II.7 COMMENTS AND RESPONSES: POSEIDON (APPLICANT)

CONTENTS

The master responses provided in Section II.2, *Master Responses, MR-1 through MR-8*, address similar comments received from multiple commenters on the Draft Supplemental EIR and, therefore, many individual responses to comments refer back to the master responses. These Master Responses are:

- MR-1, Scope of the Commission's Discretionary Action
- MR-2, Lease Modification Project Scope
- MR-3, Responsible Vs. Lead Agency & Supplemental Vs. Subsequent EIR
- MR-4, Piecemealing
- MR-5, Diffuser Entrainment Mortality and Species Affected
- MR-6, Marine Protected Areas
- MR-7, Cumulative Impacts
- MR-8, Alternatives

II.7.1 Comment Set AP1: Poseidon (Applicant)

POSEIDON SURFSIDE
a Poseidon Water company

June 26, 2017

BY ELECTRONIC MAIL: Alexandra.Borack@slc.ca.gov

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Re: Seawater Desalination Project at Huntington Beach: Outfall/Intake Modifications and General Lease – Industrial Use (PRC 1980.1) Amendment (Lease Modification Project), EIR No. 794, Draft Supplemental Environmental Impact Report (Draft SEIR)

Dear Ms. Borack:

On behalf of Poseidon Resources (Surfside) LLC ("Poseidon"), the Applicant for the Seawater Desalination Project at Huntington Beach: Outfall/Intake Modifications and General Lease – Industrial Use (PRC 1980.1) Amendment ("Lease Modification Project"), we appreciate the opportunity to provide written comments on the Draft SEIR for the Lease Modification Project prepared by the California State Lands Commission ("SLC"). Poseidon believes the SLC has performed an extremely thorough analysis of the Lease Modification Project and fully complies with its responsibilities under the California Environmental Quality Act ("CEQA") to assess the Lease Modification Project's potential adverse environmental impacts. AP1-1

Lease Modification Project Background

On October 29, 2010, Poseidon and the SLC executed an Amendment of Lease No. PRC 1980.1, allowing for the use of the Huntington Beach Generation Station's ("HBGS") seawater intake and outfall facilities for the purposes of operating the Huntington Beach Desalination Project ("HB Desalination Project"). 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 Intake, Brine Discharges, and Incorporating Other Non-substantive Changes (the "Desalination Amendment"). The Desalination Amendment took effect as a new regulation on January 28, 2016.

In July 2016, Poseidon submitted a new application to the SLC to amend General Lease – Industrial Use PRC 1980.1 to incorporate two technology enhancements to the HB Desalination Project as originally approved by the SLC. These modifications,

COMMENT SET AP1: POSEIDON (cont.)

designed to enhance marine life protection and comply with the Desalination Amendment's requirements, include:

- Modification of the offshore seawater intake with 1 millimeter wedgewire screens with a through-screen velocity of 0.5 feet per second or less to eliminate impingement and minimize potential entrainment to *de minimis* levels; and

- Enhancement of the ocean terminus of the existing seawater discharge pipe with a concentrated seawater diffuser.

As a result of these technology enhancements, the Project's long-term, stand-alone operation will only require an average annual volume of source water of approximately 106 MGD, or 30% less source water than the 152 MGD required by the Project as approved by the SLC in 2010.

AP1-1 cont.

Comments on the Draft SEIR

The Draft SEIR was prepared to provide the SLC with information required for the SLC to exercise its jurisdictional responsibilities with respect to the Lease Modification Project. The Draft SEIR has found that the Lease Modification Project will significantly impact: (1) special status species populations as a result of underwater impact pile driving during construction (Impact OWQ/MB-3)[1]; (2) ocean water quality from copper leaching from wedgewire screens (Impact OWQ/MB-5); and (3) special status species populations as a result of diffuser entrainment, or shear stress (Impact OWQ/MB-7).

AP1-2

We acknowledge the Draft SEIR's findings that the Lease Modification Project may result in significant adverse impacts to marine life, and we appreciate SLC's extremely conservative, worst-case analysis of these impacts. However, we believe that, with some limited additional clarification and data attached to this letter, a finding that these impacts would be less than significant is supported.

The Lease Modification Project Will Have Less than Significant Impacts from Vibratory Pile Driving

AP1-3

As noted on page 4-38 of the Draft SEIR, vibratory pile driving is Poseidon's preferred method of pile driving for construction of the Lease Modification Project, if

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[1] We note that although Impact OWQ/MB-3's title references special status species populations, the analysis contained in OWQ/MB-3 refers instead to "sensitive marine species." We suggest that SLC provide clarifying edits in the Final SEIR to correct this discrepancy.

COMMENT SET AP1: POSEIDON (cont.)

pile driving is required. It is estimated that approximately 10 piles may need to be installed, with each pile installation anticipated to take approximately 15 minutes and no more than 60 minutes. Pile driving, if necessary, is anticipated to be completed within a three-day period. As set forth in MM OWQ/MB-3a, Poseidon must use vibratory pile driving unless site-specific geotechnical studies show that vibratory pile driving cannot be used and impact pile driving is required. Thus, if impact pile driving is utilized at all, it will only be used in limited circumstances and after vibratory pile driving is determined infeasible using the procedures set forth by the SLC in the Draft SEIR.

AP1-3 cont.

There appears to be uncertainty in the Draft SEIR concerning whether the potential limited impact pile driving work could result in significant and unavoidable environmental impacts to marine mammals. Accordingly, Poseidon suggests amending MM OWQ/MB-3a to further define the circumstances in which impact pile driving may be allowed, and to clarify the SLC's role in reviewing and approving limited impact pile driving. With these clarifications, Poseidon believes that all Lease Modification Project-related pile driving would result in less than significant impacts with mitigation:

> **MM OWQ/MB-3a: Vibratory Pile Driving.** Installation of the 12-inch steel H-piles for the wedgewire screens shall use a vibratory hammer to reduce the peak noise levels. If site-specific geotechnical studies show that vibratory pile driving cannot be used and impact pile driving is required, Poseidon shall obtain California State Lands Commission staff approval for the use of impact pile driving. **In order to obtain such approval, Poseidon must identify measures that demonstrate to the satisfaction of California State Lands Commission staff that the noise impact (exceedance of applicable noise thresholds) from impact pile driving at the proposed location will not exceed the comparable noise impacts from vibratory pile driving (exceedance of the applicable noise threshold at a distance of 1,000 meters from the pile driving location).**

In addition, in response to concerns that noise from impact pile driving could result in impacts to marine mammals, particularly migrating gray whales, Poseidon proposed and has agreed to implement Applicant Proposed Measure APM-5, which requires the preparation and implementation of a Sensitive Marine Species Monitoring and Mitigation and BMP Implementation Plan for review and approval by SLC staff, in consultation with the California Department of Fish and Wildlife, California Coastal Commission, and other applicable agency staff. APM-5 requires that Poseidon identify an Exclusion/Shutdown and Behavioral Harassment (Impact) Zone for marine mammals that may occur in the offshore construction area and identify measures that will be taken

AP1-4

COMMENT SET AP1: POSEIDON (cont.)

if marine mammals are within the Impact Zone. These measures may include temporarily halting construction activities until the marine animal has departed the Impact Zone. In order to determine when or whether marine mammals are present, Poseidon will employ marine wildlife monitors to monitor the Impact Zone for 30 minutes before, during, and 30 minutes after in-water construction activities, including any pile-driving. We believe this monitoring program is sufficient to support a conclusion that potential impacts to marine mammals will be avoided such that impacts will be less than significant with mitigation.

AP1-4 cont.

Poseidon is agreeable to a lease condition in which it cannot conduct any pile driving during marine mammal migration seasons. Although it is unclear from the text of the Draft SEIR, it is Poseidon's understanding that complete avoidance of migration seasons will ensure that there is a less than significant impact on marine mammal species.

AP1-5

Poseidon is also agreeable to additional monitoring during construction. As set forth in APM-5, the marine biological monitor would have the authority to halt construction, even outside of the migration season, if marine mammals are sighted within the Lease Modification Project Impact Zone. As described in Poseidon's previous submittals to the SLC, such additional monitoring could be conditioned to remain within the envelope of impacts already analyzed in the Draft SEIR.

AP1-6

The Use of Wedgewire Screens Will Have a Less than Significant Impact on Ocean Water Quality

AP1-7

As described on page 4-52 of the Draft SEIR, Poseidon proposes to install wedgewire screens on the existing HBGS intake to eliminate impingement and minimize entrainment impacts to marine life. The Draft SEIR confirms that withdrawing seawater through wedgewire screens generally would not affect ocean water concerns, but expresses concern about the possibility that copper-nickel alloy screen could result in corrosion that could result in the release of copper into ocean water.

In response to these concerns, Poseidon is agreeable to the use of stationary stainless steel wedgewire screens. Therefore, Poseidon proposes the addition of a new Applicant Proposed Measure, APM-8, which would ensure that impacts to ocean water quality from wedgewire screen operation would be less than significant.

Poseidon further proposes that the stationary stainless steel screens be manually cleaned through boat-based air-burst wedgewire screen cleaning methods (as proposed by Poseidon and described in the Project Description section of the Draft SEIR), rather than through the use of rotating brushes, as proposed in the "Rotating Brush-Cleaned, Stainless Steel Screens" alternative. The Draft SEIR concludes that the use of rotating brushes could "slightly reduce" marine biological resource impacts and air quality emissions in comparison to the proposed manual cleaning because vessel traffic and

AP1-8

COMMENT SET AP1: POSEIDON (cont.)

anchoring would be reduced. However, the Draft SEIR does not recognize that rotating brushes are a relatively new and unproven technology that would require more frequent inspection to ensure their integrity and effectiveness; therefore, Poseidon would anticipate substantially similar amounts of boat traffic under either the rotating brush or manual cleaning scenarios. These issues are described in the comment matrix attached as **Exhibit A**, and in **Exhibit B**, a letter from Acciona discussing the maintenance requirements and environmental impacts associated with the use of rotating brushes versus other options for cleaning stainless steel screens and copper screens.

AP1-8 cont.

Proposed APM-8 is set forth as follows:

AP1-9

> **APM-8: Composition and Maintenance of Wedgewire Screens.** Poseidon shall install stationary wedgewire screens with a slot width of 1 mm and a through velocity of 0.5 feet/second or less (per Ocean Plan Section III.M.2.d(1)(c) requirements) at the existing HBGS intake pipeline riser prior to desalination plant commercial operation. The composition of the screens shall be stainless steel, unless Poseidon demonstrates to the satisfaction of California State Lands Commission staff that the use of copper nickel alloy screens would not result in chemical leaching in excess of Ocean Plan Water Quality Objectives for Protection of Marine Life standards. Such demonstration must be based on data that has been reviewed and approved by the State and Regional Water Boards' staff and California Coastal Commission staff. The screens shall be maintained through boat-based air-burst wedgewire screen cleaning methods.

With the incorporation of APM-8, we request that the impact conclusion for OWQ/MB-5 regarding ocean water quality impacts be modified to clarify that the use of stationary stainless steel wedgewire screens will have a less than significant impact with mitigation.

Diffuser Entrainment Will Have a Less than Significant Impact on Special Status Species Populations

AP1-10

Available Data Confirms That Special-Status Species Are Unlikely to Be Present in the Lease Modification Project Vicinity in Sufficient Numbers to Result in Significant Impacts

COMMENT SET AP1: POSEIDON (cont.)

Page 4-22 of the Draft SEIR's Section 4.1.1 states: "No special status species occur near the Lease Modification Project site." However, Draft SEIR Section 4-61 states: "In the absence of information on the larval densities of special status species at risk of diffuser entrainment, impacts could be potentially significant." We acknowledge the SLC's findings in the Draft SEIR regarding potential diffuser entrainment impacts, and we appreciate the extremely conservative worst-case approach SLC has taken in its evaluation of impacts to special status species from shear stress in the "absence of information." However, based on the information in the Draft SEIR and upon our experts' review of the Draft SEIR analysis, the Draft SEIR overstates the Lease Modification Project's potential impacts on special-status species. Therefore, to assist SLC in further evaluating impacts from diffuser entrainment, Poseidon is providing additional data on the potential presence of special status species, particularly those analyzed in the Draft SEIR, following diffuser operation. This data is reflected in the Dudek report attached as **Exhibit C**.

AP1-10 cont.

As the analysis demonstrates, there is a low probability that special status species would be present in significant numbers in the vicinity of the diffuser and at risk of impact from the shearing velocity within the Brine Mixing Zone. Further, hypothetically even if there were a material presence of special status species in the vicinity of the discharge the potential shearing-related impacts would not rise to the level of significance based upon the significance criteria identified by the Draft SEIR in Section 4.3.1. Based on this low probability and the Draft SEIR's significance criteria for marine life impacts, we believe the data supports a conclusion that there would not be significant impacts on special-status species based on this location of the diffuser. Therefore, no mitigation for these less-than-significant impacts would be required.

AP1-11

COMMENT SET AP1: POSEIDON (cont.)

The Draft SEIR's Discussion of Entrainment Impacts Should Be Clarified

AP1-12

Poseidon supports the SLC's use of a 23% mortality estimate as the best available science for all diffuser operational mortality impacts. However, we understand that the SLC may be receiving comments from other agencies or interested parties regarding the proper mortality estimate. Therefore, we have provided additional analysis supporting the use of a 23% mortality estimate in **Exhibit D**.

AP1-13

In addition, **Exhibit E** addresses certain concerns that we have identified in Dr. Peter Raimondi's peer review of Poseidon's information on operational entrainment impacts, including Dr. Raimondi's calculation of marine life mortality and the "area of production foregone."

AP1-14

Finally, we note that an earlier, March 30, 2017, draft of Dr. Raimondi's report included the conclusion: "With the retirement of once-through cooling at the Huntington Beach Generating Station, overall entrainment of marine life would decrease." It appears that this conclusion has been omitted from the version of Dr. Raimondi's report attached as Exhibit F-1 to the Draft SEIR. We request that this conclusion be added back into the report or otherwise addressed in the appropriate section of the Final SEIR.

Technical Corrections to the Draft SEIR

AP1-15

To assist the SLC in preparing the Final SEIR, we are attaching to this letter, as **Exhibit A**, a matrix containing Poseidon's suggested technical corrections, clarifications, and/or revisions to the Draft SEIR.

We believe that the comments and suggestions set forth in the attached matrix are technical corrections that fall within the scope of items to be addressed in the Final SEIR. We have identified no issues that would warrant recirculation of the SEIR per Public Resources Code section 21092.1 and CEQA Guidelines section 15088.5.

COMMENT SET AP1: POSEIDON (cont.)

* * *

Poseidon appreciates staff's careful consideration of the Lease Modification Project and looks forward to the SLC's continued review of the Project. We would be pleased to respond to any further questions you may have during the CEQA process for the Project. AP1-16

Sincerely,

Scott Maloni
Vice President
Poseidon Resources (Surfside) LLC

Enclosures

cc: Kelly Huffman, Poseidon Water

COMMENT SET AP1: POSEIDON (cont.)

Seawater Desalination Project at Huntington Beach: Outfall/Intake Modifications & General Lease – Industrial Use Amendment
Draft Supplemental Environmental Impact Report Review Matrix

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Comment #	Section Name	Page #	Paragraph or Table #	Issue	Suggested Resolution	
Overarching/Global Comments						
1.	Consider making the use of oxford comma in lists consistent throughout DSEIR.					AP1-17
2.	Consider making the use of periods at the end of full sentences in bullet points consistent. We recommend adding periods to the end of all full sentences.					AP1-18
ES – Executive Summary						
3.	ES Description of Proposed Project	ES-4	Last paragraph, lines 23-28	The DSEIR does not explain that Poseidon has proposed the project intake and outfall modifications at the request of other agencies and to abide by the requirements of the Desalination Amendment.	Consider adding language clarifying that Poseidon is adding the wedgewire screen and the diffuser pursuant to the requirements of the OPA for the purpose of reducing environmental impacts. For example, on line 28: "following technology enhancements **to comply with the Desalination Amendment and to reduce marine mortality rates** (see Figure ES-2)."	AP1-19
4.	ES	ES-7	Table at bottom of page	The table at the bottom of the page is not a numbered table, which seems inconsistent with the other table on the same page.	Consider numbering the table as well as the rows within the table.	AP1-20
5.	ES	ES-8	Lines 25-26	The ES provides that there are unavoidable impacts associated with Ocean Water Quality and Marine Biological Resources.	As discussed in Poseidon's cover letter, we believe that these impacts can be mitigated to less than significant levels. In that case, Ocean Water Quality and Marine Biological Resources should be removed from the list of Significant and Unavoidable Impacts.	AP1-21
6.	ES	ES-9	Lines 27-36	The ES description of the environmentally superior alternative should be updated to reflect that Poseidon is willing to use stationary stainless steel wedgewire screens so that rotating brush-cleaned stainless steel screens are no longer required or environmentally superior. The description should also confirm the type of diffuser selected as environmentally superior.	Consider revising language as follows: "Based on the analysis contained within the Supplemental EIR, the CSLC has determined that the Lease Modification Project **(as proposed by Poseidon and modified by APM-8)** ~~with the Rotating Brush-Cleaned, Stainless Steel Wedgewire Screens Alternative~~ is the Environmentally Superior Alternative."	AP1-22
7.	ES	ES-13	Table ES-13	See comment #5, above, concerning impacts to Ocean Water Quality and Marine Biological Resources.	As discussed in Poseidon's cover letter, we believe that impacts to Ocean Water Quality and Marine Biological Resources can be mitigated to less than significant levels. In that case, the Impact Class for OWQ/MB-3, OWQ/MB-5, and OWQ/MB-7 should be revised to "LTSM."	AP1-23
1. Introduction						
8.	1.0	1-3	Lines 4-11	The description of the proposed modifications does not reference that fact that Poseidon is modifying the Project to minimize impacts in compliance with the Desalination Amendment to the California Ocean Plan.	Consider adding language clarifying that Poseidon is adding the wedgewire screen and the diffuser pursuant to the requirements of the OPA for the purpose of reducing environmental impacts. For example on line 7, "'technological assessments' **to comply with the Desalination Amendment and to reduce marine mortality** (see Table 2-2) . . . ."	AP1-24
9.	1.0	1-8	Lines 14-19	The DSEIR refers to the Regional Water Quality Control Board's Water Code section 13142.5(b) review of the desalination project, but does not provide full information about Poseidon's alternative sites analysis that has been conducted pursuant to that process.	Poseidon has already conducted an extensive alternative sites analysis as part of its process before the Regional Water Quality Control Board and through prior CEQA review for the desalination project. Consider adding language on line 27 stating: "**Extensive alternative sites analyses have been conducted at each prior stage of**	AP1-25

COMMENT SET AP1: POSEIDON (cont.)

Seawater Desalination Project at Huntington Beach: Outfall/Intake Modifications & General Lease – Industrial Use Amendment
Draft Supplemental Environmental Impact Report Review Matrix

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Comment #	Section Name	Page #	Paragraph or Table #	Issue	Suggested Resolution	
					environmental review for the HB Desalination Project. The Applicant also submitted a two-part Alternative Sites Analysis conducted in 2015 by Dudek that analyzed available sites along the entirety of the Orange County coast and concluded that the proposed site was the most feasible for siting a 50 MGD desalination plant."	AP1-25 cont.
10.	1.0	1-8	Lines 24-27	The last sentence could be clarified for readability.	Consider replacing the sentence with the following: "If the RWQCB identifies a site outside the PRC 1980.1 lease boundaries at the conclusion of its Water Code section 13142.5, subdivision (b) analysis, new CEQA or CEQA functional equivalent analysis would need to be conducted at that time."	AP1-26
11.	1.0	1-12	Lines 6-10	The DSEIR confirms that analysis of potential modifications to drinking water distribution systems are speculative and not germane to the Lease Modification Project.	Consider adding a clarifying sentence confirming that modifications to drinking water distribution systems, if proposed at some later date, would be a separate project subject to separate CEQA analysis. For example at the end of line 10, "however, this would be a separate project from the Lease Modification Project under CEQA that would be analyzed separately if proposed in the future."	AP1-27
12.	1.4	1-16	Lines 12-17	The use of parentheses with one full sentence and one partial sentence in the middle is confusing to the reader.	Consider deleting parentheses.	AP1-28
13.	1.4.1	1-18	Table 1-3, first bullet	The DSEIR refers to vague "proposed onshore modifications."	Consider revising the sentence to "any proposed onshore modifications" to clarify that there are no concrete proposals to modify the on-land portions of the desalination plant at this time.	AP1-29
14.	1.4.3	1-20	Lines 13-14	The description of alternatives is slightly confusing as written.	Considering changing to "Possible alternatives . . include different intake screen sizes and different diffuser types and configurations."	AP1-30
15.	1.5	1-21	Line 5	The SEIR states that the CSLC could "approve or deny the Lease Modification Project."	Consider revising language to "approve, conditionally approve, or deny the Lease Modification Project."	AP1-31
2. Project Description						
16.	2.1	2-2	Lines 27-29	The DSEIR refers to the Regional Water Quality Control Board's Water Code section 13142.5(b) review of the desalination project, but does not provide full information about Poseidon's alternative sites analysis that has been conducted pursuant to that process.	Considering editing the sentence to say: "The RWQCB, in consultation . . . is also reviewing alternatives to the 2010 Project site pursuant to Water Code section 13142.5 in addition to the robust alternative sites review previously undertaken by other agencies in the 2010 FSEIR as well as the alternative technologies analysis in the ISTAP Phase 1 and Phase 2 reports."	AP1-32
17.	2.1	2-3	Lines 7-10	The DSEIR does not explain that Poseidon has proposed the project intake and outfall modifications at the request of other agencies and to abide by the requirements of the Desalination Amendment.	Considering adding language at the end of the second bullet, or in the existing parenthetical, stating: "to comply with the requirements of the Desalination Amendment and to reduce marine mortality and impingement."	AP1-33
18.	2.4 Description of Proposed Lease Modification	2-7	Table 2-2	In addition, the DSEIR states that the effluent concentration would be "Brine concentrated seawater . . ." However, the effluent would be either brine or concentrated seawater, not both. Further, the row describing "Effluent Composition" does not list occasional stormwater as a possible component of the effluent.	Consider clarifying the language to clarify that the effluent concentration would be either brine or concentrated seawater and could contain occasional stormwater: "~~Brine c~~Concentrated seawater, filter backwash, ~~and~~ subsequent rinsewater, and occasional stormwater."	AP1-34

COMMENT SET AP1: POSEIDON (cont.)

Seawater Desalination Project at Huntington Beach: Outfall/Intake Modifications & General Lease – Industrial Use Amendment
Draft Supplemental Environmental Impact Report Review Matrix

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Comment #	Section Name	Page #	Paragraph or Table #	Issue	Suggested Resolution	
	Project					AP1-34 cont.
19.	2.4.2 Operational Scenarios	2-10	Lines 28-29	The SEIR states that average annual seawater withdrawal would be approximately 106.7 MGD, but then states that only two pumps would operate at a time for a total capacity of 100 MGD.	Revise text to remove the reference to 100 MGD and clarify that "Average annual seawater withdrawal would be approximately 106.7 MGD. **Two pumps will be used to meet the required need.**"	AP1-35
20.	2.4.4	2-14	Lines 24-28	The description of the purpose of the diffuser only explains its technological effect, not why it is proposed to be installed.	Consider adding language at the end of the sentence stating: "**and to comply with Ocean Plan goals to reduce marine mortality.**"	AP1-36
21.	Entire Section			The Project Description section does not provide a discussion of the anticipated temporal scope for the Lease Modification Project.	Suggest adding a discussion of the anticipated timeframe for construction of the Lease Modification Project and operation of the desalination plant.	AP1-37
3. Cumulative Projects						
22.	3.2.2	3-6	Lines 1-31	The SEIR describes the Ascon Landfill Remediation project, but does not include recent developments and DTSC approvals.	Suggest updating discussion in Final SEIR to include current information on Ascon Landfill Remediation project, located at www.ascon-hb.com.	AP1-38
23.	3.2.2 and 3.2.3	3-6	Lines 2, 35	The SEIR describes the Ascon Landfill Remediation and Magnolia Oil Tank Storage projects as "adjacent" and "immediately adjacent" to the HB Desalination Plant, respectively.	Recommend deleting "adjacent" and "immediately adjacent" and replacing with "near." The Huntington Beach Channel is located between the HB Desalination Plant and the Ascon and Magnolia projects.	AP1-39
24.	3.2.6	3-9	Lines 22-25	The description of the purpose of the Lease Modification Project activities does not explain that the modifications were proposed to meet the Desalination Amendment *and* to reduce marine mortality.	Consider adding language after "Desalination Amendment" stating: "**and to reduce marine mortality associated with the HB Desalination Plant** . . . ."	AP1-40

COMMENT SET AP1: POSEIDON (cont.)

