distance Offshore Intake for the Huntington Beach Desalination Plant" (dated April 29, 2016), the location with the least intake mortality is 1.2 miles offshore. If you disagree with this conclusion, please provide any other studies or information that may refute this. This information can be provided separately from the table below.

Table of Technological and Environmental Information for Alternative Sites

State and Regional Water Board staff drafted the table below and entered information related to technological and environmental factors affecting the feasibility of identified alternative sites from the documents that Poseidon submitted with the Water Code section 13142.5(b) determination request for the HBDP. This table includes blank fields and targeted questions for Poseidon to populate and answer. This additional information will assist staff in thoroughly evaluating alternative sites for the HBDP in a step-wise fashion. To further facilitate staff's review, please include references to where responses to the table can be found, including the title of the report or study and section and subsection, if applicable. Staff recognizes that Poseidon's prior submittals may include some of the information requested in the table below and that staff may have missed this information during its initial review. Staff appreciates Poseidon's assistance in identifying any missing information. Staff will use information provided in response to this table to narrow down and identify the alternative sites that will undergo additional analysis related to economic and social factors affecting feasibility of a particular site.

The "other considerations" column is an optional field that Poseidon can use to identify and describe additional technological and environmental factors that may affect the feasibility of a particular site. For example, if proximity to existing infrastructure for distribution of product water is a technological factor that may limit a site's feasibility, please provide information to support this conclusion. Please limit information in this column to technological and environmental factors affecting a particular site's feasibility, as other factors, including economics and social impacts, will be considered later.

Site	Presence of Sensitive habitats							Presence of Sensitive species (If present, please specify which)	Presence of MPAs (If present, please specify which)	Presence of ASBSs	Intake	Discharge	Other considerations (Optional)
	Kelp beds (Please indicate absence or presence)	Rocky substrate (Please indicate absence or presence)	Surfgrass beds (Please indicate absence or presence)	Eelgrass beds (Please indicate absence or presence)	Oyster beds (Please indicate absence or presence)	Spawning grounds for state or federally managed species (Please indicate absence or presence)	Market squid nurseries (Please indicate absence or presence)						
Property 1A	absent	?	absent	absent	?	?	?	?	Present – Bolsa Bay State Marine Conservation Area and Bolsa Chica Basin State Marine Conservation Area	absent	Is it technically possible to install subsurface intake wells that can withdraw 106 MGD of feed water? If so, how many wells would be needed?	Is it possible to commingle all of the discharge with OCSD's ocean outfall?	
												Is it possible to commingle part of the discharge with OCSD's ocean outfall?	
												Diffuser	
											Combined intake system – what is maximum amount of feed	Is it possible to commingle all of the	

											water that can be withdrawn through a subsurface intake?	discharge with OCSD's ocean outfall?	
												Is it possible to commingle part of the discharge with OCSD's ocean outfall?	
												Diffuser	
Property 1B	absent	?	absent	absent	?	?	?	?	Present – Bolsa Bay State Marine Conservation Area and Bolsa Chica Basin State Marine Conservation Area	absent	Is it technically possible to install subsurface intake wells that can withdraw 106 MGD of feed water? If so, how many wells would be needed?	Is it possible to commingle all of the discharge with OCSD's ocean outfall?	
												Is it possible to commingle part of the discharge with OCSD's ocean outfall?	
												Diffuser	
											Combined intake system – what is maximum amount of feed	Is it possible to commingle all of the	

											water that can be withdrawn through a subsurface intake?	discharge with OCSD's ocean outfall?	
												Is it possible to commingle part of the discharge with OCSD's ocean outfall?	
												Diffuser	
Property 1C	absent	?	absent	absent	?	?	?	?	Present – Bolsa Bay State Marine Conservation Area and Bolsa Chica Basin State Marine Conservation Area	absent	Is it technically possible to install subsurface intake wells that can withdraw 106 MGD of feed water? If so, how many wells would be needed?	Is it possible to commingle all of the discharge with OCSD's ocean outfall?	
												Is it possible to commingle part of the discharge with OCSD's ocean outfall?	
												Diffuser	
											Combined intake system – what is maximum amount of feed	Is it possible to commingle all of the	

											water that can be withdrawn through a subsurface intake?	discharge with OCSD's ocean outfall?	
												Is it possible to commingle part of the discharge with OCSD's ocean outfall?	
												Diffuser	
Property 1D	absent	?	absent	absent	?	?	?	?	Present – Bolsa Bay State Marine Conservation Area and Bolsa Chica Basin State Marine Conservation Area	absent	Is it technically possible to install subsurface intake wells that can withdraw 106 MGD of feed water? If so, how many wells would be needed?	Is it possible to commingle all of the discharge with OCSD's ocean outfall?	
												Is it possible to commingle part of the discharge with OCSD's ocean outfall?	
												Diffuser	
											Combined intake system – what is maximum amount of feed	Is it possible to commingle all of the	