Seawater Desalination Project at Huntington Beach: Outfall/Intake Modifications & General Lease – Industrial Use Amendment
Draft Supplemental Environmental Impact Report Review Matrix

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Comment #	Section Name	Page #	Paragraph or Table #	Issue	Suggested Resolution	
4. Environmental Setting and Impact Analysis						
25.	4.0	4-3	Lines 9-13	The description of the purpose of the Lease Modification Project does not explain that the modifications were proposed to meet the Desalination Amendment and to reduce marine mortality.	Consider modifying as follows: "In 2016, . . . to the offshore ends of the intake and discharge pipelines, respectively **(to comply with the requirements of the Desalination Amendment and to reduce marine mortality)**, as well as to reduce . . . ."	AP1-41
26.	4.0	4-4	Lines 14-18	The explanation of the environmental setting could be clarified to confirm that the 2010 FSEIR is taken into account in analyzing environmental impacts.	Consider adding language as follows: "The following environmental setting, **based on the 2010 Project as currently approved,** represents the . . . ."	AP1-42
27.	4.0	4-7 – 4-12	Table 4-02	Inconsistent use of periods at the end of bullet points.	Suggest adding periods to all bullet points.	AP1-43
28.	4.0	4-11	Table 4-02, APM-6	Inconsistent use of bullet points, APM-6 is all one large paragraph.	Consider splitting out the elements of APM-6 into sub-bullets for consistency with other APM descriptions.	AP1-44
29.	4.0	4-15	Lines 13-15	The sentence regarding Plan consistency could be revised for clarity.	Consider modifying the language as follows: "The Plans that the City and CSLC found **to be consistent with construction, operation, and maintenance activities for the 2010 Project** . . . ."	AP1-45
30.	4.0	4-18	Lines 21-23	The last sentence regarding economic viability of a subsurface infiltration gallery could benefit from additional detail from the ISTAP's findings.	Consider modifying as follows: "The economic feasibility of installing a Seafloor Infiltration Gallery . . . outside the scope of this Supplemental EIR **and was already analyzed and deemed economically infeasible in the ISTAP Phase 2 Report**."	AP1-46
4.1 Ocean Water Quality and Marine Biological Resources						
31.	4.1.1.2 Marine Biological Resources	4-21	Paragraph under Habitats (lines 32-36)	The DSEIR's discussion of habitats does not include any mention of marine plant life, such as kelp beds, but kelp beds are mentioned in the subsequent section regarding environmental impacts to marine biological resources (see, e.g., p. 4-36.)	Suggest adding a footnote on p. 4-36, following the sentence "Poseidon would complete pre-construction mapping and implement measures to avoid kelp, seagrasses, and hard substrate during construction and maintenance." The footnote could read: "**As noted on page 4-59, no kelp beds have been identified in the vicinity of the HBGS outfall. However, APM-6 will be conducted prior to the start of construction to confirm that no kelp beds exist in the area.**"	AP1-47
32.	4.1.1.2 Marine Biological Resources	4-22	Paragraph under Fish Species (lines 26-29)	The DSEIR states: "Analyses of NPDES permit data collected near the HBGS intake showed that white croaker and California lizardfish accounted for more than 93 percent of the total abundance between 2010 and 2013 (Tenera 2016). No special-status fish species occur near the Lease Modification Project site." This seems contradictory to the finding of significant and unavoidable impacts to special status species at the diffuser.	Suggest clarifying why there are significant and unavoidable impacts to special status species at the diffuser if there are no such species near the site. Suggest modifying language to clarify, and allow for inclusion of additional analysis: "No special-status fish species **were found in the sampling events used to characterize the baseline environmental conditions for** ~~occur near~~ the Lease Modification Project site. **However, analysis of the potential for such species to occur is included in this Supplemental EIR.**	AP1-48
33.	4.1.4 Environmental Impact Analysis	4-27	First bullet under 2010 Project	The DSEIR states: "Benthic areas do not contain natural hard bottom habitats that support sensitive species."	Suggest clarifying that this conclusion has not changed based on the modified project now under consideration.	AP1-49

COMMENT SET AP1: POSEIDON (cont.)

Seawater Desalination Project at Huntington Beach: Outfall/Intake Modifications & General Lease – Industrial Use Amendment
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Comment #	Section Name	Page #	Paragraph or Table #	Issue	Suggested Resolution	
	and Mitigation					AP1-49 cont.
34.	4.1.4 Environmental Impact Analysis and Mitigation	4-27	Fourth bullet under 2010 Project	The DSEIR states: "No threatened or endangered species or kelp beds exist near the HBGS outfall."	Suggest clarifying that this conclusion has not changed based on the modified project now under consideration.	AP1-50
35.	4.1.4.1 Construction Impacts	4-30	Third paragraph (lines 24-26)	The DSEIR indicates that the intake pipeline would contain a concreate header.	Suggest removing "concrete." The material for the header will be selected during the design phase.	AP1-51
36.	4.1.4.1 Construction Impacts	4-31 to 4-33	First paragraph of 4-31 (lines 1-6); APM-3; and paragraph under Impact Discussion on 4-33 (lines 28-33)	The DSEIR indicates that oil spills would impact water quality, and APM-3 is a Spill Prevention and Response Plan to address that impact. The DSEIR also includes APM-3 for Impact OWQ/MB-2 (Impact to Special Status Species Populations of Intake Screen and Diffuser Installation). However, the DSEIR does not discuss the impact of oil spills on animal/plant species.	Suggest adding a reference to APM-3 on p. 4-36. In the paragraph beginning on line 13, potentially revise as follows: "Pursuant to the above APMs, **an oil spill prevention and response plan will minimize any spills that may occur** and a qualified biological monitor would identify special-status species (marine mammals, sea turtles, etc.) if present." For the sentence beginning on line 17, revise as follows: "With implementation of **APM-3,** APM-4, and APM-5, construction impacts would be less than significant."	AP1-52
37.	4.1.4.1 Construction Impacts	4-37	Paragraph under Impact Discussion	The DSEIR states that underwater noise could result in short-term elevated noise levels near the pipeline ends that may affect: (1) marine mammals, (2) sea turtles, and (3) fishes. Subsequent impact discussion also includes diving seabirds.	Suggest revising sentence to include diving seabirds: "Underwater noise would be produced by marine vessels and in-water construction activities, resulting in short-term elevated noise levels near the pipeline ends that may affect marine mammals, sea turtles, **sea diving birds,** and fishes.	AP1-53
38.	4.1.4.1 Construction Impacts	4-42	Line 16	The DSEIR should address a potentially feasible mitigation measure to reduce cumulative noise from impact pile driving, in the event that vibratory pile driving is determined to be infeasible.	Suggest modifying mitigation measure MM-OWQ/MB-3a: **MM OWQ/MB-3a: Vibratory Pile Driving.** Installation of the 12-inch steel H-piles for the wedgewire screens shall use a vibratory hammer to reduce the peak noise levels. If site-specific geotechnical studies show that vibratory pile driving cannot be used and impact pile driving is required, Poseidon shall obtain California State Lands Commission staff approval for the use of impact pile driving. **In order to obtain such approval, Poseidon must identify measures that demonstrate to the satisfaction of California State Lands Commission staff that the noise impact (exceedance of applicable noise thresholds) from impact pile driving at the proposed location will not exceed the comparable noise impacts from vibratory pile driving (exceedance of the applicable noise threshold at a distance of 1,000 meters from the pile driving location).**	AP1-54
39.	4.1.4.1 Construction Impacts	4-45	Line 38	There is no impact conclusion concerning impacts to marine mammals following the discussion of the mitigation measures, which end on line 38.	Suggest adding the following impact conclusion following the discussion of mitigation measures: "**Given the temporary use of pile driving, and implementation of APM-5 and the mitigation measures identified above, impacts to marine mammals, if present in the Lease Modification Project area, would be avoided or mitigated to less than significant.**"	AP1-55

COMMENT SET AP1: POSEIDON (cont.)

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40.	4.1.4.1 Construction Impacts	4-50	Line 30	The DSEIR should acknowledge the resulting residual impact upon application of potentially feasible mitigation measures for impact pile driving, in the event that vibratory pile driving is determined to be infeasible.	Suggest the following language be added to the significance conclusions: Implementation of the above measures would reduce impacts to marine mammals to temporary and behavioral effects, and impacts would be considered less than significant if vibratory pile driving is used to drive the piles that would support the wedgewire screens. However, if vibratory pile driving is deemed infeasible, the impacts from impact pile driving would remain significant and unavoidable, based on the construction assumptions used in this analysis. If impact pile driving is determined to be necessary, additional information from the geotechnical analysis will be evaluated to determine the schedule and sequencing of pile driving activities to determine if significant impacts could be avoided by reducing cumulative noise generation.	AP1-56
41.	4.1.4.1 Construction Impacts	4-51	Paragraphs under Impact Discussion for Impact OWQ/MB-4	The DSEIR discusses the construction-related impacts of the spread of invasive and non-native marine species, but the discussion does not indicate whether this will impact plant or animal species, or both. In addition, the DSEIR does not evaluate whether boat traffic from maintenance activities would pose the same or similar impact.	Suggest adding information on the types of species or habitats that would be impacted by potential non-native, invasive species and explaining why maintenance-related boat traffic does not pose the same potential impact.	AP1-57
42.	4.1.4.1 Construction Impacts	4-52	Paragraph following MM OWQ/MB-4	There is no impact conclusion concerning invasive and non-native marine species impacts following the Mitigation Measures discussion. The DSEIR states that implementation of the MM "would minimize the Lease Modification Project's potential contribution to the spread of invasive non-native species and any resulting adverse impact on marine biological resources," but lacks a definitive statement regarding a less than significant impact.	Suggest adding the following impact conclusion following the discussion of mitigation measures: "Implementation of the above measures would reduce impacts related to the spread of invasive and non-native marine species in the ocean to less than significant."	AP1-58
43.	4.1.4.2 Operation Impacts	4-52	Text Box summary of impacts (Lines 10 and 11)	Poseidon has added an APM to address copper leaching.	Suggest the following edit: Placement of wedgewire screens composed of copper-nickel alloy may result in chemical leaching into the water column, however APM-8 proposes stainless steel screen material thereby reducing this impact. (~~Significant and Unavoidable~~ Less than Significant)	AP1-59
44.	4.1.4.2 Operation Impacts	4-53	Impact conclusion-Wedgewire Screens (line 4)	Poseidon has added an APM to address copper leaching.	Suggest the following edit: If chemical leaching exceeds Ocean Plan Water Quality Objectives, this impact would be potentially significant ~~and unavoidable~~. Because of the potential for chemical leaching of copper into ocean receiving waters, the applicant has proposed to modify the project specifications to include installation of screens made with stainless steel, rather than copper-nickel alloy (APM-8). ~~An alternative to installing wedgewire screens with copper-nickel mesh is discussed in Section 5, Alternatives.~~	AP1-60
45.	4.1.4.2	4-54	APMs	Poseidon has added an APM to address copper leaching.	Suggest the following edits:	AP1-61

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	Operation Impacts		(line 31)		~~Poseidon has not proposed any APMs to address copper leaching if copper screens are used.~~ Poseidon proposes to modify the project specifications to include the use of non-rotating stainless steel wedgewire screens in place of the previously proposed copper-nickel alloy screens. In Section 5.0, Alternatives, of the SEIR a Rotating Brush-Cleaned, Stainless Steel Wedgewire Screens Alternative is considered to reduce potential impacts of copper leaching into the water column from the proposed copper-nickel wedgewire screens. As there is limited information on the functionality of rotating-brush screens in an ocean environment, the use of non-rotating stainless steel wedgewire screens would still reduce the potential impacts of copper leaching while avoiding the uncertainty of operability of the rotating brush-cleaned stainless steel wedgewire screens. Implementation of the following APMs would protect ocean water quality associated with general operation and maintenance. Add the following APM to the list of APMs: APM-8. Composition and Maintenance of Wedgewire Screens. The maintenance assumptions used in this analysis with recommended cleaning/inspection frequency is still valid. Poseidon estimates monthly or twice per month for first 3 months; potentially every other month after that, which was a conservative estimate that still applies with non-rotating stainless steel screens.	AP1-61 cont.
46.	4.1.4.2 Operation Impacts	4-54	Line 2	The DSEIR states that natural salinity plus 2 ppt would be 34.5 ppt. However, natural salinity is 33.5 ppt. Thus, natural salinity plus 2 ppt would be 35.5 ppt.	Suggest revising sentence as follows: "Mixing and dilution increase with distance from the discharge diffuser, such that salinity would be reduced to ~~34.5~~ 35.5 ppt (natural salinity plus 2 ppt) at approximately 80 feet from the discharge port (MBI 2017)."	AP1-62
47.	4.1.4.2 Operation Impacts	4-54	Lines 9-10	The DSEIR states that maintenance of the wedgewire screened intake would entail: 1) periodic manual cleaning by divers, 2) an onshore-based air burst system, or 3) a boat-based air-burst system.	Please clarify language as follows: "Maintenance of the wedgewire screened intake would entail: 1) periodic manual cleaning by divers~~, 2)~~ and an onshore-based air burst system, or ~~2~~3) a boat-based air-burst system."	AP1-63
48.	4.1.4.2 Operation Impacts	4-55	Mitigation Measures and Residual Impacts	The DSEIR states: "Even with the implementation of the above APMs to reduce impacts to ocean water quality, if chemical leaching from copper wedgewire screens (if used) exceeds Ocean Plan Water Quality Objectives for copper then the impact would remain significant and unavoidable."	Suggest the following edits: Applicant-Proposed Measures and Mitigation Measures ~~There are no feasible mitigation measures to~~ APM-8 reduces potential significant effects to ocean water quality associated with the operation of copper wedgewire screens to less than significant levels. With the implementation of APM-1 ~~and~~ APM-2, and APM-8, no mitigation measures are required to address the remaining less-than-significant impacts associated with diffuser operation or Lease Modification Project maintenance.	AP1-64

COMMENT SET AP1: POSEIDON (cont.)

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					Residual Impacts ~~Even with i~~Implementation of the above APMs ~~to~~ would reduce impacts to ocean water quality, to less than significant levels ~~if chemical leaching from copper wedgewire screens (if used) exceeds Ocean Plan Water Quality Objectives for copper then the impact would remain significant and unavoidable.~~	AP1-64 cont.
49.	4.1.4.2 Operation Impacts	4-55 to 4-56	Paragraphs under Impact Discussion	The DSEIR evaluates impacts of entrainment and impingement to fish larvae only.	Consider clarifying that fish larvae are, in fact, the only species to be impacted.	AP1-65
50.	4.1.4.2 Operation Impacts	4-58	Second paragraph under Impact Discussion (lines 31-34)	The DSEIR's discussion of the 2010 FSEIR's salinity analysis is incomplete and should be updated.	Suggest revising language: "The use of a diffuser can ensure a desalination plant's discharges do not exceed the Desalination Amendment's and NPDES permit's receiving water limits for salinity, which 24 requires that brine discharge salinity declines to within 2 parts per thousand (ppt) over natural background salinity (for a target of 35.5 ppt) within 328 feet (100 meters) from the point of discharge (SWRCB 2015b). The 2010 FSEIR found that under average conditions, the seafloor concentrations of 40 ppt would not occur beyond 54 feet from the discharge tower. Under all conditions associated with the stand-alone operation, including worst case ocean mixing conditions, the 2010 FSEIR found that elevated salinity levels anticipated for the stand-alone operation scenario would be 40 ppt or less at 100 feet from the point of discharge, and would have complied with the Ocean Plan standards in effect at the time. Those standards have now been superseded by the Desalination Amendment. In comparison to the 2010 Project under worst case conditions, increased discharge velocity from the multiport diffuser included in the Lease Modification Project would result in a ~~larger~~ smaller brine mixing zone (BMZ), ~~but~~ with lower salinity since discharge through the proposed diffuser would dilute salinity more quickly."	AP1-66
51.	4.1.4.2 Operation Impacts	4-60 and 4-61	Page 4-60: lines 19-31 Page 4-61: lines 1-4	1. There is no characterization of special-status species that is tied to a definition of special-status species. 2. The analysis of special-status species is limited to the empirical data collected for the entrainment studies, without an analysis of the potential for the species to occur within the study area. 3. The defined thresholds of significance are not specifically applied.	Suggest revising language as follows: "~~However, insufficient information~~ Data from larval sampling events exists to determine whether the larval entrainment of any special-status species would constitute a "substantial adverse effect.," ~~and the entrainment would be considered a potentially significant impact under CEQA~~ In addition, the following analysis provides an assessment of the potential for special-status species larvae to be present in the source water. Additional detail is also provided in Appendix XX (Dudek memo). A substantial adverse effect is defined, in part, as one that would substantially reduce the number or restrict the range of an endangered, rare or threatened species. As explained by Dr. Raimondi (see Appendix F1), the modeling approach is not designed to detect species that are rare in the sampling area; rather, it is designed for species for which sufficient data exist (i.e., observations of that species) to make robust estimates of proportional mortality. Two features render special-status species (typically) unfit for evaluation: larvae of special-status species are almost by definition rare (e.g., giant sea bass) and are sometimes smaller than mesh size used for sampling (e.g., some stages of black abalone). This means that the absence of such species from either the formal evaluation process (i.e., the ETM/APF modeling) or from the list of species sampled in the field studies (as in the Huntington Beach evaluation), should not be taken to indicate that such species would not be entrained. Therefore, an assessment of each of	AP1-67

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					the special-status species is provided based on habitat affinities and life-history requirements, which constitute the best available science under these circumstances. ~~In the absence of information on the larval densities of special-status species at risk of diffuser entrainment, impacts could be potentially significant.~~As noted in Section 4.1.3, Significance Criteria, special-status species include any species listed as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game (Wildlife) or U.S. Fish and Wildlife Service. The SWRCB Substitute Environmental Document (2015a), provides further guidance in identifying sensitive or special-status species in referencing the California Natural Diversity Database (CNDDB) as providing "the most current information available on the state's most imperiled elements of natural diversity". The CNDDB was queried in identifying special-status species that could occur in the Lease Modification Project area. In addition, species identified in Appendix F1, along with other species that meet the definition of "special-status" that may have the potential to occur in larval form within the source water were also identified. Based on these sources, four species were identified as having a reasonable potential to occur within the Lease Modification Project area in sufficient densities that could trigger the impact thresholds: Giant Sea Bass, black abalone, green abalone, and Tidewater Goby. Giant Sea Bass (*Stereolepis gigas*): Giant Sea Bass are the apex predator in California's coastal kelp beds and rocky reef ecosystems (Allen and Pondella 2006; Pondella and Allen 2008; House et al. 2016). The species was once fished to near extinction in California waters before a fishing moratorium ended the harvest in 1981 (Pondella and Allen 2008; House et al. 2016). Unfortunately, populations did not begin to rebound until after commercial gill nets were banned in California State waters beginning in 1994 (Pondella and Allen 2008). Since the gill net closure, scientific sampling results, rather than incidental catch data reported by fishermen, documented a significant increase in the population between 1995 and 2004 as it rose from near zero catches to over one fish per ten sampling stations being caught (Pondella and Allen 2008). Since 2004, the population has seemingly continued to rise as incidental catches by fishermen increase in frequency as do observations by scientists and recreational divers (Love and Allen 2017). For example, the mitigation monitoring at the Wheeler North Reef recently presented a new approach for incorporating Giant Sea Bass observations into their overall data processing (Steele 2017). Recent evidence from acoustic tagging indicates adult Giant Sea Bass undertake substantial seasonal migrations over deep water (Love 2011). Their winter habitat is yet undefined, but beginning in the spring Giant Sea Bass migrate into kelp forests located in the shallow nearshore waters where they reside until fall when migration to their winter habitat occurs (Love 2011). Presumably, this seasonal migration to shallower waters coincides with spawning as aggregations are observed during this time (Love 2011; House et al. 2016) with larval Giant Sea Bass first observed in the mid to late summer months. Juveniles typically occur during the fall and winter months after transforming from larvae to juvenile forms with a full complement of fins and skin pigment (Love 2011). Within southern California, the Santa Monica

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					Bay has been an area where juveniles were commonly observed by divers (see Figure 1), but rarely offshore the Huntington Beach area. Anecdotal internet postings, such as on Youtube.com, have shown anglers catching Giant Sea Bass on the Huntington Beach Pier in recent years. Pier pilings, such as those supporting the Huntington Beach Pier, provide habitat similar to a rocky reef. The Huntington Beach Generating Station (HBGS) commissioned otter trawl surveys of the soft-bottom fishes near its outfall annually in August since 1976 with only one juvenile (29 millimeter standard length) being caught over that time (MBC 2015). That catch occurring in August 2014. Similarly, subtidal diver transect surveys in late-summer and fall offshore the HBGS have not recorded a single Giant Sea Bass observation since the surveys began in 1975. Lastly, impingement monitoring by the HBGS recorded one impinged Giant Sea Bass, occurring in November 1978, during routine monitoring from 1972 through 2014. The recent Great Giant Sea Bass Counts in 2014 and 2015 reported a Giant Sea Bass sighting either 20.4 miles upcoast (Point Fermin) or 12.4 miles downcoast (Laguna Beach) from the proposed intake. The dominant habitat in both areas where Giant Sea Bass were observed consists of kelp beds and rocky reefs or the preferred shallow water habitat. All available data indicates the Giant Sea Bass population is increasing in southern California. Pondella and Allen (2008) concluded that the release from fishing pressure caused by the nearshore gill net ban in 1994, in addition to the state-wide recreational fishing moratorium, "appears to be directly responsible for its recovery". With regard to diffuser discharge and other industrial water uses, the Giant Sea Bass recovery is occurring while numerous wastewater diffuser discharges continue operating in addition to power plant surface water intake and thermal discharges. Based on the Giant Sea Bass known ecology, as well as the low likelihood of Giant Sea Bass larvae coming into contact with the diffuser discharge, minimal impact to the Giant Sea Bass population is expected to occur as a result of the HBDP diffuser operation, and therefore, the project is not anticipated to have a substantial adverse effect on the species, nor cause its population levels to drop below self-sustaining levels. Black and Green Abalone: In Southern California, all seven abalone species were fished to below self-sustaining levels, with some populations collapsing to the extent they have been declared endangered (Gruenthal et al. 2014). In addition to overfishing, withering syndrome, a contagious lethal disease, further depressed the populations. White abalone (*Haliotis sorenseni*) and black abalone (*Haliotis cracherodii*) were declared endangered, while green abalone (*H. fulgens*), pink abalone (*H. corrugate*) and pinto abalone (*H. kamtschatkana*) are listed as species of concern. The depth distribution of most abalone species limits their likely interaction with the proposed HBDP diffuser. For example, white abalone reportedly occur in depths of 80-100 feet. Green abalone and black abalone are the two species with depth distributions consistent with the proposed HBDP diffuser. Both species prefer rocky intertidal and shallow subtidal habitats in or near kelp beds where a reliable source of drift algae is available forage. There are no kelp beds located in proximity to the proposed HBDP diffuser location that would serve as a food source for green abalone in the proposed project area (CDFW 2017b).

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					Abalone have limited larval dispersal on the order of 3-10 days (Federal Register 2011). Local recruitment (or larvae settling out of the water column to join the adult population) functions as the chief process maintaining population levels (Chambers et al. 2006). Limited gene flow between populations occurs to maintain continuity, but clear differences were found between California Channel Island populations. These between-island populations, however, were less than the differences between the islands and the California mainland populations. Therefore, maintaining and enhancing adult aggregations has been the primary goal of resource managers to rebuild the stocks (NOAA 2008). While specifically discussing black abalone, Nueman et al.'s (2010) conclusions can be equally applied to green abalone due to the life history similarities between the two species. They determined desalination plants posed low threats to black abalone populations for both environmental pollutants/toxins (such as brine) and entrainment and impingement. Black Abalone The black abalone is the only abalone species that occurs primarily between the high intertidal zone to approximately the 18 foot isobath. In 2004, the black abalone was listed as endangered under the federal Endangered Species Act and critical habitat for the black abalone was designated in 2011 (Federal Register 2011). As shown in Figure XX, the proposed HBDP diffuser is not located in any areas designated as critical habitat for black abalone with the nearest critical habitat areas being located over 17 miles to the north between Los Angeles Harbor and Palo Verdes/Torrance border and over 27 miles southwest on Santa Catalina Island (Federal Register 2011). No black abalone have been reported during the dive transect surveys or trawl surveys conducted offshore the HBGS (MBC 2015; R. Moore 2017). The absence of rocky habitat or upstream kelp bed habitat suitable for black abalone, the large distance to any designated critical habitat, population densities sufficient to support successful reproduction, as well as the short larval stage and limited dispersal range of larvae suggest that the proposed diffuser system for the desalination facility has low potential to affect black abalone and would not be expected to have a substantial adverse effect on the species, nor cause a reduction in black abalone populations to below self-sustaining levels. Green Abalone Green abalone was released from harvest pressure by a California State fishery moratorium in 1997 and it was later classified as a NOAA NMFS Species of Concern in 2004 due to severe declines in abundance throughout southern California (Cucenthal et al. 2014). To address the declining population of abalone in California, CDFW created the Abalone Recovery and Management Plan in 2005 and updated it in 2011. As part of the restoration efforts for green abalone, a stock enhancement program is underway to determine suitable rocky intertidal and kelp forest habitat in Orange County for establishing minimum viable populations of the species (Orange County Coast Keeper 2017). These stock replenishment efforts are focused on the Laguna Beach and Santa Monica Bay coastlines where kelp bed and rocky reef habitat is common. The lack of suitable adult habitat, the short planktonic larval stage, and limited dispersion of green abalone larvae suggest that there is a low probability that larvae would be transported to the diffuser site. Therefore, the proposed HBDP diffuser

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					has low potential to impact green abalone and would not be expected to result in substantial adverse effects on the species, nor cause the green abalone population to drop below self-sustaining levels. Tidewater Goby In 2014 the U.S. Fish and Wildlife Service (USFWS) reclassified the Tidewater Goby as threatened instead of endangered under the federal Endangered Species Act of 1973 based on the following reasons: 1. The number of localities known to be occupied has nearly tripled since listing (from 43 to 114). 2. The increase in occupied localities indicates that the Tidewater Goby is more resilient in the face of severe drought events than believed at the time of listing. 3. Threats identified at the time of listing have been reduced or are not as serious as previously thought. Threats appeared more pervasive due to the severe drought from 1987 to 1992. 4. Sea level rise poses a substantial threat to the species that, while not an imminent threat, is likely to lead to the species becoming endangered in the foreseeable future. Tidewater Goby inhabits lagoons, estuaries, backwater marshes, and freshwater tributaries to estuarine environments that closely correspond to major stream drainages (Love 2011). Substantial stretches of the California coastline are naturally devoid of Tidewater Gobies (Federal Register 2014). This includes a contiguous stretch of coast between the Santa Monica Bay and San Mateo Creek. The proposed HBDP diffuser lies within the bounds of this area naturally devoid of Tidewater Gobies at the northern end of the South Coast regional phylogenetic unit (Federal Register 2011). The nearest Tidewater Goby occurrences listed on CNDDB are all downcurrent of the proposed diffuser location, in streams and rivers over 15 miles away (see Figure 3). Phylogenetic units were defined as a result of genetic analyses demonstrating sufficient differences between the units to warrant classification. This further supports a conclusion of very limited genetic flow between the regional units. The proposed HBDP diffuser resides in a stretch of California coastline where Tidewater Goby is naturally absent. No Tidewater Goby have been recorded during surveys offshore and within the HBGS including plankton (MBC and Tenera 2015), impingement (MBC 2015), trawl, and diver transect (MBC 2016). As a result, there is a low likelihood that larvae of the species would be present within the HBDP discharge areas, and shear related entrainment for the proposed HBDP diffuser is not expected to have a substantial adverse effect on the Tidewater Goby, nor would any effects from the diffuser result in populations of the Tidewater Goby to drop below a self-sustaining level. Based on this analysis, impacts on special-status species resulting from diffuser entrainment would be less than significant. Suggest deleting footnote 27, as it relates to "full compensation" presumably referencing a

AP1-67 cont.

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					permitting standard unrelated to CEQA requirements. Also, it suggests that feasible mitigation is available and is not being applied. However in this case, sufficient evidence is available to support a finding of less than significant impact, with no need for mitigation. Moreover, as noted in the Raimondi memo, collection of data to calculate a species-specific APF for special-status species is problematic – as noted for black abalone, whose larvae are too small to be captured using the acceptable protocols for calculating ETM/APF.	AP1-67 cont.
52.	4.1.4.2 Operation Impacts	4-60	Second paragraph (lines 11-14)	The DSEIR states: "However, the rationale for determining impact significance as presented in the 2010 FSEIR for the intake applies to the proposed diffuser because the receiving waters (i.e., affected marine populations) are the same." This statement is confusing, given that the Draft SEIR concludes that discharge impacts are significant and unavoidable. If affected marine populations are the same for intake or discharge, then potential impacts to special-status species should be consistent as well.	Recommend clarifying that intake and discharge impacts will be less than significant based on the lack of special-status species in the receiving waters, as described in Comment No. 51, above.	AP1-68
53.	4.1.4.2 Operation Impacts	4-61	Chart under APF for Co-located and Stand-Alone Operation	The total estimated APF for co-located operation is 22.81 acres. In addition, Footnote 29 states that the 22.81 total was estimated using "23.46 acres times (175 MGD/180 MGD), assuming 23 percent of the entrained water is subjected to lethal shear and based on the relationship between APF values and entrainment volumes that were calculated directly for standalone operations from MBC 2016 (prepared for Poseidon)."	However, the MBC 2016 reference calculated only shear-related APF, which was 23.43, not 23.46. Since the APF for co-located operation is based proportionally on the MBC 2016 reference, the APF should be 22.78, not 22.81.	AP1-69
54.	4.1.4.2 Operation Impacts	4-61	Chart under APF for Co-located and Stand-Alone Operation	The total estimated APF for stand-alone operations is 21.5 acres. In addition, Footnote 30 states that the 21.5 total was based on the "equation relating APF to entrained volume of water: (17.003 acres APF/106 MGD = X acres APF/134 MGD). APF of 17 acres related to 106 MGD (see Tenera 2015, prepared for Poseidon)."	The total estimated APF for stand-alone operations should be 21.36 acres when calculated using the correct intake impact of 16.9 acres, as described in the Tenera 2015 report. The calculation in Footnote 30 should be updated to reflect this correction.	AP1-70
55.	4.1.4.2 Operation Impacts	4-62	MM O&WQ/MB-7	MM O&WQ/MB-7 states: "If the APF is designed to be less, the DOMLMP will still provide 22.81 acres of restoration. If no co-located operations occur . . . , the amount of restoration acreage may be reduced to 21.5 acres but no less."	Recommend clarifying the calculation in the Final SEIR in a footnote or otherwise.	AP1-71
56.	4.1.4.2 Operation Impacts	4-63	Paragraph under Residual Impacts	The DSEIR states: "Given the poorly understood ecological implications of the proposed diffuser's potential entrainment of special-status species larvae, the impact would remain significant and unavoidable."	Recommend clarifying that intake and discharge impacts will be less than significant based on the lack of special-status species in the receiving waters, as described in Comment No. 51, above.	AP1-72
57.	4.1.5 Cumulative IMpacts	4-64	Lines 11-12	The DSEIR states that construction of the Lease Modification Project could be a "substantial contribution to" cumulative marine mammal disturbance impacts due to pile driving.	Suggest revising language to reflect the revisions to MM O&WQ/MB-3a and the revised impact conclusion that pile driving impacts would be less than significant. With these revisions, Poseidon anticipates that the Lease Modification Project would have a less than significant cumulative impact on marine mammals due to pile driving, particularly given the DSEIR's statement that no other local projects would involve offshore construction.	AP1-73
58.	4.1.5 Cumulative Impacts	4-64	Second paragraph (lines 10-14)	The Cumulative Impacts analysis for Ocean Water Quality and Marine Biological Resources does not provide separate impact conclusions for the various impacts discussed in the chapter.	Please revise to include specific impact conclusions for each potential cumulative impact.	AP1-74

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4.2 Aesthetics/Light and Glare						
59.	4.2.1.1 Existing Setting	4-67	First Paragraph (lines 1-13)	In the "Existing Setting" discussion, the DSEIR analyzes potential impacts to visual quality associated with offshore construction equipment and activities.	Suggest moving this discussion to the Environmental Impact Analysis for the Lease Modification Project.	AP1-75
60.	4.2.4 Environmental Impact Analysis and Mitigation	4-74	Whole page	The Impact Discussion for Impact ALG-1 (Visual Impacts from Offshore Construction Activities) evaluates visual impacts to Huntington State Beach only. However, Table 4.2-2 (Critical Public Views Near Lease Modification Project) indicates that there are two other views to consider – Magnolia Marsh and Huntington City Beach/Huntington Municipal Pier.	Suggest adding additional detail to the impact discussion to also address Magnolia Marsh and Huntington City Beach/Municipal Pier views.	AP1-76
61.	4.2.4 Environmental Impact Analysis and Mitigation	4-74	Whole page	The Impact Discussion for Impact ALG-1 (Visual Impacts from Offshore Construction Activities) does not evaluate impacts on the Huntington-By-The-Sea Mobile Home Park, which is adjacent to the HBGS.	Suggest adding additional detail to the impact discussion to also address the mobile home park views.	AP1-77
62.	4.2.4 Environmental Impact Analysis and Mitigation	4-75	First Paragraph (lines 9-12)	The DSEIR states: "Project construction would occur only during daylight hours. Although boats are features of the existing visual environment, nautical safety and security lights are required on the barge(s) that are moored overnight at the offshore construction site for the duration of construction."	Does this mean: (a) that boats will be moored overnight, and (b) if yes, those boats will be shining lights overnight? Suggest providing clarification in the Final SEIR.	AP1-78
63.	4.2.4 Environmental Impact Analysis and Mitigation	4-75	2010 MM ALG-2	The DSEIR states that this measure could be adopted to apply to offshore installation of the wedgewire screens and diffuser, but doesn't explain how.	Suggest explaining how 2010 MM ALG-2 could be adapted. Is MM ALG-2a the adopted 2010 MM ALG-2 referred to in the DSEIR? Suggest adding clarifying language in the Final SEIR.	AP1-79
64.	4.2.4 Environmental Impact Analysis and Mitigation	4-75	MM ALG-2a	"The applicant shall add an addendum to the Huntington Beach Desalination Plant lighting plan to specify that outdoor light intensity on construction barges anchored or moored overnight at the offshore Lease Modification Project site shall be limited to nautical lights necessary for vessel safety and that barge security lighting shall be shielded where feasible or directed downwards."	Recommend deleting "where feasible" from this measure.	AP1-80
65.	4.2.5 Cumulative Impacts	4-76	Second Paragraph (line 8)	The DSEIR states: "Due to its offshore location of the Lease Modification Project. . ."	Suggest revising as follows: "Due to ~~its~~ the offshore location of the Lease Modification Project . . ."	AP1-81
4.3 Air Quality						
66.	4.3.3.2 Analysis Methodology	4-80	Second Paragraph (lines 10-15)	The DSEIR states that emissions were calculated using CalEEMod Version 2012.3.2.2.	The AQ/GHG emissions were actually run in CalEEMod version 2016.3.1, which is the most recent version and is shown in the model outputs in the appendix to the SEIR. Revise erroneous reference in the SEIR.	AP1-82
67.	4.3.4 Environmental	4-85	MM CON-14a	"Poseidon shall add an addendum to the Huntington Beach Desalination Plant 'Diesel Fuel Reduction Plan' . . . to identify the actions to be taken to reduce diesel	Poseidon has consulted with its marine contractor and has confirmed that Tier 2 equipment is available for derrick barges, barge auxiliary equipment, tug boats, and small	AP1-83

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	Impact Analysis and Mitigation			fuel emissions during offshore construction activities. The addendum, which shall be submitted to the California State Lands Commission staff for review and approval, shall include at a minimum the following measures related to the use of diesel powered equipment: • Use diesel powered equipment meeting Tier 2 or higher emissions standards to the maximum extent feasible • Use portable construction equipment registered with the State's portable equipment registration program • Use low sulfur diesel fuel and minimize idle time • Ensure all heavy duty diesel powered vehicles comply with state and federal standards applicable at time of purchase • Use diesel oxidation catalyst and catalyzed diesel particulate filters or other approved emission reduction retrofit devices installed on applicable construction equipment used during individual projects"	service boats. Therefore, Poseidon can commit to using Tier 2 barges, tug boats, small service boats. Based on this information, we suggest revising MM CON-14a as follows: "**MM CON-14a: Diesel Fuel Reduction Plan (Offshore Waters).** Poseidon shall add an addendum to the Huntington Beach Desalination Plant "Diesel Fuel Reduction Plan" (included as a condition in Lease PRC 1980.1) to identify the actions to be taken to reduce diesel fuel emissions during offshore construction activities. The addendum, which shall be submitted to California State Lands Commission staff for review and approval, shall include at a minimum the following measures related to use of diesel powered equipment: • Use diesel powered equipment meeting Tier 2 or higher emissions standards ~~to the maximum extent feasible~~ for derrick barges, barge auxiliary equipment, tug boats, and small service boats. • Use portable construction equipment registered with the State's portable equipment registration program, if applicable • Use low sulfur diesel fuel and minimize idle time • Ensure all heavy duty diesel powered vehicles comply with state and federal standards applicable at time of purchase • Use diesel oxidation catalyst and catalyzed diesel particulate filters or other approved emission reduction retrofit devices installed on applicable construction equipment used during individual projects" We note that the Draft SEIR's emissions estimates did not assume the use of Tier 2 equipment; therefore, Poseidon's commitment to use Tier 2 equipment will reduce emissions below the level analyzed and disclosed in the Draft SEIR.
68.	4.3.4 Environmental Impact Analysis and Mitigation	4-85	MM CON-14b	"Prior to construction, Poseidon shall submit to California State Lands Commission staff an Internal Combustion Engine Emissions Reduction Plan that contains, at a minimum the following measures: • Where feasible, use equipment powered by sources that have lowest emissions, or powered by electricity • Use equipment with smallest engine size capable of completing project goals to reduce overall emissions • Minimize idling time and unnecessary operation of internal combustion engine powered equipment"	Poseidon has conducted a survey of available engines and has determined that electricity-powered engines or engines with higher efficiency than those proposed are not commercially available at this time. If such equipment becomes commercially available, Poseidon will commit to using such equipment for any remaining construction. Based on this information, we suggest revising MM-CON 14b as follows: "MM CON-14b Internal Combustion Engine Emissions Reduction Plan (Offshore Waters). Prior to construction, Poseidon shall submit to California State Lands Commission staff an Internal Combustion Engine Emissions Reduction Plan ("Plan") that contains, at a minimum the following measures: • ~~Where feasible, u~~Use equipment powered by sources that have lowest emissions commercially-available at the time of construction, or, equipment powered by electricity if such equipment is commercially available at the time of construction. At least 120 days prior to the start of construction, Poseidon shall submit the proposed Plan, which shall set forth information on major internal combustion engines planned to be used within the area subject to the lease, in offshore waters or which are not otherwise subject to review by City staff, including information on the entities which own the equipment containing the engines, and information on competing or alternative sources

AP1-83 cont.

AP1-84

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					of such equipment. • Use equipment with smallest engine size commercially available and capable of completing project goals to reduce overall emissions and to work within the reduced construction schedule in accordance with the Sensitive Marine Species Monitoring and Mitigation and BMP Implementation Plan. • Minimize idling time and unnecessary operation of internal combustion engine powered equipment. The proposed Plan shall include proposed equipment operational measures Poseidon will use to minimize idling time and unnecessary operation."	AP1-84 cont.
4.4 Cultural Resources						
69.	4.4.4 Environmental Impact Analysis and Mitigation	4-96	First Paragraph (lines 16-18)	The DSEIR states that "all ground disturbing activities that extend more than 3 feet below the ground surface . . . have the potential to cause adverse direct and indirect impacts to presently unidentified cultural resources." "Therefore, construction activities involving offshore soil disturbance 3 feet below the ground surface would have the potential to directly or indirectly affect presently unidentified cultural resources."	Suggest revising conclusion to read: "Therefore, construction activities involving offshore soil disturbance 3 feet or more below the ground surface would have the potential to directly or indirectly affect presently unidentified cultural resources." Also, suggest explaining why 3 feet is the trigger.	AP1-85
4.5 Cultural Resources – Tribal						
70.	4.5.4	4-108	Second paragraph (lines 6-8)	The SEIR discusses the potential to directly or indirectly affect presently unidentified cultural resources. This discussion could benefit from additional detail clarifying that there are no known Tribal cultural resources at the offshore construction site or its nearby vicinity.	Consider adding the following language (copied from another part of this section) to state: "Therefore, construction activities involving offshore soil disturbance . . . affect presently unidentified cultural resources, though this is not anticipated since there are no known Tribal cultural resources at the offshore construction site or its nearby vicinity."	AP1-86
71.	4.5.5	4-110	Last paragraph (lines 38-40)	The phrase "would not" is repeated twice.	Delete second "would not."	AP1-87
4.6. Greenhouse Gas Emissions						
72.	4.6.1.3 Environmental Setting – State	4-115	N/A	The SEIR could benefit from a discussion of the positive role that desalination can fill in response to a changing climate.	Suggest referring to state policy documents discussing desalination and climate change, as discussed below. For example, see *Safeguarding California: Reducing Climate Risk – An update to the 2009 California Climate Adaptation Strategy*, California Natural Resources Agency, at 233-234 (July 2014) ("Droughts are also expected to increase in frequency, duration, and intensity, and drought affects all sectors - impacting public health, biodiversity, agriculture, and the economy. . . . To mitigate potential shortages during drought, a variety of measures may be utilized. State, regional and local agencies have increasingly been pursuing a strategy of making regions more self-reliant by developing new or underused water resources locally; improving water storage capacity may be another important strategy for preparing for drought risks. For instance, new or underused water resources may come from including: improved water conservation and water use efficiency, expanded water recycling, improved stormwater management, conjunctive use	AP1-88

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					(coordinated management of local surface and groundwater), **desalination**, and groundwater remediation."(emphasis added). The *Safeguarding California* Plan also identifies "Actions Needed to Prepare for Climate Risks to California Water Resources." One of those actions is "Diversify Local Supplies and Increase Water Use Efficiency," which provides: "Increasing regional self-reliance and diversification of local water supplies will enable Californians to better respond to changing economic and climactic conditions while ensuring a reliable water supply for the diversity of the state's water needs. California's water agencies utilize a variety of water management measures to improve local water supply reliability. These measures include agricultural and urban water use efficiency, local storage, conjunctive use, increasing stormwater capture and infiltration, recycled water, and **ocean and brackish water desalination**." *Id.* at 247 (emphasis added). One recommendation to achieve this action is "Develop a coordinated streamlined permitting process for desalination projects that provides strong environmental protection." *Id.* at 249. Another action is "Prepare California for better and dryer conditions and improve water storage capacity." which provides "[A] variety of measures may be utilized to mitigate potential shortages during drought, including minimizing reliance on imported water, improved water conservation and water use efficiency, expanded water recycling, improved stormwater management, **desalination**, groundwater remediation, conjunctive use, firming up existing water transfer agreements, and entering into spot transfer or short-term water transfer agreements." *Id.* (emphasis added).	AP1-88 cont.
73.	4.6.1.1 Environmental Setting – Introduction	4-115	First two lines of page	The DSEIR briefly mentions CARB 2017's 2050 target in footnote 33, but does not discuss Executive Order S-03-05 or Executive Order B-30-15.	Suggest adding a discussion of how the desalination plant furthers Executive Orders S-03-05 B-30-15 and the 2030 and 2050 targets, as discussed below. "**Statewide efforts are underway to facilitate the State's achievement of its 2030 and 2050 GHG reduction goals and it is reasonable to expect the proposed Project's emissions level to decline as the regulatory initiatives identified by CARB in the First Update are implemented, and other technological innovations occur. The direct and indirect GHG emissions, including those added by the new modifications, would be offset through design features implemented through APM-7. As such, given the reasonably anticipated decline in emissions once the HB Desalination Plant and modifications are fully constructed and operational, the proposed Project is consistent with the Executive Orders' goals and the 2030 and 2050 targets.**"	AP1-89
74.	4.6.4 Environmental Impact Analysis and Mitigation	4-120	Last paragraph (lines 22-23)	The DSEIR states: "As in the 2010 FSEIR analysis, all emissions, both from the 2010 Project and the Lease Modification Project, will be covered within the GHG Plan . . ." As written, this sentence suggests that the 2010 FSEIR contemplated the Lease	For clarity, suggest revising the sentence to remove the first clause: "All emissions, both from the 2010 Project and the Lease Modification Project, will be covered within the GHG Plan . . ."	AP1-90

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				Modification Project.		AP1-90 cont.
75.	4.6.4 Environmental Impact Analysis and Mitigation	4-121	Paragraph under Impact Discussion	The DSEIR states: "As identified in the 2010 FSEIR, the direct and indirect GHG emissions, including those added by the new modifications, would be offset through the design features set forth in a GHG Plan developed by Poseidon to be implemented through APM-7." As written, this sentence suggests that the 2010 FSEIR contemplated the Lease Modification Project.	For clarity, suggest revising the sentence to remove the first clause: "The direct and indirect GHG emissions, including those added by the new modifications, would be offset through the design features set forth in a GHG Plan developed by Poseidon to be implemented through APM-7."	AP1-91
76.	4.6.5 Cumulative Impacts	4-122	First Paragraph (lines 7-10)	The DSEIR states: "As stated in the 2010 FSEIR, this approach ensures that the Lease Modification Project would entirely offset the Project's contribution to the cumulative effects of GHG emissions, and the Project's effects relative to GHG emissions are not cumulatively considerable." As written, this sentence suggests that the 2010 FSEIR contemplated the Lease Modification Project.	For clarity, suggest revising the sentence to remove the first clause: "This approach ensures . . ." Also suggest revising to make the clause "and the Project's effects relative to GHG emissions are not cumulatively considerable" its own sentence: "Thus the Project's effects relative to GHG emissions are not cumulatively considerable."	AP1-92
77.	4.6.6	4-122	Table 4.6-2 (Impact and MM/APM Summary)	GHG-2 is labeled "Conflict with an applicable plan . . ." but GHG-2 as labeled on the prior page is "Consistency with an applicable plan . . ."	Revise GHG-2 in the table to read "Consistency with an applicable plan . . ."	AP1-93
4.7. Hazards and Hazardous Materials						
78.	4.7.4	4-128	Second to last paragraph (line 32)	The DSEIR states that impacts from accidental release during construction "would" be significant in the event of poor weather conditions. This wording makes it seem as if all poor weather conditions lead to accidental spills.	Suggest changing "would" to "could."	AP1-94
4.8 Noise and Vibration						
79.	4.8.1.3	4-134	Last paragraph (line 10)	The term "different" is misspelled "difference."	Correct spelling to different.	AP1-95
80.	4.8.1.5	4-138	Second paragraph (lines 15-18)	The description of noise in shallow water marine environment does not include noise from nearby vehicular traffic.	Recommend adding a footnote that vehicular noise will be located at such a distance from the offshore activities that it will not be audible and is therefore not considered.	AP1-96
81.	4.8.4	4-142	Second paragraph (lines 11-12)	The reasons for concluding that there is no significant construction noise impact does not reiterate the conclusion from the prior paragraph that noise levels would be below the significance threshold.	Consider adding another clause as follows: "such as mufflers on construction equipment, would be below the significance threshold, and would cease . . .".	AP1-97
82.	4.8.5	4-144	Second-to-last paragraph (lines 19-24)	The discussion regarding cumulative impacts from construction noise could benefit from the addition of a clear conclusion.	Consider modifying the sentence beginning with "Thus" on line 19 as follows: "Thus, onshore construction noise impacts would not readily combine with impacts from offshore construction associated with the Lease Modification Project, so there will be no	AP1-98