											water that can be withdrawn through a subsurface intake?	discharge with OCSD's ocean outfall?	
												Is it possible to commingle part of the discharge with OCSD's ocean outfall?	
												Diffuser	
Naval Weapons Station	absent	?	absent	absent	?	?	?	?	Present – Bolsa Bay State Marine Conservation Area and Bolsa Chica Basin State Marine Conservation Area	absent	Is it technically possible to install subsurface intake wells that can withdraw 106 MGD of feed water? If so, how many wells would be needed?	Is it possible to commingle all of the discharge with OCSD's ocean outfall?	
												Is it possible to commingle part of the discharge with OCSD's ocean outfall?	
												Diffuser	
											Combined intake system – what is maximum amount of feed	Is it possible to commingle all of the	

											water that can be withdrawn through a subsurface intake?	discharge with OCSD's ocean outfall?	
												Is it possible to commingle part of the discharge with OCSD's ocean outfall?	
												Diffuser	
Property 1G	absent	?	absent	absent	?	?	?	?	Present – Bolsa Bay State Marine Conservation Area and Bolsa Chica Basin State Marine Conservation Area	absent	Combined intake system – what is maximum amount of feed water that can be withdrawn through a subsurface intake?	Is it possible to commingle all of the discharge with OCSD's ocean outfall?	
												Is it possible to commingle part of the discharge with OCSD's ocean outfall?	
												Diffuser	
											Would extending the intake pipe further offshore result in fewer	Is it possible to commingle all of the	

											impacts to marine life?	discharge with OCSD's ocean outfall?	
												Is it possible to commingle part of the discharge with OCSD's ocean outfall?	
												Diffuser	
											Proposed surface water intake	Is it possible to commingle all of the discharge with OCSD's ocean outfall?	
												Is it possible to commingle part of the discharge with OCSD's ocean outfall?	
Segment 6	present	present	?	?	?	?	?	?	Present – Laguna Beach State Marine Conservation	absent	Is it technically possible to use subsurface intakes to withdraw 106	Is it possible to commingle part of the discharge	

									Area and Dana Point State Marine Conservation Area		MGD of feed water? Please provide hydrogeological data to support conclusions.	with SOCWA's Aliso Creek Ocean Outfall?	
												Is it possible to commingle part of the discharge with SOCWA's San Juan Creek Ocean Outfall?	
												Diffuser	
											Combined intake system – what is maximum amount of feed water that can be withdrawn through a subsurface intake?	Is it possible to commingle part of the discharge with SOCWA's Aliso Creek Ocean Outfall?	
												Is it possible to commingle part of the discharge with SOCWA's San Juan	

												Creek Ocean Outfall?	
												Diffuser	
Segment 7	present	?	?	?	?	?	?	?	Present - Dana Point State Marine Conservation	absent	Is it technically possible to use subsurface intakes to withdraw 106 MGD of feed water? Please provide hydrogeological data to support conclusions.	Is it possible to commingle part of the discharge with SOCWA's Aliso Creek Ocean Outfall?	
												Is it possible to commingle part of the discharge with SOCWA's San Juan Creek Ocean Outfall?	
												Diffuser	
											Combined intake system – what is maximum amount of feed water that can be withdrawn through a	Is it possible to commingle part of the discharge with SOCWA's	

											subsurface intake?	Aliso Creek Ocean Outfall?	
												Is it possible to commingle part of the discharge with SOCWA's San Juan Creek Ocean Outfall?	
												Diffuser	
Segment 8	present	present	?	?	?	?	?	?	absent	absent	Is it technically possible to use subsurface intakes to withdraw 106 MGD of feed water? Please provide hydrogeological data to support conclusions.	Is it possible to commingle part of the discharge with SOCWA's Aliso Creek Ocean Outfall?	
												Is it possible to commingle part of the discharge with SOCWA's San Juan	

												Creek Ocean Outfall?	
												Diffuser	
											Combined intake system – what is maximum amount of feed water that can be withdrawn through a subsurface intake?	Is it possible to commingle part of the discharge with SOCWA's Aliso Creek Ocean Outfall?	
												Is it possible to commingle part of the discharge with SOCWA's San Juan Creek Ocean Outfall?	
												Diffuser	
Segment 9	present	?	?	?	?	?	?	?	absent	absent	Is it technically possible to use subsurface intakes to withdraw 106 MGD of feed water? Please provide hydrogeological data to support	Is it possible to commingle part of the discharge with SOCWA's Aliso Creek Ocean Outfall?	

											conclusions.	Is it possible to commingle part of the discharge with SOCWA's San Juan Creek Ocean Outfall?	
												Diffuser	
											Combined intake system – what is maximum amount of feed water that can be withdrawn through a subsurface intake?	Is it possible to commingle part of the discharge with SOCWA's Aliso Creek Ocean Outfall?	
												Is it possible to commingle part of the discharge with SOCWA's San Juan Creek Ocean Outfall?	
												Diffuser	