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					cumulatively considerable noise impacts from construction activities."	AP1-98 cont.
4.9. Recreation						
83.	4.9.6	4-151	Table 4.9-1	No significant impacts associated "with" recreation is incorrectly delineated as "to" recreation, which is inconsistent with other Impact and MM summaries.	Change the word "to" to "with."	AP1-99
4.10. Transportation (Marine)						
84.	4.10.4	4-154	Line 33	Tugboat is misspelled tug boat.	Correct spelling to tugboat.	AP1-100
85.	4.10.4	4-155	First full paragraph (lines 3-10)	The discussion of additional vessels for construction on traffic (separate from traffic safety) would benefit from an explicit conclusion statement.	Consider adding a sentence at the end, on line 10, stating that: "Therefore, the vessel traffic offshore would not result in a significant impact on boat traffic."	AP1-101
86.	4.10.4	4-155	Third full paragraph (lines 31-32)	The final sentence in the discussion of vessel safety would benefit from a reference to the requirement that Local Notice to Mariners be issued.	Considering adding language at the end of the final sentence stating: "which would be avoided by publication of a Local Notice to Mariners."	AP1-102
87.	4.10.4	4-156	Second paragraph (line 9)	The term manual cleaning is misspelled "manually cleaning."	Correct spelling to manual.	AP1-103
5. Alternatives						
88.	5.4.1.2 No Project Alternative – Environmental Impact Analysis	5-13	Whole section (lines 2-16)	The Environmental Impact Analysis for the No Project Alternative would benefit from a more explicit conclusion section.	Could be amplified to explain why the No Project Alternative is not feasible or acceptable, as discussed below. In addition, consider citing the Project Objectives. Following the last paragraph of the section, consider adding a sentence stating: "Because the No Project Alternative would violate the requirements of the Desalination Amendment, increase impacts to marine biological resources and ocean water quality from salinity, and not reduce construction impacts to less than significant levels, the No Project Alternative was determined to be unacceptable. In addition, the No Project Alternative would not further the objectives of the HB Desalination Plant (Section 2.2, *Project Objectives*)."	AP1-104
89.	5.4.2.2 Rotating Brush-Cleaned, Stainless Steel Wedgewire Screens Alternative – Environmental	5-15	Whole Section (lines 2-11)	The Environmental Impact Analysis suggests this alternative should be selected because it would: (a) eliminate the subsurface disturbance from anchors and vessel traffic, (b) slightly reduce marine biological resource impacts and air quality emissions, and (c) eliminate the significant and unavoidable impact to water quality that would occur with copper screens. However, this discussion does not include information about the challenges associated with rotating brushes, such as their maintenance requirements.	Suggest adding a discussion of the challenges of rotating brushes. As described in the letter submitted concurrently with these comments, Acciona will be the technology provider and plant operator for the HBDP, and was asked to provide their opinion on the practicality and risk associated with using a mechanical brushed screening system for this specific intake application, being located relatively far offshore, and in seawater. Acciona's opinion is that mechanically operated systems such as is addressed in the alternative present operational challenges, primarily related to the ability to access and maintain the system if problems develop. Moreover, Acciona expresses concerns over	AP1-105

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	Impact Analysis				risks associated with application of the technology on the scale that is proposed, and in salt water conditions. Arcadia further believes that maintenance activities/trips would be comparable with rotating screens and with fixed screens. For example, quarterly dive trips would be required to inspect screens and manually scrape unbrushed external screen surfaces as needed. Anchoring of dive boat would be required. For these reasons, the rotating brush alternative would not offer impact reductions related to maintenance activities.	AP1-105 cont.
90.	5.4.3.2 Six-Port Diffuser Alternative – Environmental Impact Analysis	5-16	First paragraph of page (line 2)	The DSEIR concludes that differ-related entrainment mortality would likely be less under this alternative in comparison to the proposed Lease Modification Project, but does not explain how SLC reaches this conclusion.	Consider adding clarifying edits in Final SEIR.	AP1-106
91.	5.4.3.2 Six-Port Diffuser Alternative – Environmental Impact Analysis	5-16	Third paragraph (lines 11-13)	The DSEIR states: "In stand-alone operations, with all six ports open, the maximum jet velocity would be approximately 1.79 ft/s and regulatory compliance for salinity would be achieved within 98 meters."	At this jet velocity, it is not clear that the six-port diffuser would truly operate a diffuser. A diffuser is intentionally designed to eject effluent at high velocity to induce turbulence which results in rapid dilution and dispersion.	AP1-107
92.	5.4.3.2 Six-Port Diffuser Alternative – Environmental Impact Analysis	5-16	Last paragraph of page (lines 27-32)	The DSEIR states: "[D]iffuser-related entrainment would likely be less under both co-located and stand-alone operations." but does not explain how SLC reaches this conclusion.	Consider adding clarifying edits in Final SEIR.	AP1-108
93.	5.4.3.2 Six-Port Diffuser Alternative – Environmental Impact Analysis	5-15 to 5-16	Whole Section	The discussion of this alternative could benefit from a more explicit conclusion section.	Could be amplified to explain why this alternative is not feasible or acceptable. Following the last paragraph of the section, consider adding: "In addition, it is not clear that under co-located operations the six-port diffuser would truly operate as a diffuser. A diffuser is intentionally designed to eject effluent at high velocity to induce turbulence which results in rapid dilution and dispersion."	AP1-109
6. Other Required CEQA Sections and Environmentally Superior Alternative						
94.	6.1 Significant Environmental Effects that Cannot Be Avoided	6-2	Second paragraph (line 20)	The DSEIR states "diffuser operations. ."	Fix typographical error – remove second period.	AP1-110

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95.	6.2 Significant Irreversible Environmental Changes Caused By Proposed Action If Implemented	6-3	Lines 26-29	The DSEIR states that the Lease Modification would "continue the trend of reliance on non-renewable fossil fuel consumption through the Project's association with the desalination facility and the facility's related local and larger scale environmental impacts, such as climate change as discussed in Section 4.12 (Climate Change) of the 2010 FSEIR." However, the DSEIR does not acknowledge that (1) the DSEIR finds that the GHG emissions related to the modifications described as the "Lease Modification Project" will be less than significant; (2) the 2010 FSEIR finds that the GHG emissions associated with the entire HB Desalination Plant will be less than significant; and (3) Poseidon has committed to offset all indirect and direct emissions such that the HB Desalination Plant will not have any net impacts on GHG emissions or climate change.	Suggest revising language as follows: "Although tThe Lease Modification Project would use ~~continue the trend of reliance on~~ non-renewable fossil fuel ~~consumption through the Project's association with the desalination facility and the facility's related local and larger scale environmental impacts, such as as~~ the HB Desalination Plant would offset all direct and indirect emissions and therefore would have no adverse effect on climate change as discussed in Section 4.12 (Climate Change) of the 2010 FSEIR and Section 4.6 of this SEIR."	AP1-111
96.	6.5 Comparison of Proposed Action and Alternatives and Environmentally Superior Alternative	6-6	Table 6-2	The DSEIR states that the "Rotating Brush-Cleaned, Stainless Steel Screens" alternative involves "Less maintenance for rotating screens (reduces or eliminates need for boat trips/anchoring) but potential for more biofouling for stainless steel than copper."	Please refer to Comment No. 90, above, explaining that the rotating brush alternative will not result in less maintenance than a stationary stainless steel screen. Consider clarifying edits in Final SEIR addressing the maintenance requirements and referring to proposed APM-8, concerning stainless steel screens.	AP1-112
97.	6.5 Comparison of Proposed Action and Alternatives and Environmentally Superior Alternative	6-7	Table 6-2	The DSEIR states, for the "Six-Port Diffuser" alternative's intake and discharge entrainment impacts for co-located operations, that "Additional ports provide small reduction in discharge entrainment mortality compared to Lease Modification Project." However, the discussion does not explain why SLC reaches this conclusion.	Consider clarifying edits in Final SEIR.	AP1-113
98.	6.5 Comparison of Proposed Action and Alternatives and Environmentally Superior Alternative	6-6, 6-10	Second paragraph of p. 6-6 (lines 8-14)	The conclusion regarding alternatives is placed after many tables and is hard for the reader to locate in the text.	Suggest moving alternatives conclusion from p. 6-10 to p. 6-6 and placing the conclusion above Table 6-2. In addition, suggest adding a prose discussion of why the CSLC reached that conclusion regarding the Environmentally Superior Alternative, instead of relying solely on the tables/charts for the reader to ascertain the CSLC's reasoning.	AP1-114
7. Mitigation Monitoring Program						
99.	7.3	7-2	Second paragraph (lines 11-12)	There appears to be either a typo, "success 11 criteria."	Correct the misspelling by removing the stray "11."	AP1-115

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100.	7.5	7-3	Entire section (lines 6-24)	The overview of the Mitigation Monitoring Table is not sufficiently detailed to allow the reader to understand the relationship between Table 7-1 and the tables at the end of the impact discussion in Section 4. For example, it is unclear whether every mitigation measure mentioned in Section 4 is also intended to be included in the Mitigation Monitoring Table.	Consider elaborating on the structure of the table, and explaining when 2010 FSEIR mitigation measures were deemed applicable (if this is correct). Also, if there are inconsistencies with the charts in section 4, please ensure consistency across all sections and mitigation measures.	AP1-116
101.	Table 7-1	7-4 – 7-32	Entire table	It is difficult to distinguish between 2010 FSEIR measures that were modified and 2010 FSEIR measures that were unmodified but applicable.	Consider delineating more clearly in the chart whether the 2010 FSEIR mitigation measures are modified or unmodified. For example, when a 2010 FSEIR measure is unmodified the heading could read: "From 2010 FSEIR – Unmodified." When a 2010 FSEIR measure has been modified, the heading could read: "From 2010 FSEIR – Modified."	AP1-117
102.	Table 7-1	7-4 – 7-32	Entire Table - Column: Responsible Entity	It is unclear why CSLC is listed as the responsible agency for all mitigation measures, including unmodified mitigations measures from the 2010 FSEIR.	Consider either explaining in Section 7.5 why CSLC is the responsible agency for all mitigation measures, or correct the Responsible Entity column to accurately reflect the agency that will be monitoring compliance.	AP1-118
103.	Table 7-1	7-16 – 7-17	Section 4.1 - Bottom two rows on 7-16 and top two rows on 7-17	The chart repeats APM-1 and APM-2.	Delete repeat of APM-1 and APM-2.	AP1-119
104.	Table 7-1	7-18	Section 4.1 – Bottom row	MM OWQMB-7 is not delineated as new to the SEIR.	Add underlined heading that MM OWQMB-7 is new to this Supplemental EIR for consistency.	AP1-120
105.	Table 7-1	7-20	Section 4.2 – Top row	Table 7-1 includes MM ALG-2: Lighting Plan as a mitigation measure for Impact ALG-2. This is inconsistent with Table 4.2-3 on p. 4-76, which only shows MM ALG-2a as being an applicable mitigation measure for this impact.	Consider updating Table 4.2-3 to reflect that MM ALG-2 is also applicable (see, e.g., Table 4.3-3, showing 2010 Mitigation Measures are applicable to Lease Modification Project-identified impacts).	AP1-121
106.	Table 7-1	7-21 – 7-22	Section 4.3 – Bottom rows	MM CON/MB-14a and MM CON/MB-14 are not delineated as new to the SEIR or from the 2010 FSEIR.	Add underlined headings for consistency.	AP1-122
107.	Table 7-1	7-22	Section 4.4	Table 7-1 excludes Impact CUL-1 and the associated mitigation measure APM-6, pursuant to Table 4.4-1 on p. 4-100..	Update to reflect CUL-1 and APM-6.	AP1-123
108.	Table 7-1	7-25 – 7-26	Section 4.4 – Bottom row p. 7-25 and top row p. 7-26	Table 7-1 includes MM CON-50 and MM CON-51 as mitigation measures for Impact CUL-3. This is inconsistent with Table 4.4-1 on p. 4-100, which does not show these as mitigation measures for this impact.	Consider updating Table 4.4-1 to reflect that MM CON-50 and MM CON-51 are applicable (see, e.g., Table 4.3-3, showing 2010 Mitigation Measures are applicable to Lease Modification Project-identified impacts).	AP1-124
109.	Table 7-1	7-26	Section 4.4 – Middle row	Table 7-1 includes MM CON-51 as a mitigation measure for Impact CUL-4. This is inconsistent with Table 4.4-1 on p. 4-100, which does not show this as a mitigation measure for this impact.	Consider updating Table 4.4-1 to reflect that MM CON-51 is applicable (see, e.g., Table 4.3-3, showing 2010 Mitigation Measures are applicable to Lease Modification Project-identified impacts).	AP1-125
110.	Table 7-1	7-27 – 7-28	Section 4.5 –	Table 7-1 includes MM CON-52 as a mitigation measure for Impact TCR-2. This	Consider updating Table 4.5-1 to reflect that MM CON-52 is applicable (see, e.g., Table	AP1-126

COMMENT SET AP1: POSEIDON (cont.)

Seawater Desalination Project at Huntington Beach: Outfall/Intake Modifications & General Lease – Industrial Use Amendment
Draft Supplemental Environmental Impact Report Review Matrix

Privileged and Confidential

Comment #	Section Name	Page #	Paragraph or Table #	Issue	Suggested Resolution	
			Top two rows	is inconsistent with Table 4.5-1 on p. 4-11, which does not show this as a mitigation measure for this impact.	4.3-3, showing 2010 Mitigation Measures are applicable to Lease Modification Project-identified impacts).	AP1-126 cont.
111.	Table 7-1	7-34	Above section 4.10	Table 7-1 excludes Section 4.9 on Recreation, pursuant to Table 4.9-1 on p. 4-151.	Consider adding REC-1 and MM TRM-1 pursuant to Table 4.9-1.	AP1-127
8. Other Commission Considerations						
None.						
9. Report Preparation and Preference						
112.	9.2	9-1	Lines 12-23	There is no indication whether the resumes for all consultants have been provided.	Provide resumes or a reference to where the resumes may be found.	AP1-128

COMMENT SET AP1: POSEIDON (cont.)

AP1-129

Exhibit B

COMMENT SET AP1: POSEIDON (cont.)

AP1-129 cont.

June 22, 2017

Attention:

Mr. Scott Maloni

Poseidon Water LLC

5780 Fleet Street, Suite 140

Carlsbad, CA 92008

Mr. Maloni

As part of Acciona's role as the technology provider and Plant Operator for Poseidon's proposed desalination plant in Huntington Beach, we would like to provide comments on the Draft Supplemental Environmental Impact Report (SEIR) for the Seawater Desalination Project at Huntington Beach: Outfall/Intake Modification & General Lease – Industrial Use (PRC 1980.1) Amendment. Specifically, we would like to express our concerns with the conclusion reached in the Section 6 of the SEIR which stated that the "Rotating Brush-Cleaned Stainless Steel Wedgewire Screens Alternative is the Environmentally Superior Alternative". It is our understanding that this conclusion was reached based on the assumption that by incorporating the rotating screen option, a high-grade stainless steel material could be used in lieu of a copper-nickel and that the rotating screen fitted with external and internal brushes would significantly reduce the number of required maintenance work offshore resulting in less subsurface disturbance from anchor installation and occasional vessel traffic

As you are aware, Acciona operates a number of seawater desalination plants around the world and has experience in using wedgewire screens for seawater intake for the plants. All of the wedgewire screen systems that we have operated are fixed systems – non rotating. While the rotating screen approach has the potential to reduce the amount of cleaning required to address biofouling, we do not believe that the evaluation of the rotating screens in the SEIR adequately addressed the issue of reliability. It has been Acciona's experience that mechanical systems placed in seawater presents challenging operating conditions. In the case of the proposed intake system that will be nearly 550 m offshore, Acciona would be reluctant to recommend a system that requires electrical or hydraulic motors to rotate a screen without extensive reference data to demonstrate that rotating screens have been in service under similar applications (seawater, offshore, physical size of the screens). Acciona has reference data on fixed screens from our own plants but are not aware of any such data for rotating

COMMENT SET AP1: POSEIDON (cont.)

AP1-129 cont.

screens. We do not believe that there would be any fewer inspection/maintenance trips required for the rotating screen than for a fixed screen because frequent inspections are required for any mechanical system with moving parts. Furthermore, if mechanical issue were to develop with motors, brushes and/or bearings, the requirement for service boats and divers offshore could very well exceed the estimate for maintenance activities for the fixed screen option.

In regard to options for materials of construction for the wedgewire screens, the screens can be sourced using either copper nickel or a high-grade stainless steel such as Super Duplex. While we agree with the assessment in the SEIR that stainless steel screens, although offering better corrosion resistance than copper nickel, have the potential for greater biofouling, we do not believe that there will be a substantial increase in the maintenance trips to the intake screens than was evaluated in the SEIR. The more likely possibility is that there may be more effort required by the divers to clean Super Duplex screens during the scheduled maintenance compared to copper nickel screens. As a plant operator, we would prefer this option of increased effort at the regularly scheduled maintenance intervals as opposed to the risk of possible increase unscheduled maintenance due to mechanical failures.

Yours truly,

Diego Aritio
Project Manager
Acciona Agua S.A.

COMMENT SET AP1: POSEIDON (cont.)

AP1-130

Exhibit C

COMMENT SET AP1: POSEIDON (cont.)

DUDEK

AP1-130 cont.

HUNTINGTON BEACH DESALINATION PLANT CALIFORNIA STATE LANDS COMMISSION DRAFT SEIR SPECIAL STATUS SPECIES INFORMATION

INTRODUCTION

The California State Lands Commission (Commission) Draft Supplemental Environmental Impact Report (DSEIR) included analysis to address the significance criterion described in Section 4.1.3, Significance Criteria, of the DSEIR that asks if the proposed project would:

Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game[1] or U.S. Fish and Wildlife Service.

The DSEIR also further describes the requirements for making this determination in Section 4.1.3, Significance Criteria, by stating the following:

With respect to these criteria, State CEQA Guidelines, § 15065, subd. (a)(1) requires an EIR to be prepared for a project where there is substantial evidence, in light of the whole record, that the project "has the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community; [or] substantially reduce the number or restrict the range of an endangered, rare or threatened species…." State CEQA Guidelines section 15065 clarifies that findings of significance are not required if a project results in any reduction in habitat or population of a species, but only when habitat would be "substantially reduced" by a project or when a project would cause population levels of a species to "drop below self-sustaining levels."

Under impact OWQ/MB-7: Impact to Special Status Species Populations of Diffuser Operation, the DSEIR includes the following analysis in regards to the special-status species criterion:

Using the assumption that 23 percent of the total volume of dilution water would be exposed to lethal entrainment, impacts on marine organisms from diffuser entrainment would be relatively small. However, insufficient information exists to determine whether the larval entrainment of any special-status species would constitute a "substantial adverse effect," and the entrainment would be considered a potentially significant impact under CEQA. A substantial adverse effect is

[1] Currently named the California Department of Fish and Wildlife.

COMMENT SET AP1: POSEIDON (cont.)

AP1-130 cont.

defined, in part, as one that would substantially reduce the number or restrict the range of an endangered, rare or threatened species. As explained by Dr. Raimondi (see Appendix F1), the modeling approach is not designed to detect species that are rare in the sampling area; rather, it is designed for species for which sufficient data exist (i.e., observations of that species) to make robust estimates of proportional mortality. Two features render special-status species (typically) unfit for evaluation: larvae of special-status species are almost by definition rare (e.g., giant sea bass) and are sometimes smaller than mesh size used for sampling (e.g., some stages of black abalone). This means that the absence of such species from either the formal evaluation process (i.e., the ETM/APF modeling) or from the list of species sampled in the field studies (as in the Huntington Beach evaluation), should not be taken to indicate that such species would not be entrained. In the absence of information on the larval densities of special-status species at risk of diffuser entrainment, impacts could be potentially significant.

The DSEIR notes the lack of information available for special-status species, and determins that impacts to special-status species would be significant and unavoidable. As such, the following information is provided to: 1) determine the likelihood that special-status species would be present in the project area based on the best available information, and 2) determine if the potential for diffuser entrainment of special-status species would substantially reduce the habitat of a special-status species, cause a special-status species population to drop below self-sustaining levels, threaten to eliminate a special-status species, or substantially reduce the number or restrict the range of a special-status species.

IDENTIFYING SPECIAL-STATUS SPECIES

The Final Staff Report Including the Final Substitute Environmental Documentation (SED) for the Amendment to the Water Quality Control Plan for Ocean Waters of California Addressing Desalination Facility Intakes, Brine Discharges, And The Incorporation Of Other Non-Substantive Changes (Desalination Amendment)[2] provides a description that can be used for determining special-status species as follows in Section 8.4.5, Sensitive Species and Habitats:

Sensitive species are organisms that can only survive within a narrow range of environmental conditions, are sensitive to anthropogenic stresses, or are in need of special protection. CDFW maintains the California Natural Diversity Database (http://www.dfg.ca.gov/biogeodata/cnddb/) that "provide[s] the most current information available on the state's most imperiled elements of natural diversity and to provide tools to analyze these data." In January 2015, CDFW released a list of "special animals" that they determined are the species most at risk or most in need of

[2] The SED is included as Appendix E2 to the DSEIR.

COMMENT SET AP1: POSEIDON (cont.)

AP1-130 cont.

conservation efforts. This list includes some marine species and can be used in conjunction with the California Natural Diversity Database to identify sensitive species. There may be sensitive species in a region that are not included on the CDFW list or in the California Natural Diversity Database. For example, the California Natural Diversity Database includes crustaceans and mollusks on their "Special Status Invertebrate Species Accounts," but does not include any echinoderms (http://www.dfg.ca.gov/biogeodata/cnddb/invertebrates.asp).

The "special animals" list is the comprehensive list of animal taxa tracked by the California Natural Diversity Database (CNDDB) and is also referred to as the list of "special status species (CDFW 2017a)." Following the suggested methodology in the SED, the CNDDB was used to identify the aquatic and marine (bay and estuarine) sensitive species in the three closest United States Geological Survey quadrangles in Orange County to the proposed project locations (Seal Beach, Newport Beach, and Laguna Beach quadrangles). Five species were identified based on a CNDDB query for the proposed project area: green sea turtle (*Chelonia mydas*), western tidal-flat tiger beetle (*Cicindela gabbii*), western pond turtle (*Emys marmorata*), Tidewater Goby (*Eucyclogobius newberryi*), and mimic tyronia. The Tidewater Goby is listed as threatened under the federal Endangered Species Act, is found in the marine environment, and has a life stage that may be susceptible to lethal entrainment from shearing-induced forces resulting from the proposed diffuser. The western tidal-flat tiger beetle, western pond turtle, and mimic tyronia are not considered in detail in this analysis because they are terrestrial or freshwater taxa or do not include life stages susceptible to lethal shearing-force induced entrainment from the proposed diffuser. Green sea turtle occurred in the CNDDB and is known from the project area, but does not have a life stage susceptible to lethal entrainment from the proposed diffuser and was therefore not considered in detail in this analysis.

In addition to the tidewater goby identified through the CNDDB, the DSEIR analysis relies upon the information in Appendix F1[3] to the DSEIR that references the Giant Sea Bass (*Stereolepis gigas*) and black abalone (*Haliotis cracherodii*) as other special-status species examples that could be affected by the shearing forces resulting from the proposed project's diffuser. Therefore, these species are also considered in this analysis as special-status species that could be potentially affected by the proposed project's diffusers (Commission 2017).

GENERAL SENSITIVE HABITAT ASSESSMENT

In addition to sensitive species, the SED discusses analyzing sensitive habitats that support high-value organisms, a high level of species diversity, and that have a high ecosystem complexity.

[3] Appendix F1: Review of Applicant-provided information on operational effects of the Huntington Beach Desalination Plant Lease Modifications to marine biology.

COMMENT SET AP1: POSEIDON (cont.)

AP1-130 cont.

The SED lists the sensitive habitats that may require special consideration and protection from desalination activities (including from shear-force related entrainment from a diffuser) as, "*kelp beds, eelgrass beds, surfgrass beds, rocky reefs, oyster beds, market squid nurseries, and foraging grounds and reproductive habitat for state and federally managed species* (SWRCB 2015)." The California Department of Fish and Wildlife (CDFW) and its partner organizations have compiled biogeographical data on these sensitive habitats, including the location of Marine Protection Areas (MPAs) as well as attributes of benthic and intertidal habitat, in the MarineBIOS data viewer tool. These data indicate that none of the sensitive habitats, such as kelp beds, hard bottom substrate, or oyster beds, identified in the SED exist in proximity to the proposed project's diffuser (CDFW 2017b). Furthermore, the proposed project's diffuser is not located within an MPA or an Area of Special Biological Significance (ASBS) which are designated to protect marine biological resources and water quality, respectively (CDFW 2013 & SWRCB 2003).

SPECIAL-STATUS SPECIES ANALYSIS

As described in the Subsequent Environmental Impact Report for the Seawater Desalination Project at Huntington Beach (2010 SEIR) that was certified by the City of Huntington Beach on September 7, 2010, "*Six taxa (gobies, blennies, croakers, northern anchovy, garibaldi, and silversides) and a group of larvae that could not be identified were found to comprise 97 percent of all the fish larvae present in the HBGS cooling water system from which the project would withdraw its source water supply. Species with high commercial and recreational importance, such as California halibut and rockfishes, were shown to be very uncommon in the HBGS intake flows* (City of Huntington Beach 2010)." No threatened or endangered species were collected during the sampling. Similarly, in Section 4.1, Ocean Water Quality and Marine Biological Resources, the DSEIR states that "*No special-status fish species occur near the Lease Modification Project site.*"

The DSEIR references Appendix F1, which notes that two particular special status-species (Giant Sea Bass and black abalone) could be subjected to lethal shear forces induced by the proposed project's diffuser. Additionally, following the procedure to use the CNDDB to identify special-status species established in the SED, it was found that the Tidewater Goby could occur in the vicinity of the proposed project's diffuser. The following provides an analysis of the potential to occur for these special-status species[4].

[4] Green abalone, which is a National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) species of special concern, is also analyzed with black abalone.

COMMENT SET AP1: POSEIDON (cont.)

AP1-130 cont.

Giant Sea Bass

Giant Sea Bass are the apex predator in California's coastal kelp beds and rocky reef ecosystems (Allen and Pondella 2006; Pondella and Allen 2008; House et al. 2016). Their large size (reportedly up to 550 pounds) was once fished to near extinction in California waters before a fishing moratorium ended the harvest in 1981 (Pondella and Allen 2008; House et al. 2016). Unfortunately, populations did not begin to rebound until after commercial gill nets were banned in California State waters beginning in 1994 (Pondella and Allen 2008). Since the gill net closure, scientific sampling results, rather than incidental catch data reported by fishermen, documented a significant increase in the population between 1995 and 2004 as it rose from near zero catches to over one fish per ten sampling stations being caught (Pondella and Allen 2008). Since 2004, the population has seemingly continued to rise as incidental catches by fishermen increase in frequency as do observations by scientists and recreational divers (Love and Allen 2017). For example, the mitigation monitoring at the Wheeler North Reef recently presented a new approach for incorporating Giant Sea Bass observations into their overall data processing (Steele 2017).

While the apex fish predator in southern California's kelp forest, recent evidence from acoustic tagging indicates adult Giant Sea Bass undertake substantial seasonal migrations over deep water (Love 2011). Their winter habitat is yet undefined, but beginning in the spring Giant Sea Bass migrate into kelp forests located in the shallow nearshore waters where they reside until fall when migration to their winter habitat occurs (Love 2011). Presumably, this seasonal migration to shallower waters coincides with spawning as aggregations are observed during this time (Love 2011; House et al. 2016) with larval Giant Sea Bass first observed in the mid to late summer months. Juveniles typically occur during the fall and winter months after transforming from larvae to juvenile forms with a full complement of fins and skin pigment (Love 2011). Within southern California, the Santa Monica Bay has been an area where juveniles were commonly observed by divers (see Figure 1), but rarely offshore the Huntington Beach area. Anecdotal internet postings, such as on Youtube.com, have shown anglers catching Giant Sea Bass on the Huntington Beach Pier in recent years. Pier pilings, such as those supporting the Huntington Beach Pier, provide habitat similar to a rocky reef. The Huntington Beach Generating Station (HBGS) commissioned otter trawl surveys of the soft-bottom fishes near its outfall annually in August since 1976 with only one juvenile (29 millimeter standard length) being caught over that time (MBC 2015). That catch occurring in August 2014. Similarly, subtidal diver transect surveys in late-summer and fall offshore the HBGS have not recorded a single Giant Sea Bass observation since the surveys began in 1975. Lastly, impingement monitoring by the HBGS recorded one impinged Giant Sea Bass, occurring in November 1979, during routine monitoring from 1972 through 2014. The recent Great Giant Sea Bass Counts in 2014 and 2015 reported a

COMMENT SET AP1: POSEIDON (cont.)

AP1-130 cont.

Giant Sea Bass sighting either 20.4 miles upcoast (Point Fermin) or 12.4 miles downcoast (Laguna Beach) from the proposed intake. The dominant habitat in both areas where Giant Sea Bass were observed consists of kelp beds and rocky reefs or the preferred shallow water habitat.

All available data indicates the Giant Sea Bass population is increasing in southern California. Pondella and Allen (2008) concluded that the release from fishing pressure caused by the nearshore gill net ban in 1994, in addition to the state-wide recreational fishing moratorium, "appears to be directly responsible for its recovery". With regard to diffuser discharge and other industrial water uses, the Giant Sea Bass recovery is occurring while numerous wastewater diffuser discharges continue operating in addition to power plant surface water intake and thermal discharges. Based on the Giant Sea Bass known ecology and the probability of Giant Sea Bass larvae coming into contact with the diffuser discharge, there is a low likelihood that the proposed project impact to the Giant Sea Bass population is expected to occur as a result of the HBDP diffuser operation. Therefore, the proposed project would not substantially reduce the habitat of a Giant Sea Bass, would not cause the Giant Sea Bass population to drop below self-sustaining levels, would not threaten to eliminate the Giant Sea Bass species, nor would the proposed project substantially reduce the number or restrict the range of Giant Sea Bass.

Black and Green Abalone

In Southern California, all seven abalone species were fished to below self-sustaining levels, with some populations collapsing to the extent they have been declared endangered (Gruenthal et al. 2014). In addition to overfishing, withering syndrome, a contagious lethal disease, further depressed the populations. White abalone (*Haliotis sorenseni*) and black abalone (*Haliotis cracherodii*) were declared endangered, while green abalone (*H. fulgens*), pink abalone (*H. corrugate*) and pinto abalone (*H. kamtschatkana*) are listed as species of concern. The depth distribution of most abalone species limits their likely interaction with the proposed HBDP diffuser. For example, white abalone reportedly occur in depths of 80-100 feet. Green abalone and black abalone are the two species with depth distributions consistent with the proposed HBDP diffuser. Both species prefer rocky intertidal and shallow subtidal habitats in or near kelp beds where a reliable source of drift algae is available forage. There are no kelp beds located in proximity to the proposed HBDP diffuser location that would serve as a food source for green abalone in the proposed project area (CDFW 2017b).

Abalone have limited larval dispersal on the order of 3-10 days (Federal Register 2011). Local recruitment (or larvae settling out of the water column to join the adult population) functions as the chief process maintaining population levels (Chambers et al. 2006). Limited gene flow between populations occurs to maintain continuity, but clear differences were found between California Channel Island populations. These between-island populations, however, were less

COMMENT SET AP1: POSEIDON (cont.)

AP1-130 cont.

than the differences between the islands and the California mainland populations. Therefore, maintaining and enhancing adult aggregations has been the primary goal of resource managers to rebuild the stocks (NOAA 2008). While specifically discussing black abalone, Nueman et al.'s (2010) conclusions can be equally applied to green abalone due to the life history similarities between the two species. They determined desalination plants posed low threats to black abalone populations for both environmental pollutants/toxins (such as brine) and entrainment and impingement.

Black Abalone

The black abalone is the only abalone species that occurs primarily between the high intertidal zone to approximately the 18 foot isobath. In 2004, the black abalone was listed as endangered under the federal Endangered Species Act and critical habitat for the black abalone was designated in 2011 (Federal Register 2011). As shown in Figure 2, the proposed HBDP diffuser is not located in any areas designated as critical habitat for black abalone with the nearest critical habitat areas being located over 17 miles to the north between Los Angeles Harbor and Palo Verdes/Torrance border and over 27 miles southwest on Santa Catalina Island (Federal Register 2011). No black abalone have been reported during the dive transect surveys or trawl surveys conducted offshore the HBGS (MBC 2015; R. Moore 2017). The absence of rocky habitat or upstream kelp bed habitat suitable for black abalone, the large distance to any designated critical habitat, population densities sufficient to support successful reproduction, as well as the short larval stage and limited dispersal range of larvae suggest that the proposed diffuser system for the desalination facility has low likelihood to affect black abalone. Therefore, the proposed project would not substantially reduce the habitat of a black abalone, would not cause the black abalone population to drop below self-sustaining levels, would not threaten to eliminate the black abalone species, nor would the proposed project substantially reduce the number or restrict the range of black abalone.

Green Abalone

Green abalone was released from harvest pressure by a California State fishery moratorium in 1997 and it was later classified as a NOAA NMFS Species of Concern in 2004 due to severe declines in abundance throughout southern California (Guenthal et al. 2014). To address the declining population of abalone in California, CDFW created the Abalone Recovery and Management Plan in 2005 and updated it in 2011. As part of the restoration efforts for green abalone, a stock enhancement program is underway to determine suitable rocky intertidal and kelp forest habitat in Orange County for establishing minimum viable populations of the species (Orange County Coast Keeper 2017). These stock replenishment efforts are focused on the

COMMENT SET AP1: POSEIDON (cont.)

AP1-130 cont.

Laguna Beach and Santa Monica Bay coastlines where kelp bed and rocky reef habitat is common.

The lack of suitable adult habitat, the short planktonic larval stage, and limited dispersion of green abalone larvae suggest that there is a low likelihood that larvae would be transported to the diffuser site. Therefore, the proposed project would not substantially reduce the habitat of a green abalone, would not cause the green abalone population to drop below self-sustaining levels, would not threaten to eliminate the green abalone species, nor would the proposed project substantially reduce the number or restrict the range of green abalone.

Tidewater Goby

In 2014 the U.S. Fish and Wildlife Service (USFWS) reclassified the Tidewater Goby as threatened instead of endangered under the federal Endangered Species Act of 1973 based on the following reasons:

1. The number of localities known to be occupied has nearly tripled since listing (from 43 to 114).
2. The increase in occupied localities indicates that the Tidewater Goby is more resilient in the face of severe drought events than believed at the time of listing.
3. Threats identified at the time of listing have been reduced or are not as serious as previously thought. Threats appeared more pervasive due to the severe drought from 1987 to 1992.
4. Sea level rise poses a substantial threat to the species that, while not an imminent threat, is likely to lead to the species becoming endangered in the foreseeable future.

Tidewater Goby inhabits lagoons, estuaries, backwater marshes, and freshwater tributaries to estuarine environments that closely correspond to major stream drainages (Love 2011). Substantial stretches of the California coastline are naturally devoid of Tidewater Gobies (Federal Register 2014). This includes a contiguous stretch of coast between the Santa Monica Bay and San Mateo Creek. The proposed HBDP diffuser lies within the bounds of this area naturally devoid of Tidewater Gobies at the northern end of the South Coast regional phylogenetic unit (Federal Register 2011). The nearest Tidewater Goby occurrences listed on CNDDB are all downcurrent of the proposed diffuser location, in streams and rivers over 15 miles away (see Figure 3). Phylogenetic units were defined as a result of genetic analyses demonstrating sufficient differences between the units to warrant classification. This further supports a conclusion of very limited genetic flow between the regional units.

COMMENT SET AP1: POSEIDON (cont.)

AP1-130 cont.

The proposed HBDP diffuser resides in a stretch of California coastline where Tidewater Goby is naturally absent. No Tidewater Goby have been recorded during surveys offshore and within the HBGS including plankton (MBC and Tenera 2015), impingement (MBC 2015), trawl, and diver transect (MBC 2016). As a result, there is a low likelihood that larvae of the species would be present within the HBDP discharge areas where it would be susceptible to shear related entrainment for the proposed HBDP diffuser. Therefore, the proposed project would not substantially reduce the habitat of a Tibewater Goby, would not cause the Tidewater Goby population to drop below self-sustaining levels, would not threaten to eliminate the Tidewater Goby species, nor would the proposed project substantially reduce the number or restrict the range of Tidewater Goby.

CONCLUSION

To address the absence of information provided in the DSEIR analysis, this memorandum provides additional information on the potential for special-status species to be present in the project area and whether the potential likelihood of special-status species entrainment by the proposed HBDP diffuser would result in a significant and unavoidable impact under CEQA. In general, the HBDP diffuser is not located in an area with sensitive habitats identified in the SED that are known to support special-status species, including kelp beds, hard bottom and rocky reef habitat, MPAs, or ASBSs.

Based on the process stated in the SED for identifying special-status species and the special-status species concerns raised in Appendix F1 of the DSEIR Giant Sea Bass, black abalone, green abalone, and Tidewater Goby were evaluated in detail for their potential to occur in the project area. Based on the Giant Sea Bass known ecology and the probability of Giant Sea Bass larvae coming into contact with the diffuser discharge it was determined that there is a low likelihood that Giant Sea Bass would be entrained by the proposed HBDP diffuser. Black abalone and green abalone were determined to have a low likelihood of being entrained by the proposed HBDP diffuser based on the absence of rocky habitat or upstream kelp bed habitat, the large distance of the project area to any designated critical habitat, lack of population densities sufficient to support successful reproduction in the project area, as well as the short larval stage and limited dispersal range of larvae. The Tidewater Goby was determined to also have a low probability of being entrained by the proposed HBDP diffuser because the Tidewater Goby is a primarily found in estuarine and freshwater habitat, the nearest occurrences listed on CNDDB are all downcurrent of the proposed diffuser location, and the proposed HBDP diffuser resides in a stretch of California coastline where Tidewater Goby is naturally absent.

Based on the best available information entrainment of special-status species by the proposed HBDP diffuser would not substantially reduce the habitat of a special-status species, would not

COMMENT SET AP1: POSEIDON (cont.)

AP1-130 cont.

cause a special-status species population to drop below self-sustaining levels, would not threaten to eliminate a special-status species, and would not substantially reduce the number or restrict the range of a special-status species. Therefore, following the criteria for determining impacts on special-status species stated in the DSEIR and CEQA Guidelines, impacts to special-status species resulting from shearing-force induced entrainment by the HBDP diffuser would be less than significant.

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COMMENT SET AP1: POSEIDON (cont.)

AP1-130 cont.

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COMMENT SET AP1: POSEIDON (cont.)

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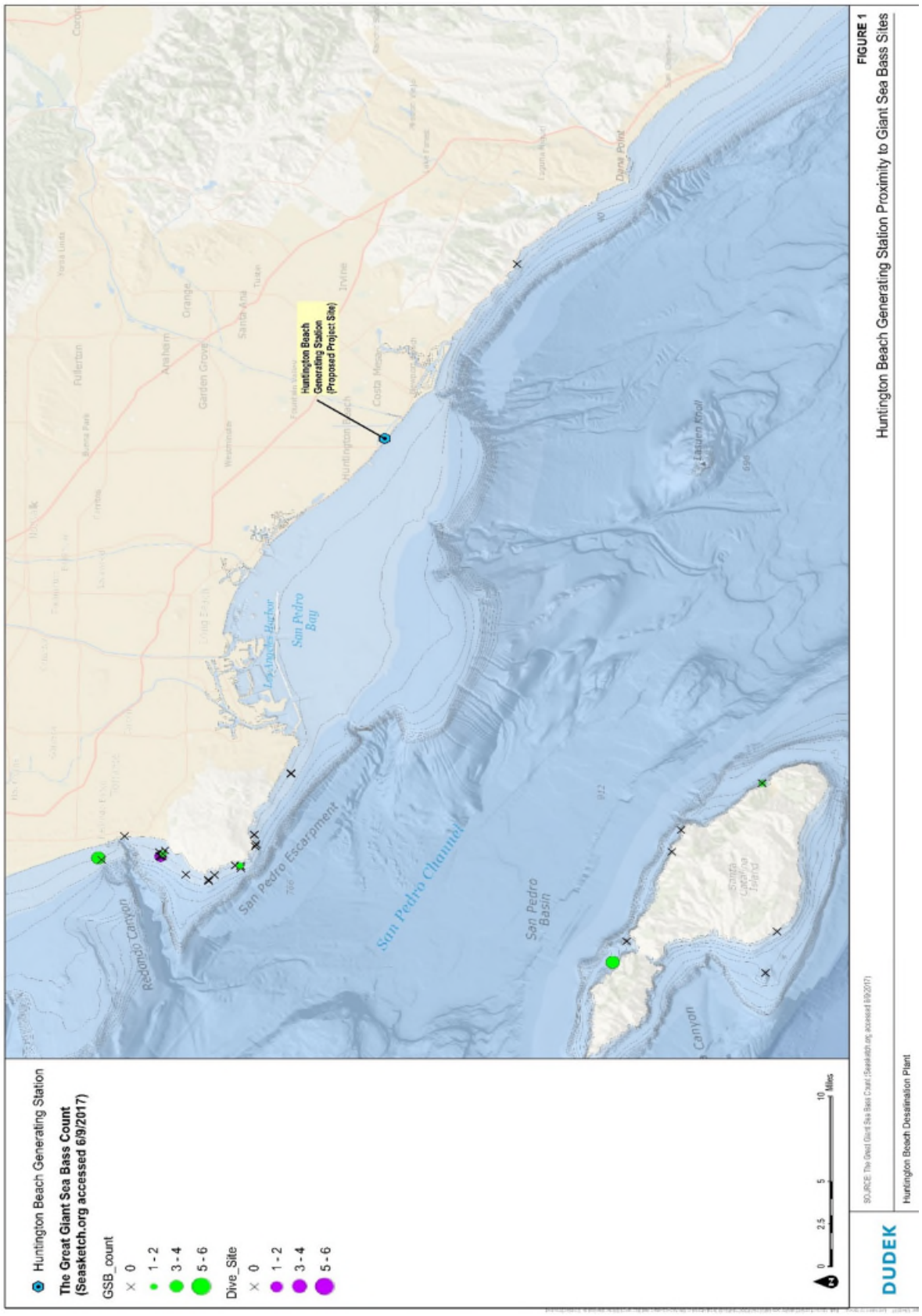
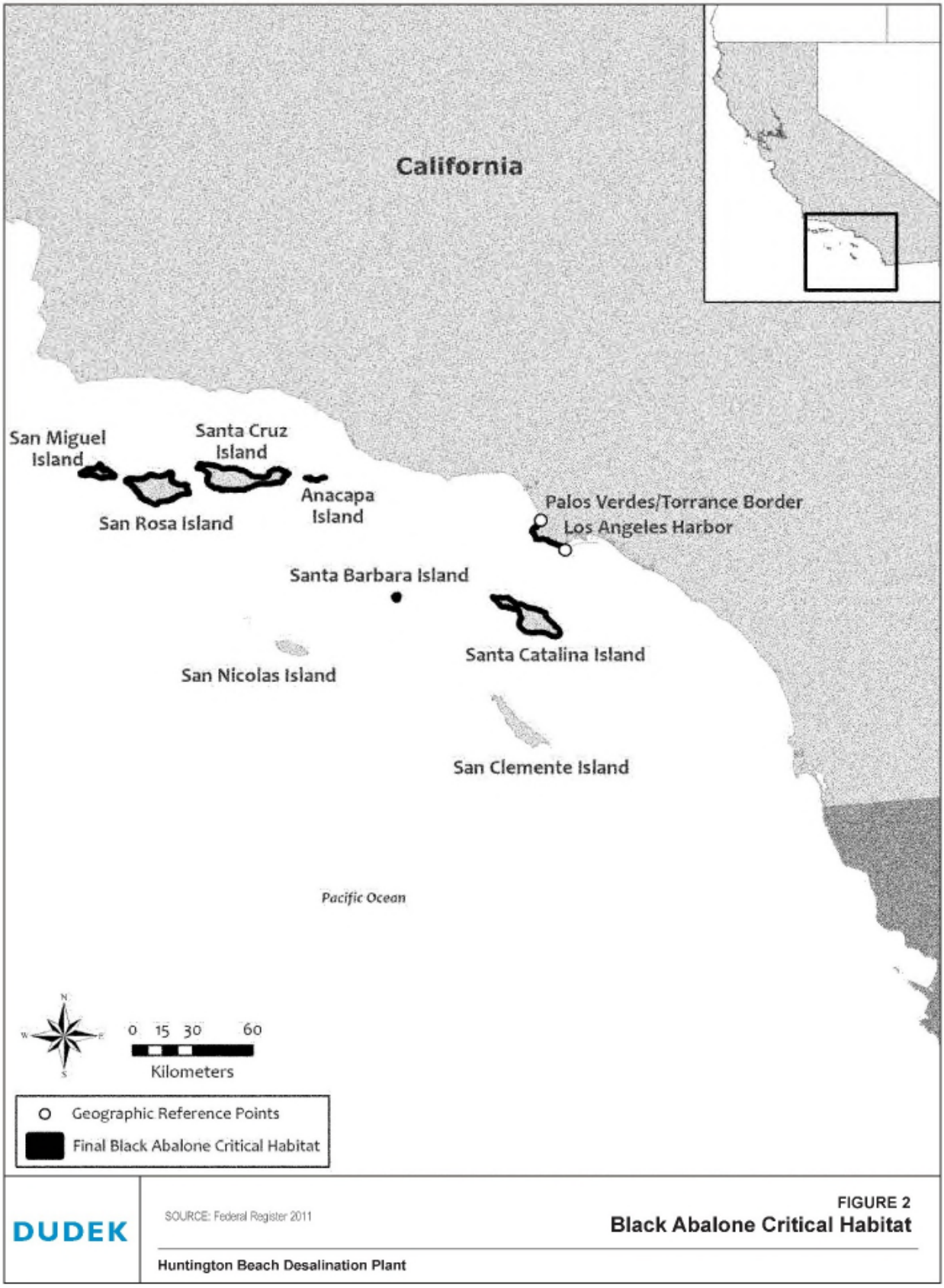
COMMENT SET AP1: POSEIDON (cont.)



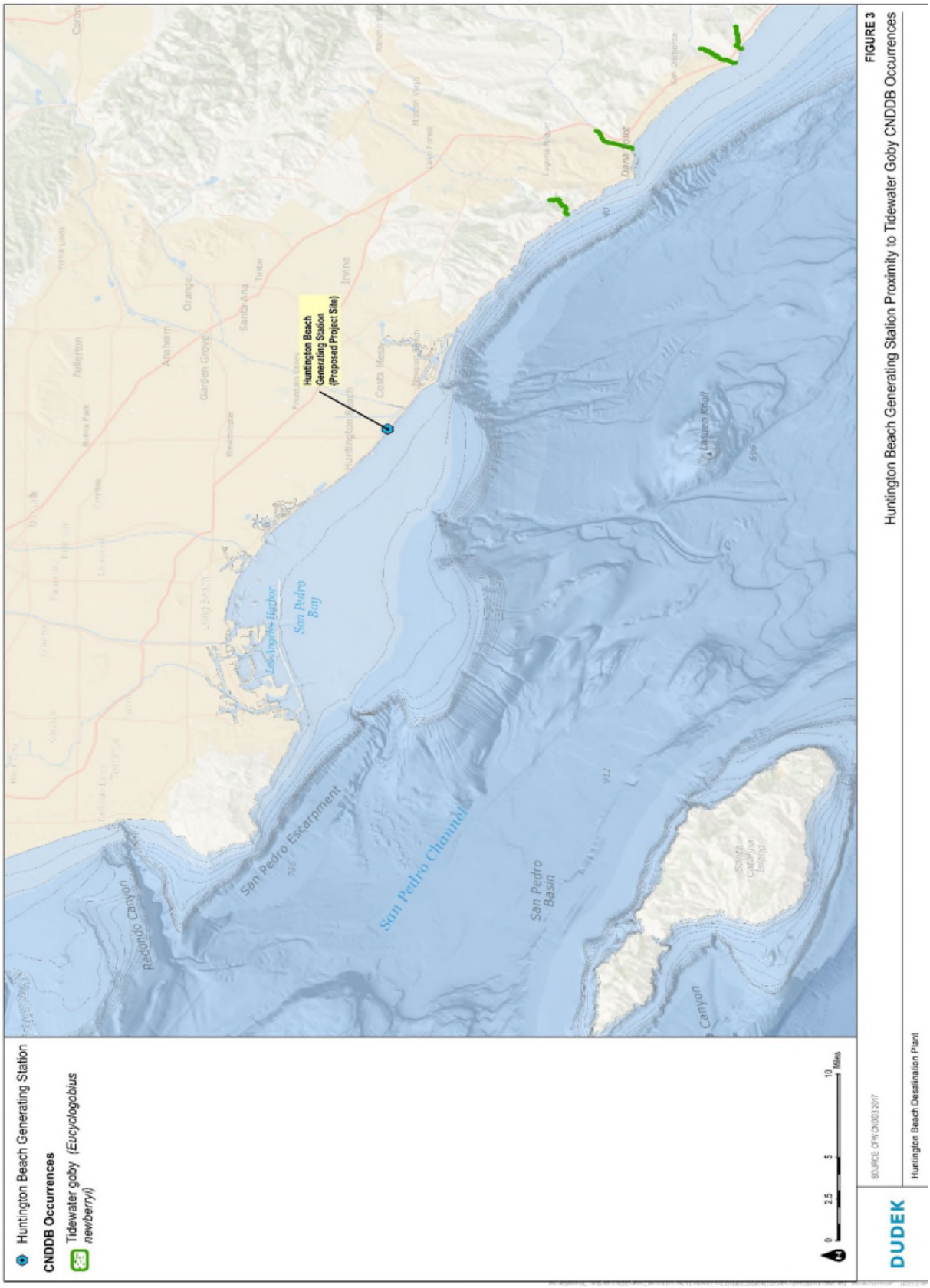
AP1-130 cont.

COMMENT SET AP1: POSEIDON (cont.)

AP1-130 cont.



COMMENT SET AP1: POSEIDON (cont.)



AP1-130 cont.

COMMENT SET AP1: POSEIDON (cont.)

AP1-131

June 7, 2017

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

Subject: Ocean Plan Desalination Amendment Shearing Mortality Guidelines Represents the Best Available Science

Dear Scott:

I have prepared the following memorandum after reviewing the California State Lands Commission's (SLC) Draft Supplemental Environmental Impact Report (DSEIR) and comments submitted regarding the California-American Water Company (Cal-Am) Monterey Peninsula Water Supply Project (MPWSP) Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS). The subject of this memo is identifying the best scientific approach for assessing shearing-related entrainment effects associated with the proposed Huntington Beach Desalination Plant's (HBDP) brine diffuser.

The HBDP's DSEIR is being prepared by the SLC and was released for public comment on May 26, 2017. Per an April 26, 2017 email from SLC to Mr. Maloni of Poseidon Water, after consultation with the Santa Ana Regional Water Board's staff, SLC requested an analysis of potential shearing mortality based on the approach proposed by Dr. Phil Roberts ("Roberts' Model") and incorporated into the MPWSP DEIR/EIS.

The May 9, 2017 TWB Environmental Research and Consulting (TWB) memorandum previously provided to the SLC includes a comprehensive analysis of the Roberts' Model and definitively concludes that the Roberts Model should not be used for the Huntington Beach Desalination Project because the Roberts Model:

- Is plagued by computational errors that render it scientifically unsound and unworkable for replication in Huntington Beach;
- Includes Monterey Bay site-specific assumptions and data that is not applicable to Huntington Beach;
- Does not represent the empirical data necessary to deviate from the shearing-related regulatory requirements of the 2015 California Ocean Plan Desalination Amendment (OPA), and uses an approach which was known to the State Water Board at the time of the OPA, which was rejected by non-use (which is particularly relevant given Dr. Roberts' involvement in the State Board's Expert Review Panel in Impacts and Effects of Brine Discharges during the development of the SED);

COMMENT SET AP1: POSEIDON (cont.)

- Has not undergone any peer review necessary to deviate from the shearing-related regulatory requirements of the OPA.

AP1-131 cont.

Given the questions surrounding the Roberts' Model, the SLC staff and its CEQA consultant Aspen decided to base the Huntington Beach Desalination Project's shearing-related entrainment analysis on the regulatory guidance found in the OPA. Specifically, the DSEIR states on page 4-59: *"In the absence of information justifying use of assumption number other than 23 percent for the proposed diffuser, the CSLC is using this guidance from the SWRCB when presenting estimates for diffuser entrainment."*

The focus of this memo is the recommended best scientific approach for assessing the diffuser's potential shearing-related impacts and corresponding mitigation acreage resulting from an operating brine diffuser.

State Water Board Substitute Environmental Document (SED) Guidance on Turbulence Mortality Estimation

In brief, the OPA and its associated administrative record primarily contained in the Substitute Environmental Document (SED) gave clear "how-to" guidance for calculating diffuser shear impacts on plankton, with an example calculation. A mass balance equation incorporating the brine discharge volume and salinity is solved to derive the dilution volume needed to reduce the salinity to ambient + 2 ppt, or 35.5 ppt for southern California. The SED guidance is to assume 23% of that required dilution volume is subject to lethal shearing forces. This results in a final volume of water that can be considered to contain plankton suffering 100% mortality. No further guidance on evaluating shearing impacts are provided in the SED. On 2017, Poseidon provided the Regional Board with a copy of a technical memorandum entitled *"Brine Discharge Mortality Calculations for the Huntington Beach and Carlsbad Desalination Projects"* (Application Appendix KKK), which included a description of why we feel Empirical Transport Model and Area of Production Foregone (ETM/APF) was the proper modeling approach to get to an acreage. Poseidon and its scientific team have treated this as any volume of seawater subject to lethal operations, such as a surface intake. The ETM/APF were used to convert the marine life mortality in the final water volume to an area currency that can be factored into mitigation option evaluations. The ETM/APF were chosen as these represent the preferred method for similar analyses of intake impacts to marine life.

Further, page 86 of the SED states that "*shearing-related mortality would only occur within the area that exceeds 2.0 ppt above natural background salinity, and mitigating an area equivalent to that area exceeds 2.0 ppt above natural background salinity would also compensate for shearing-related mortality*." Therefore, per the OPA SED, mitigating for the area encompassed within the BMZ would fully compensate for both toxic salinity and shearing-induced mortality resulting from the brine discharge. This finding suggests application of the ETM/APF approach as proposed by Poseidon would provide conservatively larger compensatory mitigation than

COMMENT SET AP1: POSEIDON (cont.)

only mitigating for the area that *"exceeds 2.0 ppt above natural background salinity*," which, in the case of the HBDF, is 0.46 acres.

AP1-131 cont.

Role of Regional Water Quality Control Board in Determining the Appropriate Turbulence Mortality Estimation Approach

With regards to the OPA administrative record as it pertains to shearing impacts of the brine diffuser, pages 115-116 of the State Water Board's staff report directly discuss the implementation of the 23% of entrained dilution volume in shearing impact assessment. Per the SED, it is at the applicant's discretion to use the SED guidance for calculating the shearing impact to plankton (i.e., regulatory assumption of 23% mortality) or to derive an alternative approach:

> "*Discharging through multiport diffusers would require an assessment of mortality that occurs as a result of the increased salinity at the discharge and any shearing-related mortality associated with the diffusers even though the effects will likely be minimal from properly sited multiport diffusers (Foster et al. 2013; Bothwell comment letter 2014). An owner or operator could use existing shearing data (see discussion in section 8.5.1.2 above) that has been approved by the regional water board or alternately, could elect to do their own diffuser entrainment modeling under the guidance and approval of the regional water board. Empirical studies of diffuser-related mortality are technically feasible and encouraged, but may be cost prohibitive. As more studies are done, there will be more information available on how to better estimate diffuser-related mortality in order to establish a performance standard for alternative brine disposal technologies.*"

The administrative record makes clear that there are three options for an owner/operator to choose from in assessing shearing-related mortality:

1. The owner/operator could use the shearing data in 8.5.1.2 that has been approved by the Regional Board (i.e., 23% assumption); or
2. The owner/operator could elect to do its own modeling study under the guidance and approval of the Regional Board; or
3. The owner/ operator could conduct an empirical study.

Of these options, #3 is infeasible because the diffuser does not exist in Huntington Beach. Option #2 leaves to the discretion of Poseidon to do its own modeling study. Poseidon has chosen to rely on option #1 as it serves as the OPA's regulatory standard.

COMMENT SET AP1: POSEIDON (cont.)

AP1-131 cont.

Review of MPWSP DEIR/EIS Public Comments

A review of the public comments on the MPWSP DEIR/EIS supports the conclusion that:

1. The Roberts' Model incorporated into the CalAM MPWSP is scientifically unsound. Deviating on a project-by-project basis from the OPA regulatory standard creates confusion and uncertainty, and

2. While there is no obligation for California Environmental Quality Act (CEQA) responsible agencies to adopt the OPA's regulatory guidance, project-specific CEQA analysis should be consistent with the OPA requirements to ensure that the analysis is relevant to a Regional Board's assessment of compliance with the OPA.

These comments include:

1. California Water Boards March 28, 2017– Cosigned by Claire Waggoner (State Water Board) and John Robertson (Central Coast Water Board)

    a. Water Board staff (Staff) acknowledged the OPA and CEQA are independent, but noted that Staff will rely on analyses and information conducted as part of CEQA.

    b. Staff requested that the DEIR/EIS "*assess any potential discharge-related mortality of all forms of marine life, including incremental shearing- or salinity-related mortality for both the commingled and brine-only discharge scenarios.*"

2. City of Marina by Farella, Braun, and Martel, LLP March 29, 2017

    a. On Pg. 44, the contents of Appendix D1 Roberts' Model, the veracity of their methods, and applicable conclusions were discussed and disputed.

        i. Pg. 45 "*Inadequate data precludes sufficient analysis of impacts, and renders the whole analysis of the Project's brine discharge impacts on marine resources inadequate.*"

        ii. Pg. 48 "*Although the Draft EIR/EIS admits the Project will have adverse impacts to squid (which the Draft EIR/EIS wrongly describes as less than significant), the Draft EIR/EIS fails to sufficiently consider and analyze impacts to other species in the same area. Instead of conducting a thorough analysis, the Draft EIR/EIS writes off such impacts by referring to "unanticipated effects" on "benthic and pelagic communities in the vicinity of the discharge" (page 4.5-61). This is an inadequate analysis of one of the Project's most significant effects: the brine discharge. The inadequacy of this analysis is likely a result of the*

COMMENT SET AP1: POSEIDON (cont.)

Draft EIR/EIS's incomplete and insufficient description of the environmental baseline (see above), particularly in the area where the brine will be discharged. Without inclusion of information necessary to understand the Project's potential impacts, the EIR is defective."

AP1-131 cont.

3. John Hurt March 28, 2017

    a. Expressed concern over the modeling in Appendix D1 Roberts' Model, especially the decision not to include ocean current effects in modeling the brine mixing zone.

4. Monterey Regional Water Pollution Control Agency March 28, 2017

    a. "*The EIR/EIS approach states that the discharge to the ocean (brine, trucked brine, and secondary effluent) may not meet Ocean Plan requirements. … MRWPCA urges the CPUC to improve the analysis of this issue in the EIR/EIS to ensure that the project can feasibly comply with the Ocean Plan and be permitted, and to enable use of the EIR/EIS by MRWPCA and the RWQCB as responsible agencies for their subsequent project approvals.*"

    b. Pg. 7. "*The modeling in the EIR/EIS Appendix D1 includes the Ocean Outfall having an opening underneath the End Gate at the termination of the outfall. As the Ocean Outfall exists now, it will allow 5% of all the brine discharge water (per Appendix D1 Page 52) onto the seafloor with minimal dilution during negative buoyant conditions. The End Gate must be closed for MRWPCA to accept brine. All dilution calculations should be revised accordingly.*"

    c. Pg. 7-8. "*MRWPCA objects to this section and the appropriate appendices (D1, D2, and D3) that support this section [Section 4.3.5.3]. MRWPCA believes that due to its signed Water Purchase Agreement that the PWM project must be assumed to be operating under all proposed project and alternative scenarios. Data in this section was not calculated with that assumption. … And as stated above, they do not reflect closing the opening under the End Gate. MRWPCA cannot rely on the EIR/EIS for approval of use of its outfall facilities unless the analysis includes operation of PWM and reflects closing the opening under the end gate.*

The above comments and notes indicate that the Roberts' Model assumptions and analysis raise questions among the commenting public and stakeholders. As of this letter's writing, no responses to comments have been posted by the California Public Utilities Commission, the CEQA lead agency. Therefore, the MPWSP DEIR/EIS and supporting appendices should be considered draft documents only and are subject to revision and additional analysis. Applying any methods or conclusions from the Roberts' Model would be premature, at best. Thus far, the

COMMENT SET AP1: POSEIDON (cont.)

available peer review has publicly noted flaws in the analysis. These flaws have not been addressed, rendering the model unsound at this time.

AP1-131 cont.

As noted by some commenters and prior Poseidon submittals, portions of the MPWSP DEIR/EIS analysis do not follow the OPA's assumptions and therefore not applicable to the later permitting process conducted by the State and Regional Water Quality Control Boards under the guidance of the OPA. This is especially true for the brine discharge shearing impact assessment. Regardless of the validity of the Roberts' Model, the model is not contained or referenced in the OPA regulatory standard and process detailed in the OPA administrative record and final staff report (SED). This process stipulates that 23% of the volume of receiving water needed to dilute the brine discharge to an ambient + 2.0 ppt should be considered to contain lethal shearing forces. The project proponent may propose an alternative method for the Regional Board staff to review and approve or disapprove prior to its use. No other options are available per the statutory language in the absence of collecting new empirical data from an operating diffuser and amending the OPA through a public regulatory process.

Huntington Beach Interagency Permit Sequence Agreement

In September 2016, Poseidon Water and the staffs of the SLC, Santa Ana Regional Water Quality Control Board (Regional Board) and Coastal Commission (CCC) reached an agreement on the orderly and timely completion of the permitting process for the proposed HBDP. The agreement tasks the SLC with certifying the CEQA analysis of the proposed modifications to the seawater intake and discharge facilities to include 1-mm wedgewire screens with a through-screen velocity of 0.5 ft. per second or less and a brine diffuser. These technological enhancements are being proposed by Poseidon to demonstrate compliance with the OPA's technology requirements for minimizing the intake and mortality of all forms of marine life. The interagency agreement requires the Regional Board staff to provide guidance to the SLC so that the environmental analysis in the DSEIR is sufficient for the Regional Board to make a determination that the proposed Project complies with the OPA. Both the State and Regional Board staff have provided guidance to the SLC throughout the development of the DSEIR.

The SLC staff's review of the proposed Project's technology enhancements falls under CEQA, not the OPA, providing no obligation for the SLC to adopt the OPA's regulatory standards into the DSEIR's environmental analysis without consideration of other approaches. In its development of the DSEIR, the SLC considered other approaches to assessing shearing-related impacts, including the Roberts' method as suggested by the State Water Board staff. The SLC staff and its marine biology expert Dr. Peter Raimondi concluded that the appropriate standard for evaluating shearing-related impacts was the OPA's 23% regulatory standard (see DSEIR Section 4-59).

COMMENT SET AP1: POSEIDON (cont.)

AP1-131 cont.

Conclusion

I conclude that the shearing mortality assessment guidance contained in the OPA and its supporting documents in the administrative record represents the best available and vetted science. Consistent with the requirements of the OPA, I recommend its continued use until such time empirical field data is available to refine the approach.

The review of the best available science and all available public documents related to regulating seawater desalination development and operation in California to minimize environmental impact indicates:

1. Per the SED, it is at the applicant's discretion to use the SED guidance for calculating the shearing impact to plankton (i.e., regulatory assumption of 23% mortality) or to derive an alternative approach.
2. The SED method of calculating volume equal to 23% of the volume needed to dilute the discharged brine to ambient salinity + 2.0 ppt is the most protective and scientifically-defensible impact estimate available through vetted methods.
    a. Treating this like an intake-entrained volume using the ETM/APF results in a common regulatory currency – acres impacted.
    b. No vetted or published and accepted alternative methods to calculate this impact thus far exists.
        i. The Roberts' Model developed for the MPWSP DEIR/EIS has not undergone a formal review process and should not form the basis for the Huntington Beach Project's shearing mortality assessments.

Sincerely,
HDR

Eric Miller
Environmental Project Manager

COMMENT SET AP1: POSEIDON (cont.)

AP1-132

Exhibit E

COMMENT SET AP1: POSEIDON (cont.)

June 26, 2017

AP1-132 cont.

Mr. Scott Maloni
Poseidon Water
Via E-mail

Re: Comments on Project Memorandum: Huntington Beach Desalination Plant - Proposed Modifications

Dear Mr. Maloni,

Please find the enclosed matrix of comments prepared by Mr. Tim Hogan and myself after reviewing Appendix F1 by Dr. Peter Raimondi. Appendix F1 was included in the Draft Supplemental EIR for the Seawater Desalination Project at Huntington Beach: Outfall/Intake Modifications and Lease Amendment Project prepared under the auspices of the California State Lands Commission. Please feel free to let me know if you have any questions.

Sincerely,
HDR

Eric Miller, MS
Environmental Project Manager

COMMENT SET AP1: POSEIDON (cont.)

Table of Comments for Project Memorandum: Huntington Beach Desalination Plant - Proposed Modifications

AP1-132 cont.

Original Text from Raimondi Memo (Appendix F-1)	Page #	Comment
Newer models for ETM and area of production foregone (APF) are starting to use a CODAR1-based modeling approach to develop the oceanographic framework for defining dispersal and source water bodies for the organisms that could be entrained. A CODAR-based model was not used to estimate ETM/APF.	2	CODAR has not been approved by a regulatory agency to date but may be used in the future to calculate ETM/APF. As stated in the last sentence, this section is ***beyond the scope of this review***. Please consider removing this entire section to avoid reader confusion.
...therefore, review of the CODAR-based model implementation and results is beyond the scope of this review.	2	CODAR has not been approved by a regulatory agency to date but may be used in the future to calculate ETM/APF. As stated in the last sentence, this section is ***beyond the scope of this review***. Please consider removing this entire section to avoid reader confusion.
This estimation is done for very few species, usually the ones where there are high-quality data (i.e., many observations) and which as a group cover a reasonable range of life history characteristics...	2	Poseidon concurs with this statement, which speaks to why the 2003-2004 data is and should be the primary data source. There are many more observations of a higher number of species in the 2003-04 data set versus the more recent and more limited 2014-2015 data.
The set of assessed species are considered to represent all entrained species, which are thought to be potentially impacted by entrainment (i.e., those with a meroplanktonic stage).	2	This statement should be revised to refer not just to meroplankton, but to holoplankton as well. The goal of the APF is to attempt to quantify the area needed to compensate for the biological production lost to entrainment. Lower trophic level holoplankton production would be captured in the higher trophic level meroplankton as a function of trophic transfer through predation. Holoplankton taxa predominantly serve as the forage base for meroplankton and, in general, 10% of their energy has been transferred to meroplankton upon consumption with the remaining 90% made available to the environment and/or detrivores.
The metric that is important with respect to evaluating impact is the output of the ETM/APF assessment	3	In the Raimondi Report and the Ocean Plan Amendment, the case is made that all assessments should be done in APF, but in numerous subsequent sections in the Raimondi Report, raw numbers of larvae are routinely provided, which as Raimondi noted earlier, varies from year to year.

COMMENT SET AP1: POSEIDON (cont.)

Original Text from Raimondi Memo (Appendix F-1)	Page #	Comment
		Entrainment estimates, assuming no change to the source population densities, vary based on flow volume. These paragraphs can succinctly be summarized as "the Lease Modification Project represents a ≥ 30% reduction in stand-alone operation entrainment."
Given the discussion above, it is clear that ETM/APF estimates will directly scale with intake volume. Hence the reduction in intake volume will result in a reduction in APF estimate, which is a net benefit with respect to impact.	4	The preceding sections could be largely replaced by this one section. Any discussion of raw entrainment numbers should be removed as they are no longer the approach approved in California.
Impact assessment using an ETM/APF design, where species are mainly or entirely fish, will be uninformative for all entrainable meroplanktonic species.	4	We disagree. Based on Raimondi (2011), the set of assessed species are considered to represent all entrained species and the habitats that produced those species, which are thought to be potentially impacted by entrainment (i.e., those with a meroplanktonic stage). The resulting APF represents an estimated area of habitat that if created would produce sufficient biological biomass or energy to compensate for entrainment losses.
This leads to the concern that the sampled species may not be representative of the suite of fish species entrained.	4	We disagree. This assumes a post-hoc adjustment to the APF numbers rather than applying estimated exclusion percentages to the entrainment estimate developed at the beginning of the ETM. Adjusting the entrainment estimate is the more direct and accurate way to account for exclusion and would need to be based on documented lengths, as it was done for Poseidon. Exclusion adjustments to the entrainment estimate would cascade through the subsequent equations, resulting in a revised APF.
Using the Highfield et. al. 2010 study results in this analysis for the Huntington Beach Desalination Plant located in Huntington Beach, California.	4	Estimated non-fish larvae plankton abundance estimates made from samples collected off Plymouth, England without any additional vetting or verification is not advisable. Plymouth, England and Huntington Beach, California, USA border two different ocean basins governed by different oceanographic processes, vastly different temperature profiles, current patterns, nutrient dynamics, etc. In addition to the incomparable differences in location, the sampling occurred over different time periods subject to different global climate patterns that may have influenced coastal productivity. Lastly, the Highfield et al. (2010) study presented no data on larval fish to act as a possible reference point for

AP1-132 cont.

COMMENT SET AP1: POSEIDON (cont.)

AP1-132 cont.

Original Text from Raimondi Memo (Appendix F-1)	Page #	Comment
		the comparison attempted by Raimondi. We question the validity and applicability of this analysis.
More important is that whatever reduction there would be in overall entrainment, this reduction is not currently translatable into an estimate of reduction in impact using ETM/APF.	4	This conflicts with earlier arguments made in the Raimondi report about the purpose and use of APF.
It is worth noting that the value, "23%" is simply an estimate and one that is expected to be more refined with as more data become available (SWRCB 2015 on pg 85-86)2.	5	While this statement is accurate, it should be noted that the 23% estimate was introduced by a State Water Board Expert Review Panel charged with providing guidance on the best available science to use in evaluating potential environmental impacts of the intake and discharge operations by a desalination plant. As of today, 23% is the prevailing estimate as no new empirical pilot scale or fully operational data has become available since the Ocean Plan Amendment was passed in 2015.
APF is calculated for mortality rates ranging from 0 -100%	5	This misinterprets the Ocean Plan Amendment and supporting regulatory documents relevant to the diffuser shearing issue. At no point in the documents published in the administrative record was there an assumption of larvae in 100% of the receiving water needed to dilute the brine to ambient + 2.0 parts per thousand salinity. Inherent in the shearing mortality calculations codified in the Ocean Plan Amendment administrative record is that 100% of the plankton in the 23% of the dilution volume are lost to lethal shearing. There is no range of APFs associated with a project's diffuser shearing impact assuming a single daily volume of brine destined to be discharged through the diffuser has been determined. There is only one APF calculated based on the prescribed calculations codified in the administrative record.
If mortality rate was 100%, the number of entrained (leading to death) fish larvae would increase to approximately 529 million.	5	This assumes 100% of the 762 MGD of receiving waters needed to dilute the brine will suffer lethal shear. There is no basis for this assumption, as there are no references (SED, OPA, ERP reports) that indicate up to 100% of the total dilution flow required would have lethal shear.
Here it is possible that the actual impact would be worse for co-located operations than stand-alone operations.	6	We believe this statement is incorrect. Using the APF as presented in Raimondi (2011) and the SED's process for calculating brine disposal volumes, the co-located option will have one-third the impact of the stand-alone option by virtue of in-

COMMENT SET AP1: POSEIDON (cont.)

Original Text from Raimondi Memo (Appendix F-1)	Page #	Comment
		plant mixing in the power plant effluent.
In my opinion, it is extremely unlikely that 23% is a reasonable value for both standalone and co-located operations.	6	The 23% estimate was introduced by a State Water Board Expert Review Panel charged with providing guidance on the best available science to use in evaluating potential environmental impacts of the intake and discharge operations by a desalination plant. As of today, 23% is the accepted estimate as no new empirical pilot scale or fully operational data has become available since the Ocean Plan Amendment was passed in 2015.
Based on a discharge volume subject to entrainment of **180 MGD** and under the assumption of a 23% mortality rate, it is estimated that 125,086,348 fish larvae are likely to be entrained.	6	It should be noted that 180 MGD represents 23% of the total volume of receiving waters needed to dilute the brine to ambient + 2.0 parts per thousand salinity.
If mortality rate was 100%, the number of entrained fish larvae would increase to approximately 543,000,000.	6	There is no basis for this conclusion, as there are no references (SED, OPA, ERP reports) that indicate up to 100% of the total dilution flow required would have lethal shear. In addition, no biological or hydrodynamic/hydraulic support is provided for this statement.
The 2 open port design is likely to have similar impacts with respect to diffuser related entrainment mortality and area of the BMZ as the currently proposed 3-port differ design.	7	There is no basis for this statement, since the shear mortality is simply a mass balance 23% approach which does not change based on design - the same flow rate is still required to get within 2 ppt of ambient.
6-port diffuser alternative		Proposing a 6-port diffuser which would operate at a jet velocity of 1.79 ft/sec, regardless of whether it would meet the salinity limit at the BMZ, is contrary to how a diffuser is designed to work. Without sufficient velocity, the plume trajectory and turbulent mixing will be reduced. Though modeling can demonstrate compliance with the salinity limit, many would argue that a diffuser operating at such a low jet velocity is not truly a diffuser.
It is likely that this design would have reduced diffuser related entrainment mortality, but a larger BMZ than the currently proposed diffuser design.	8	See comments above. Until a new calculation method has undergone peer review and public comment, the 23% mortality estimate is the accepted regulatory standard.
Support for CEQA Analysis of Entrainment Effects from Proposed Modifications	8	This section ventures into CEQA particulars, which is best left for experienced CEQA practitioners like Aspen, the State Lands Commission contractor tasked with preparing the Supplemental EIR.
Two features render species of special interest (typically) unfit for evaluation: larvae of species of special interest are almost by definition rare (e.g. **giant sea bass**) and are sometimes smaller	8	Giant Sea Bass larvae could have been taken during the sampling, but were not. The known spawning aggregation sites for

AP1-132 cont.

COMMENT SET AP1: POSEIDON (cont.)

Original Text from Raimondi Memo (Appendix F-1)	Page #	Comment
than 335 micron minimum mesh size used for sampling (e.g. some stages of black abalone).		Giant Sea Bass are relatively far away from the HB intake and therefore and would need to travel against predominant currents in most cases to reach HB. This dispersal problem is also correct for abalone. Abalone and Giant Sea Bass are rocky reef associated taxa. We recommend correcting this statement to note that few wild abalone exist, but those that have been documented are well outside the potential source water area for the HB intake barring an extraordinarily unusual current pattern. See Dudek (2017) for additional detailed commentary on this item.
…the list of species sampled in the field studies (as in the Huntington Beach evaluation) should not be taken to indicate that such species will not be entrained or that there will be no impact to these species resulting from entrainment.	8	See Dudek (2017) for a detailed commentary on this item.
Figure 1: Relationship between estimated APF and discharge related mortality rate (blue line) (proposed diffuser, standalone operation). The two vertical lines at 23% and 38% are the range estimated in Foster et al. (2013). Shown also are the Intake related APF (in red based on 106 MGD) and the total APF (in green)	9	This figure should be deleted because it relies on assumptions that are not reflected in the Ocean Plan Amendment. While 38.6% was included in the Ocean Plan Amendment's administrative record, only 23% was designated as the preferred estimated percentage of the total ambient receiving waters needed to dilute the brine that would suffer diffuser-induced shearing impacts. As noted previously, 100% was never listed as an option in the administrative record.
Table 1.	10	A range is not applicable for the APF. The Ocean Plan Amendment and supporting administrative record clearly prescribe how to address plankton impacts where the impact source is clearly detailed. For intakes, impacts are measured by the volume of water withdrawn from the source water. For diffusers, impacts are assumed for 23% of the ambient receiving water volume needed to dilute the brine to ambient + 2.0 parts per thousand salinity face mortality. Footnotes 15 and 16 incorrectly indicate a range for the APFs and incorrectly assert 100% mortality presumably of the entire ambient receiving water volume needed to dilute the brine to ambient + 2.0 parts per thousand salinity based on the size of the estimated APF. As previously noted, the methods prescribed in the Ocean Plan Amendment and its administrative record is to assume 100% in the water volume representing 23% of the

AP1-132 cont.

COMMENT SET AP1: POSEIDON (cont.)

Original Text from Raimondi Memo (Appendix F-1)	Page #	Comment
		entire ambient receiving water volume needed to dilute the brine to ambient + 2.0 parts per thousand salinity.
Table 1. Proposed Modifications APF for Stand-Alone	10	The 17.003 acres listed incorrectly merges mitigation for the operational impacts (16.9 acres) of the intake and the construction impacts (0.103 acres). The source of impact is different for each and the mitigation should be listed separately as well.
Table 1. Proposed Modifications APF for Stand-Alone	10	The 23.46 acre estimate incorrectly suggests the source was MBC 2016 (Appendix T). Furthermore, this estimate attempts to merge a flow-based shearing estimate with a plume dispersion estimated brine mixing zone. Addressing these two impacts, especially the convergence of the two, is a yet to be resolved issue. Merging the two into one value is premature and potentially harmful if parties attempt to extrapolate these APF estimates assuming they are exclusively flow-dependent. The brine mixing zone size is a function of brine volume and diffuser design characteristics.
With regard to discharge, and assuming 23% mortality, the proposed modifications would result in entrainment of 121,611,727 fish larvae per year. This is a result of a lethal discharge entrainment volume of 175 MGD.	12	Poseidon is not assuming a 23% mortality rate. The Ocean Plan Amendment administrative record clearly states that proponents are told to assume 100% mortality for 23% of the total dilution flow required to dilute the brine to ambient + 2.0 parts per thousand salinity.
This represents a difference in lethal volume of 134 MGD (180-46 MGD) and equates to an estimated APF of ~21.5 acres.	12	This calculation incorrectly mixing discharge and intake impacts. The 180 MGD refers to the volume of water representing 23% of the ambient water volume needed to dilute the brine to ambient + 2.0 parts per thousand salinity. Forty-six million gallons per day is the difference in intake volume between the proposed 2010 project and the proposed 2017 project.

AP1-132 cont.

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AP1-1 This comment summarizes the background and proposed project included in the Lease Modification Project.

AP1-2 The commenter summarizes the significant impacts identified in the Draft Supplemental EIR. With respect to the severity of the adverse impacts to marine life, please see Responses to Comments AP1-3 through AP1-14.

AP1-3 Supplemental EIR Mitigation Measure OWQ/MB-3a: Vibratory Pile Driving has been revised to require Poseidon to return to the California State Lands Commission (Commission or CSLC) to obtain approval for impact pile driving. The commenter's suggestion has not been incorporated because no supporting information was provided to demonstrate how impact pile driving could feasibly be reduced to comparable vibratory pile driving threshold distances for injurious (Level A) or harassment (Level B) noise levels. The recommended addition would constitute deferred, potentially infeasible mitigation.

AP1-4 Supplemental EIR Mitigation Measure OWQ/MB-3a: Vibratory Pile Driving requires Poseidon to return to the Commission to obtain approval for impact pile driving. If Poseidon proceeds with vibratory pile driving, APM-5 would include a Sensitive Species Monitoring and Mitigation and Best Management Practices (BMP) Implementation Plan that provides the appropriate Exclusion/Shutdown and Behavioral Harassment Impact Zone distances for vibratory pile driving noise levels and equipment for Marine Wildlife Monitor observation, as well as other minimum details required for the Plan. The Draft Supplemental EIR determined that with APM-5 and OWQ/MB-3a through OWQ/MB-3c the remaining impacts from vibratory pile driving were less than significant.

AP1-5 The Commission has determined that the migratory season exclusion is a mitigation measure, not a lease condition. APM-5 would avoid any potential Level A (injurious) harassment impact to marine mammal species for vibratory pile driving only, because the threshold distances do not exceed 7 meters and can be feasibly monitored. The Draft Supplemental EIR discussed the remaining Level B (behavioral) harassment impacts of 1,000 meters for the most likely affected marine mammals, and the migratory season exclusion mitigation was focused on the grey whales due to their proximity to shore when migrating northward in mother-calf pairings (based on limited available information). Other marine mammal species found further offshore would have a smaller deviation in their migratory route from pile driving activities occurring outside the grey whale migration season, but would still benefit from Supplemental EIR MM OWQ/MB-3b and OWQ/MB-3c.

AP1-6 The commenter indicates they are agreeable to "additional monitoring during construction." If the commenter is referring to Supplemental EIR APM-5 then this comment does not require a specific response. If the commenter is discussing monitoring that would occur in addition to Supplemental EIR APM-5, then no information was provided regarding the additional monitoring.

AP1-7 Section 2.0, *Project Description*, is revised to incorporate APM-8 and change the proposed screens to stationary stainless steel. Copper-nickel alloy would be an option only if future information, likely gathered over several years from other facilities using solid state copper-nickel, shows that any associated leaching has no potentially significant adverse ocean water quality impact. With the change in screen composition from copper-nickel to stainless steel, Impact OWQ/MB-5, *Impact from Ocean Water Quality from Wedgewire Screen and Diffuser Operation and Maintenance*, is revised to Less than Significant.

Copper-nickel alloy wedgewire screens and their associated benefits and impacts are analyzed in Section 5.4.3, *Alternatives Evaluated In This Supplemental EIR,* of the Final Supplemental EIR.

AP1-8 Stationary wedgewire screens with boat-based air-burst maintenance technology have been incorporated into Section 2.4.6.2, *Screen Maintenance*, of the Supplemental EIR as part of the proposed Lease Modification Project.

The commenter stated that similar amounts of boat traffic would be required for rotating stainless steel wedgewire screens, compared to stationary screens, due to the need for frequent inspections to ensure integrity and effectiveness. This technology would likely require several years of monitoring to verify its application. However, there is no information provided to demonstrate that the frequent inspections would occur for the life of the HB Desalination Plant. If inspections are reduced at any point during the operating period then there would be a reduction in boat traffic and associated seafloor disturbance, and the rotating stainless steel wedgewire screen alternative would have less environmental impacts than the proposed Lease Modification Project. Section 5.4.2, *Rotating Brush-Cleaned, Stainless Steel Screens Alternative*, has been revised to clarify that the reduction in boat traffic would be observed over the life of the HB Desalination Plant.

The comment also referenced Exhibit A (comment matrix) and Exhibit B (letter from Acciona), which are found in AP1-112 and AP1-129, respectively, below.

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AP1-9 See Responses to Comment AP1-7 and AP1-8.

Applicant Proposed Measures (APMs) are not considered CEQA mitigation measures, but instead become part of the proposed Lease Modification Project. Therefore, the impact determination for OWQ/MB-5 is Less than Significant. Section 2.4.3 (Wedgewire Screen Intake Design and Materials) and 4.1.4.2 (Ocean Water Quality and Marine Biological Resources, Operation Impacts) have been revised accordingly. The Commission's practice is to add APMs to the Mitigation Monitoring Program table (Table 7-1) to ensure implementation of APMs is tracked.

AP1-10 CSLC staff considered the information provided by the commenter regarding the potential for special-status species to occur, independently verified the accuracy of the information, and incorporated some of this information into the Supplemental EIR, as appropriate. Supplemental EIR Section 4.1.1.2, *Ocean Water Quality and Marine Biological Resources – Environmental Setting, Marine Biological Resources*, is revised to define special-status species for the purposes of the Supplemental EIR. The section also is revised to present the methods used to identify potentially occurring special-status species and presents a description of the special-status species (particularly those in non-larval life stages) that could occur in the project area.

The Supplemental EIR is revised to clarify that no special-status species have been collected in the sampling events used to characterize the baseline conditions for the Lease Modification Project site. However, the sampling approach is not designed to detect species that are rare in the sampling area; rather, it is designed for species for which sufficient data exist (i.e., observations of that species) to make robust estimates of proportional mortality. Two features render special-status species (typically) difficult to detect: larvae of special-status species are almost by definition rare and are sometimes smaller than mesh size used for sampling. Therefore, this Supplemental EIR conservatively assumes that larval stages of special-status species are potentially present.

As explained in Supplemental EIR Section 4.1.4.2, *Ocean Water Quality and Marine Biological Resources, Operational Impacts*, in the absence of information on the larval densities of special-status species at risk of diffuser entrainment, impacts could be potentially significant.

MM OWQ/MB-7 requires compensatory mitigation of the Area of Production Foregone (APF) as a result of diffuser operation. The impact analysis for Impact OWQ/MB-7, *Impact to Special Status Species*

Populations of Diffuser Operation, in Supplemental EIR Section 4.1.4.2, *Ocean Water Quality and Marine Biological Resources, Operational Impacts*, is revised to clarify that APF considers and compensates for all direct and indirect entrainment impacts to all organisms in the affected source water body because it considers both the affected species itself and its contribution to the ecological community. This includes species that were not directly measured in sampling and evaluated in modeling, such as special-status species for the proposed Lease Amendment Project.

AP1-11 See Response to Comment AP1-10.

AP1-12 See master response MR-5, *Diffuser Entrainment Mortality and Species Affected*.

AP1-13 See Response to Comment AP1-132.

AP1-14 As noted by the commenter, the March 30, 2017 version of Dr. Raimondi's report, which included the referenced statement, was a draft document. It was subsequently revised by Dr. Raimondi to remove that sentence because it was unsubstantiated by project-specific evidence. Therefore, CSLC declines to make the change to the Supplemental EIR that is suggested by the commenter.

AP1-15 This comment introduces the commenter's matrix of technical corrections. Each of these comments is individually addressed in Responses to Comments AP1-16 through AP1-128.

AP1-16 This concluding comment requires no response.

AP1-17 The Supplemental EIR has not been revised to add oxford commas, as suggested by the commenter.

AP1-18 The Supplemental EIR has not been revised to add periods at the end of full sentences in bullet points, as this change would not provide any necessary clarification or correction.

AP1-19 The text in Executive Summary is revised as suggested by the commenter to clarify that Poseidon proposed the intake and outfall modifications to comply with the requirements of the Desalination Amendment and to reduce marine mortality. The Supplemental EIR describes the Desalination Amendment requirements for evaluating alternatives in discharge requirements. If the RWQCB, pursuant to Water Code section 13142.5, subdivision (b), determines subsurface intakes are not feasible and brine cannot be diluted by wastewater and there are no live organisms in the

discharge, both the multiport diffuser and wedgewire screens must be installed prior to operation of the HB Desalination Plant consistent with Desalination Amendment requirements (see Ocean Plan Chapters III.M.2.d(1)(c)(i) and III.M.2.d(a),(b)).See master response MR-3, *Responsible vs. Lead Agency & Supplemental vs. Subsequent EIR*, Subpart 4D.2, *2015 Desalination Amendment and 2014 and 2015 ISTAP Reports*, regarding compliance with the Desalination Amendment.

AP1-20 The minor table numbering change suggested by the commenter would not provide any necessary clarification or correction.

AP1-21 The significance conclusion for Impact OWQ/MB-7 in the Supplemental EIR is revised from Significant and Unavoidable to Less than Significant with Implementation of Mitigation, based on the justification added to Section 4.1.4.2, *Ocean Water Quality and Marine Biological Resources, Operational Impacts*. This change in conclusion is also summarized in Response to Comment AP1-10. This revision is made in the Supplemental EIR Executive Summary, Section 4.1, *Ocean Water Quality and Marine Biological Resources*, Section 6.0, *Other Required CEQA Sections and Environmentally Superior Alternative*, and elsewhere in the Supplemental EIR, as needed.

AP1-22 See Response to Comment AP1-105. The comments suggest that the Supplemental EIR revise the identification of the Environmentally Superior Alternative to be the proposed Lease Modification Project, and not the Rotating Brush-Cleaned, Stainless Steel Wedgewire Screens Alternative. The commenter provides a letter from Acciona, an operator of desalination facilities, noting that while it has not operated rotating screens, it believes that mechanical systems (like rotating screens) placed in seawater, are more likely to present operating challenges. The information does not appear to provide sufficient evidence that the rotating screens alternative should be eliminated, and would likely constitute new information added to the Draft Supplemental EIR, so the selection of the Environmentally Superior Alternative is unchanged.

AP1-23 See Responses to Comments AP1-3, AP1-4, and AP1-55 regarding the significance conclusion of Impact OWQ/MB-3 in the Supplemental EIR. See Response to Comment AP1-7 regarding revisions to the significance conclusion of Impact OWQ/MB-5 in the Supplemental EIR. See Response to Comment AP1-21 regarding revisions to the significance conclusion of Impact OWQ/MB-7 in the Supplemental EIR.

AP1-24 The text in Section 1.1, *Project Location and Background*, is revised as suggested by the commenter to clarify that Poseidon proposed the project intake and outfall modifications to abide by the requirements of the Desalination Amendment. See also Response to Comment AP1-19.

AP1-25 The text in the Supplemental EIR explains that the RWQCB staff, in coordination with SWRCB and Coastal Commission staffs, is reviewing alternative sites to the 2010 Project as part of its regulatory process under Water Code section 13142.5, subdivision (b). In its review, the RWQCB may be considering information provided by Poseidon as well as information from various other sources. The commenter's request to add text explaining the conclusions of Poseidon's review of offsite alternatives does not provide any necessary clarification or correction to the Supplemental EIR. Consideration of offsite alternatives is further addressed in master response MR-8, *Alternatives*. See also Response to Comment AP1-19.

AP1-26 The text in Section 1.2.2, *Santa Ana RWQCB Permitting Status*, is revised as suggested by the commenter to clarify the RWQCB's process.

AP1-27 The text in Section 1.2.5, *City of Huntington Beach and Orange County Water District*, is not revised as suggested by the commenter, because the sentence already stated that future CEQA analysis may be needed for drinking water distribution systems, if proposed.

AP1-28 The minor table numbering change suggested by the commenter would not provide any necessary clarification or correction.

AP1-29 The text in Table 1-3, *Considerations Relevant to Supplemental EIR Scope*, is revised as suggested by the commenter to clarify that there are no concrete proposals to modify onshore portions of the desalination plant.

AP1-30 The text in Section 1.4.3, *Potential Impacts and Summary of Alternatives Evaluated*, is revised as suggested by the commenter to clarify the description of the potential types of wedgewire screen and diffuser alternatives.

AP1-31 The text in Section 1.5, *Agency Use of Supplemental EIR/Anticipated Approvals*, is revised as suggested by the commenter to clarify the range of actions that may be taken by the CSLC.

AP1-32 See Response to Comment AP1-25.

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AP1-33 Supplemental EIR Section 2.1, *Project Summary*, is revised to state that the project is proposed, in part, to comply with the requirements of the Desalination Amendment. See also Response to Comment AP1-19.

AP1-34 The Supplemental EIR is revised to include "occasional stormwater" in the list of components in the effluent composition. This revision is made throughout the Supplemental EIR, as appropriate.

AP1-35 Supplemental EIR Section 2.4.2, *Description of Proposed Lease Modification Project, Operational Scenarios*, is revised to delete "100 MGD total", for clarity, as requested by the commenter. However, the Supplemental EIR is not revised to add the requested statement that two pumps would be used, because that is stated in the following bullet.

AP1-36 Compliance with the Desalination Amendment is stated in the Supplemental EIR as a purpose for installation of the proposed diffuser. See also Response to Comment AP1-19.

AP1-37 The schedule for the proposed Lease Modification Project is presented in Supplemental EIR Section 2.4.1, *Poseidon's Proposed Schedule*.

AP1-38 Supplemental EIR Section 5.2.2 is revised to update information regarding the status of the remediation of the Ascon Landfill.

AP1-39 Supplemental EIR Sections 3.2.2 and 3.2.3 are revised to make the minor text changes requested by the commenter.

AP1-40 Supplemental EIR Sections 3.2.6 is revised to make the minor text changes requested by the commenter.

AP1-41 The text in Section 4.0, *Environmental Setting and Impact Analysis*, is revised as suggested by the commenter to clarify that Poseidon proposed the project intake and outfall modifications to abide by the requirements of the Desalination Amendment and to reduce marine mortality. See also Response to Comment AP1-19.

AP1-42 The text in Section 4.0, *Environmental Setting and Impact Analysis*, is revised as suggested by the commenter to clarify the environmental baseline used when analyzing the environmental impacts of the Lease Modification Project.

AP1-43 The Supplemental EIR has not been revised to add periods at the end of full sentences in bullet points, as this change would not provide any necessary clarification or correction.

AP1-44 The minor organizational change suggested by the commenter would not provide any necessary clarification or correction.

AP1-45 The text change suggested for in Section 4.0, *Environmental Setting and Impact Analysis*, would not provide any necessary clarification or correction.

AP1-46 The minor text change suggested by the commenter would not provide any necessary clarification or correction.

AP1-47 Supplemental EIR Section 4.1.1.2, *Environmental Setting, Marine Biological Resources*, states that "The [project] area does not have any environmentally sensitive habitats such as eelgrass beds, surfgrass, rocky shores, or kelp beds." The Supplemental EIR Impact OWQ/MB-2 is revised to clarify that implementation of APM-6 would avoid kelp, seagrasses, and hard substrate (if present).

AP1-48 The Supplemental EIR is revised to clarify that no special-status fish species were found in the sampling events used to characterize the baseline conditions for the Lease Modification Project site. See Response to Comment AP1-10.

AP1-49 The consideration of information from the 2010 FSEIR in the impact analysis for the proposed Lease Modification Project is explained under Impact OWQ/MB-7 in the Supplemental EIR.

AP1-50 See Response to Comment AP1-49.

AP1-51 The Supplemental EIR is revised throughout to remove "concrete" from the description of the proposed intake pipeline header that would support the wedgewire screens. This minor change to the project description does not warrant any further changes to the Supplemental EIR.

AP1-52 APM-3 is listed under Applicant Proposed Measures as one that is relevant to addressing Impact OWQ/MB-2, *Impact to Special Status Species Populations of Intake Screen and Diffuser Installation (Not Including Underwater Noise)*. The Supplemental EIR is revised to also include it in the discussion, as requested by the commenter.

AP1-53 The text in Section 4.1.4.1, *Construction Impacts*, is revised as suggested by the commenter to clarify that underwater noise could result in short-term elevated noise levels that could affect diving seabirds.

AP1-54 See Response to Comment AP1-3.

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AP1-55 The text in Section 4.1.4.1 is revised as suggested by the commenter to clarify that impacts to marine mammals, with APM-5 and Mitigation Measures OWQ/MB-3a through OWQ/MB-3c, would be avoided or mitigated to less than significant levels. The text has also been revised to clarify the less than significant impact level if vibratory pile driving is used, and to note that if impact pile driving is deemed necessary, the impacts remain significant and unavoidable.

AP1-56 Supplemental EIR Mitigation Measure OWQ/MB-3a: Vibratory Pile Driving has been revised to require Poseidon to return to the Commission to obtain approval for impact pile driving, which would include presenting additional information from the geotechnical analysis and any recommended reductions in cumulative noise generation. Therefore, CSLC declines to make the change to the Supplemental EIR that is suggested by the commenter.

AP1-57 Supplemental EIR Section 4.1.4.1 has been revised to clarify that construction vessels would constitute the primary and most likely vector for introducing invasive and non-native marine species

AP1-58 The Supplemental EIR has been revised, in part, as recommended by the commenter, to provide a definitive statement regarding the less-than-significant impact, with mitigation, related to the spread of invasive and non-native marine species.

AP1-59 The text box in Supplemental EIR Section 4.1.4.2 has been revised to reflect the proposed change to stationary stainless steel wedgewire screens. This change, also incorporated in Section 2.0, *Project Description*, reduces the wedgewire screen operational water quality impact to Less Than Significant. See Response to Comment AP1-7.

AP1-60 The wedgewire screen operational impact discussion in Supplemental EIR Section 4.1.4.2 has been revised to analyze the proposed stationary stainless steel wedgewire screens. Copper-nickel alloy wedgewire screens and their associated benefits and impacts are analyzed in Section 5.4.3.

AP1-61 The text and list of Applicant Proposed Measures for Supplemental EIR Section 4.1.4.2 has been revised to include APM-8. The information and analysis for rotating, brush-cleaned stainless steel wedgewire screens is found in Section 5.4.2. See Response to Comment AP1-112.

The comment included a revised assumption regarding the frequency of inspection/cleaning boat trips for wedgewire screen operational

maintenance. The increased frequency has been incorporated into Section 2.4.6.2 and Section 4.2 (various sections addressing wedgewire screen maintenance impacts).

AP1-62 Supplemental EIR Section 4.1.4.2 is revised to make the minor text changes requested by the commenter.

AP1-63 The comment conflicts with APM-8, which states that the stationary wedgewire screens "shall be maintained through boat-based air-burst wedgewire screen cleaning methods." The Draft Supplemental EIR text in Section 4.1.4.2, *Maintenance*, reflected the maintenance options in the CSLC application and as presented in Section 2.0 (See Table 2-6). Section 4.1.4.2 has been revised along with other relevant analysis in Section 4.0, as well as Section 2.4.6.2 and Table 2-6, to incorporate the requirements of APM-8 and to clarify that manual cleaning would most likely coincide with a regularly-scheduled inspection.

AP1-64 Supplemental EIR Section 4.1.4.2, *Mitigation Measures*, has been revised to incorporate APM-8 and acknowledge that remaining impacts for wedgewire screen and diffuser operation and maintenance are less than significant.

AP1-65 The commenter requests that the Supplemental EIR be revised to clarify that fish larvae are the only species to be impacted by the proposed project. This is not correct because non-fish species (e.g., abalone and other invertebrates) could also be impacted, as described throughout Section 4.1, *Ocean Water Quality and Marine Biological Resources*.

AP1-66 Supplemental EIR Impact OWQ/MB-7, *Impact to Special Status Species Populations of Diffuser Operation, Diffuser Operation–Salinity and Other Constituent Discharges*, is revised to clarify that the brine mixing zone (BMZ) with installation of the proposed diffuser would be smaller than the BMZ for the 2010 Project.

AP1-67 See Response to Comment AP1-10.

AP1-68 See Response to Comment AP1-10.

AP1-69 As stated in footnote 12 of Table 1 in Appendix F1, 23.46 acres was based on 23.43 acres due to shear related entrainment mortality and 0.034 acre due to BMZ effects.

AP1-70 The numbers referenced by the commenter are the based on same calculations as described in Response to Comment AP1-69.

AP1-71 See Responses to Comments AP1-69 and AP1-70.

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AP1-72 See Response to Comment AP1-10.

AP1-73 See Response to Comment AP1-3.

AP1-74 Supplemental EIR Section 4.1.5, *Ocean Water Quality and Marine Biological Resources, Cumulative Impacts*, is revised to reflect changes to the impact analysis in Section 4.1.4, *Environmental Impact Analysis and Mitigation*. Each project-specific impact (from Section 4.1.4) is considered in the cumulative impact analysis (Section 4.1.5).

AP1-75 The Supplemental EIR is revised to integrate the discussion of potential visual impacts presented in Section 4.2.1.1, *Existing Setting*, into the environmental impact analysis discussion for Impact ALG-1.

AP1-76 The text in the impact discussion for Impact ALG-1, *Visual Impacts from Offshore Construction Activities*, is expanded as suggested to address visual impacts of the Lease Modification Project to Magnolia Marsh and Huntington City Beach/Municipal Pier.

AP1-77 The text in the impact discussion for Impact ALG-1 is expanded as suggested by the commenter to address visual impacts of the Lease Modification Project to Huntington-By-The-Sea Mobile Home Park.

AP1-78 The text in the impact discussion for Impact ALG-2, *Creation of New Sources of Substantial Light or Glare such as Nighttime Illumination*, is revised as suggested by the commenter to clarify nighttime lighting of barges associated with the construction of the Lease Modification Project.

AP1-79 The text in Section 4.2, *Aesthetics/Light and Glare*, is revised as suggested by the commenter to clarify the adaptation of 2010 Mitigation Measure ALG-2 to apply to the Project as Mitigation Measure ALG-2a.

AP1-80 The text change in Mitigation Measure ALG-2a *Lighting Plan (Offshore Waters)* suggested by the commenter is not made in order to retain consistency with the measures of the 2010 FSEIR.

AP1-81 The text in Section 4.2.5, *Cumulative Impacts*, is revised as suggested by the commenter to clarify reference to the Lease Modification Project.

AP1-82 The comment notes that the Applicant used CalEEMod version 2016.3.1 to quantify emissions. The Supplemental EIR is revised to note this version.

AP1-83 The comment suggests revisions to the mitigation MM CON-14a to indicate that engines powering barges, tug boats and small service boats

can be obtained meeting a Tier 2 emissions standard. CSLC declines to make these revisions because emission calculation assumptions supporting Impact AQ-1 (Section 4.3.4) rely upon marine vessel engines achieving the more-stringent Tier 3 standard. However, MM CON-14a is revised to reflect this assumption.

AP1-84 The comment suggests revisions to the MM CON-14b to clarify how the applicant would comply with the standards. The Supplemental EIR is revised with the clarifications requested by the commenter, as appropriate.

AP1-85 Three feet is commonly used as a standard depth in cultural resources impact analyses and this depth, in most cases, reflects the expected depth of modern ground disturbance. The text in the impact discussion for Impact CUL-2, *Change in Significance of Previously Unidentified Historical or Unique Archaeological Resources*, is revised as suggested by the commenter to clarify the use of 3 feet as a standard depth.

AP1-86 The second sentence of the impact discussion for Impact TCR-2, *Change in Significance of Previously Unidentified Tribal Cultural Resources*, establishes that there are no known tribal cultural resources in the two offshore locations where the wedgewire screens and the diffuser are proposed for installation. The text change suggested by the commenter would not provide any necessary clarification or correction.

AP1-87 The typographical error in Section 4.5.5 is revised as suggested by the commenter to remove the repeated words.

AP1-88 The comment suggests incorporating state policy documents that discuss climate change and desalination into Section 4.6.1.3. CSLC declines to make these additions in order to retain both an impartial presentation of the environmental setting for greenhouse gas emissions and to remain consistent with Section 4.0.

AP1-89 The comment suggests text to describe how the Huntington Beach Desalination Plant is consistent with the emissions targets originally set by California Executive Orders S-03-05 and B-30-15. Executive Order S-03-05 set forth an emissions target reduction to 1990 levels by 2020, which was codified in AB 32, and Executive Order B-30-15 set a target reduction to 40 percent below 1990 levels by 2030, which was codified as SB 32. Both statutes are already described in the Supplemental EIR. The footnote referenced by the commenter has been revised to clarify that the 2050 target reductions originated from Executive Order S-03-05.

CSLC declines to add the text suggested by the commenter. The Supplemental EIR's greenhouse gas emissions environmental setting is

adequately described in Section 4.6.1.1. See also master response MR-2*, Lease Modification Project Scope*.

AP1-90 Supplemental EIR Section 4.6.4 is revised as suggested by the commenter to clarify that the 2010 FSEIR did not contemplate Lease Modification Project activities.

AP1-91 The discussion for Impact GHG-2 in Supplemental EIR Section 4.6.4 has been revised to clarify that the GHG Plan was included in the 2010 FSEIR, and that revisions have been made to include the emissions from Lease Modification Project activities.

AP1-92 Supplemental EIR Section 4.6.5 has been revised to identify the GHG emission impacts from Lease Modification Project activities and provide analysis, independent from APM-7, on the cumulative effect of those activities when compared to statewide emissions. The last sentence of Section 4.6.5 has been revised as suggested by the commenter.

AP1-93 Supplemental EIR Table 4.6-2 has been revised to remain consistent with the title of Impact GHG-2.

AP1-94 The suggested change (found on Line 28 on Page 4-127 of Section 4.7.4, and not on Line 32 of Page 4-128, as described in the comment) is made in the Supplemental EIR.

AP1-95 The comment requests a spelling change in the first sentence of Section 4.8.1.3, *In-Water Hydroacoustics*. The text of the Supplemental EIR is revised to correct the spelling.

AP1-96 The comment recommends adding a footnote in Supplemental EIR Section 4.8.1.5, explaining that noise from terrestrial vehicles would be inaudible in the shallow water marine setting of project activity. No revision is necessary because the complete description of the environmental setting (Supplemental EIR Sections 4.8.1.1 through 4.8.1.3) makes clear distinctions between airborne and in-water noise fundamentals.

AP1-97 The comment recommends adding text to the impact analysis under "Construction-Phase Community Noise" (Supplemental EIR Section 4.8.4) to reiterate that noise levels would be below the significance threshold. The text is revised to clarify that implementation of mitigation adopted with the 2010 Project approvals ensures that the impact would be less than significant.

AP1-98 The comment recommends revising the conclusion of the cumulative impact analysis of onshore construction noise and offshore construction

(Supplemental EIR Section 4.8.5, *Cumulative Impacts*). However, the comment seeks to modify one statement explaining how these construction impacts would not readily combine. No revision is necessary because the complete conclusion appears in the paragraph that follows.

AP1-99 The text in Table 4.9-1, *Impact and MM/APM Summary*, is revised as suggested by the commenter to address consistency between the impact and mitigation measure summaries for the resource areas analyzed in Section 4.0 *Environmental Impact Analysis*.

AP1-100 The typographical error in the impact discussion for Impact TRM-1, *Marine Vessel Safety*, is revised as suggested by the commenter to address the misspelling of "tugboat."

AP1-101 The text in the impact discussion for Impact TRM-1 is revised as suggested by the commenter to include an explicit conclusion statement.

AP1-102 The text in the impact discussion for Impact TRM-1 is revised as suggested by the commenter to include reference to the requirement that a Local Notice to Mariners be issued.

AP1-103 The language error in Section 4.10.4, under Impact Discussion, has been corrected to state "manual cleaning."

AP1-104 Supplemental EIR Section 5.4.1.2 is revised to add information to the No Project Alternative.

AP1-105 See Response to Comment AP1-129 for the response to the Acciona memo (Exhibit B). The commenter also notes that "for example, quarterly dive trips would be required to inspect screens and manually scrape unbrushed external screen surfaces as needed." There is no other information in Comment Set AP1 or Exhibit B discussing the specific maintenance frequency for rotating brush-cleaned wedgewire screens. Comment AP1-61 notes the frequency for stationary stainless steel screen maintenance/inspection would be six annual trips, compared to four for a rotating brush-cleaned wedgewire screen option. Therefore, the rotating brush alternative could offer impact reductions related to maintenance activities and Supplemental EIR Section 5.4.2 has been revised to include this maintenance schedule. See also Response to Comment AP1-8.

AP1-106 The commenter states that Supplemental EIR Section 5.4.3.2, *Six-Port Diffuser Alternative, Environmental Impact Analysis*, does not explain how the conclusion is reached that this alternative would have reduced entrainment mortality in comparison to the proposed Lease Modification Project. The Supplemental EIR section referenced by the commenter

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describes that because the six-port diffuser, compared with the proposed three-port diffuser, would have lower discharge velocity, the diffuser-related entrainment mortality would likely be less under this alternative in comparison to the proposed Lease Modification Project.

AP1-107 The commenter states that if the six-port diffuser operates at the slower 1.79 feet per second (compared with 10.1 feet per second with the proposed three-jet diffusers), it is not clear that the jets would result in a diffused brine stream. The intent of a diffuser is that the high velocity jets work to quickly dilute the brine within a smaller area. However, as stated in Section 5.4.3.2, the six-port diffuser would result in compliance with the Desalination Amendment, which requires dilution to occur in less than 100 meters from the point of discharge: "In stand-alone operations, with all six ports open, the maximum jet velocity would be approximately 1.79 ft/s and regulatory compliance for salinity would be achieved within 98 meters."

AP1-108 The commenter states that it is not clear how the Supplemental EIR concluded that diffuser-related entrainment would be less under both co-located and stand-alone operation for the 6-port diffuser than the proposed diffuser. As described in Section 5.4.3.2, diffuser-related entrainment would be less under this alternative because jet velocity would be slower than the proposed diffuser.

AP1-109 CSLC declines to revise the Supplemental EIR as requested by the commenter. Efficacy was not considered when determining the environmentally superior alternative and the six-port alternative would meet the dilution requirements of the Desalination Amendment as described in Response to Comment AP1-107.

AP1-110 The typographical error in Section 6.1, *Significant Environmental Effects That Cannot Be Avoided*, is revised as suggested by the commenter to remove the repeated instance of a period at the end of the sentence.

AP1-111 The text in Section 6.2, *Significant Irreversible Environmental Changes Caused by Proposed Action If Implemented*, is revised to clarify that consumption of non-renewable fossil fuels for the Lease Modification Project would cause small quantities of GHG emissions that would not have a significant impact on the environment and would not substantially contribute to global GHG emissions or climate change. See also Response to Comment O31-6 and O31-7.

AP1-112 See Response to Comment AP1-105 for the response to Poseidon's matrix comment #89. The comment #90, referenced in this comment, relates to the six-port diffuser.

AP1-113 Draft Supplemental EIR Section 5.4.3.2 explained the basis for the reduction in discharge mortality. See Response to Comment AP1-107, AP1-108, and AP1-109.

AP1-114 The request to move text from one location to another is not needed. The statement is factual. Moving text also means adding ~~strikeout~~/underline text to show changes to the Draft Supplemental EIR, which can be a disservice to the reader when it is done when not required. The Commission's practice is to identify the Environmentally Superior Alternative in its EIRs.

AP1-115 The typographical error in Section 7.3, *Mitigation Compliance Responsibility*, is revised as suggested by the commenter

AP1-116 Table 7-1, *Mitigation Monitoring Program*, includes those mitigation measures (MMs) and Applicant Proposed Measures (APMs) that are required to avoid, minimize, or mitigate the potential impacts of the Lease Modification Project only. Clarification of the structure of Table 7-1 is added to the text as suggested. Table 7-1 and the MM/APM tables at the end of each resource area of Section 4.0 are revised as suggested by the commenter to ensure consistency between these tables.

AP1-117 No mitigation measures from the 2010 Supplemental EIR were modified and applied to the Supplemental EIR for the Lease Modification Project. All applicable mitigation measures were either kept as is from the 2010 Supplemental EIR or are new to the Supplemental EIR. In either case, the mitigation measures are identified as from the 2010 Supplemental EIR or new to the Supplemental EIR. The change to Table 7-1 suggested by the commenter would not provide any necessary clarification or correction.

AP1-118 The text in Section 7.5, *Mitigation Monitoring Table*, is revised as suggested by the commenter to clarify that since the MMs and APMs in Table 7-1 are pertinent to the Lease Modification Project CSLC is responsible for ensuring their implementation.

AP1-119 Section 4.1, *Ocean Water Quality and Marine Biological Resources*, in Table 7-1 1 has been updated to reflect the correct impact number for Impact OWQ/MB-56, *Impact to Special Status Species Populations of Intake Flow Reduction (Compared to 2010 Project) and Use and Maintenance of Wedgewire Screens*. The minor change to Table 7-1 suggested by the commenter is no longer applicable;

AP1-120 MM OWQ/MB-7 in Section 4.1 of Table 7-1 is delineated as a new mitigation measure to this Supplemental EIR as suggested by the commenter.

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AP1-121 Section 4.2, *Aesthetics/Light and Glare*, in Table 7-1 1 has been updated to reflect that MM ALG-2 does not apply to Impact ALG-2, *Creation of New Sources of Substantial Light or Glare such as Nighttime Illumination*. The minor change to Table 7-1 suggested by the commenter is no longer applicable;

AP1-122 As stated for Impact CMLTV-AQ-1, *Cumulative Air Emissions from Construction*, under Section 4.3, *Air Quality*, in Table 7-1, readers are directed to review Impact AQ-1 (Air Emissions from Construction) for the full text of applicable mitigation measures. Impact AQ-1 delineated whether the mitigation measure is from the 2010 Supplemental EIR or is new to the Supplemental EIR.

AP1-123 Table 4.4.1 is updated to reflect that APM-6, *Anchoring, Riprap Reconfiguration, and Dredging Plan and Preclusion Area Map*, does not apply to Impact CUL-1, *Change in Significance of Previously Recorded Historical or Unique Archaeological Resources*. The change to Table 7-1 1 suggested by the commenter is no longer applicable.

AP1-124 Supplemental EIR Table 7-1 has been revised for consistency with Table 4.4-1, clarifying that the 2010 FSEIR mitigation measures for cultural resource impacts that were also adopted by the CSLC (as a responsible agency) in 2010 apply to onshore activities.

AP1-125 Comment states that Table 7-1 includes 2010 FSEIR MM CON-51 as mitigation for impact CUL-4. This is incorrect: 2010 FSEIR MM CON-52 was listed in Table 7-1 of the Draft Supplemental EIR as mitigation for impact CUL-4. Supplemental EIR Table 7-1 has been revised for consistency with Table 4.4-1, clarifying that the 2010 FSEIR mitigation measures for cultural resource impacts that were also adopted by the CSLC (as a responsible agency) in 2010 apply to onshore activities.

AP1-126 Supplemental EIR Table 7-1 has been revised for consistency with Table 4.5-1, clarifying that the 2010 FSEIR mitigation measures for cultural resource impacts that were also adopted by the CSLC (as a responsible agency) in 2010 apply to onshore activities.

AP1-127 Section 4.9, *Recreation*, in Table 7-1 is added as suggested by the commenter.

AP1-128 Resumes of the third-party contractors selected by the Commission to prepare environmental documents are maintained at the Commission's Sacramento office.

AP1-129 The attachment (Exhibit B – Letter from Acciona) was reviewed by the Supplemental EIR preparers. Acciona (Poseidon's vendor/operator for the wedgewire screen manifold for the Huntington Beach Desalination Facility) notes that they operate stationary screen desalination facilities only, and that they do not have any reference data for rotating screen applications. Acciona expresses concerns with operating a rotating screen system, and notes that "it has been Acciona's experience that mechanical systems placed in seawater presents challenging operating conditions." However, no peer-reviewed information or documentation is provided to support that statement.

The letter agrees that the rotating screen option has the potential to reduce the cleaning needed, but does not believe that this option would result in any fewer inspection/maintenance trips. This conflicts with Comment AP1-105, which provides that inspections/cleaning would occur on a quarterly basis. The letter also expresses concerns with mechanical failure, but provides no specific information or documentation to support Acciona's statement that the requirement for service boats and divers to fix the mechanical system would exceed the more frequent stationary screen maintenance trips. The letter is also inconsistent with Poseidon's technical memo submitted as part of its application for the Lease Modification Project (*Appendix II – Wedgewire Screen Intake Maintenance Plan*). This memo, describing the rotating brush-cleaned screen option, notes that at their best, rotating screens would be automatically cleaned and at their worst, they would function as passive, stationary screens.

See Response to Comment AP1-8 and AP1-105 for a discussion regarding the potential lowered environmental impacts, over the operational life of the Huntington Beach Desalination Facility, of rotating brush-cleaned screens.

AP1-130 The attachment (Exhibit C – Huntington Beach Desalination Plant California State Lands Commission Draft SEIR Special Status Species Information) was reviewed by the Supplemental EIR preparers. See Response to Comment AP1-10 regarding consideration of special-status species in the Supplemental EIR.

AP1-131 The attachment (Exhibit D – Ocean Plan Desalination Amendment Shearing Mortality Guidelines Represents the Best Available Science) was reviewed by the Supplemental EIR preparers. See master response MR-5, *Diffuser Entrainment Mortality and Species Affected,* regarding assumptions made in the Supplemental EIR's diffuser entrainment analysis.

RESPONSE TO COMMENT SET AP1: POSEIDON

AP1-132 The commenter provides various critiques of Supplemental EIR Appendix F1. Those that warrant a response are noted below.

CODAR discussion is in the document to acknowledge that other transport models exist and have been used (but not yet approved) to estimate source water body, which is a required element in ETM calculations.

The use of "meroplankton" is based on the long-standing precedent of not assessing holoplankton in entrainment/ETM calculations. This was based on the assumption that holoplankton have such short life histories and are so abundant that there is unlikely to be any direct impact based on entrainment. Moreover, the set of species that are used in ETM calculations are, in part, selected to represent the early life history of meroplanktonic species. Specifically, this means the period of vulnerability to entrainment, which is a period in the planktonic stage. By definition, holoplanktonic species do not have life histories similar to meroplanktonic species.

Raw numbers of larvae are used to provide context for ETM/APF values, which are the metrics of importance.

The comments on the section "Addition of Wedgewire Screens" are based on a misunderstanding of the general utility of ETM/APF modeling. It is true that ETM/APF modeling, when done correctly and with one important assumption, is very robust to the species sampled. Here, done correctly means (in part) that: (1) estimates of entrainment and source water larval concentrations are reliable, (2) the source water body has been estimated correctly for each assessed species and (3) that species selected for assessment are reasonably representative of all entrained meroplanktonic species. The one overriding assumption that enables the approach to work easily is that propagules (which, for this purpose, include the planktonic stages of meroplanktonic algae) entrained in the intake all die. The use of wedgewire screens violates (by design) this assumption, because the propagules that cannot get through the screen survive. Moreover, studies that have looked at the efficacy of screens indicate that proportion of the propagules with sizes close to the slot width get through the screen and die. Hence, the simplifying assumption of 100% mortality of the entrained individuals (as estimated by tows near to the intake structure) is violated. This means that the estimation of proportional mortality (Pm) (and in particular d (days vulnerable)) for any given species is affected by the size of its larvae. It also means that species with small larvae will not be modeled well if they are not represented by sampled species. Unfortunately, most coastal meroplanktonic species have much

smaller propagules than are found in the typical species for which Pm is assessed. This is because most are invertebrates and algae. Clearly, some invertebrate larvae can be large (e.g., some stages of crustacean larvae). However, the vast majority of invertebrate larvae and algal spores or gametes are much smaller than the slot opening of the proposed wedgewire screen. Moreover, they are vastly more numerous than fish larvae (this was the point of the citation). Therefore, while the correct ETM/APF calculation could be done, it is not possible to simply apply a correction to existing values. Finally, regardless of the calculation approach – because of the vast difference between propagules that would go through the screen slot (very common) and those that would not (rare) there would be very little effect of screening relative to the assumption of 100% mortality for all propagules.

Regarding the potential for rare species, including giant sea bass and abalone, to be present near the Lease Modification Project, it is important to note that a sample is not a census. For this project, sampling represents a tiny fraction of the overall abundance of propagules that could be entrained. Hence, mathematically rare species are unlikely to be found in a sample. This does not mean that they are not entrained. The key other question is if larvae of one of the species of special interest could be transported to the intake during its planktonic period. For giant sea bass and abalone, two pieces of evidence suggest that this is possible. First is the presence of rocky reef associated species in the entrainment samples (e.g., sheephead and rockfishes found in the 2003-2004 sampling). Second, the planktonic larval duration for both species (giant sea bass = 30 days, most species of abalone =10 days) would allow for transport from rocky reef habitats down-coast of the proposed intake location.

See master response MR-5, *Diffuser Entrainment Mortality and Species Affected*, regarding assumptions made in the diffuser entrainment analysis.

See Response to Comment AP1-10 regarding consideration of special-status species.

RESPONSE TO COMMENT SET AP1: POSEIDON

II.7.2 Comment Set AP2: Poseidon (Applicant)

POSEIDON SURFSIDE
a Poseidon Water company

July 26, 2017

BY EMAIL

Alexandra Borack, Project Manager
100 Howe Avenue, Suite 100-South
California State Lands Commission
Sacramento, CA 95825
CEQA.comments@slc.ca.gov

Re: Seawater Desalination Project at Huntington Beach: Outfall/Intake Modifications and General Lease – Industrial Use (PRC 1980.1) Amendment (Lease Modification Project), EIR No. 794, Draft Supplemental Environmental Impact Report (Draft SEIR)

Dear Ms. Borack:

On behalf of Poseidon Resources (Surfside) LLC ("Poseidon"), the Applicant for the Seawater Desalination Project at Huntington Beach: Outfall/Intake Modifications and General Lease – Industrial Use (PRC 1980.1) Amendment ("Lease Modification Project"), we submit the following technical corrections to the alternatives analysis in the Draft SEIR for the Lease Modification Project prepared by the California State Lands Commission ("SLC"). Nothing in these corrections require recirculation of the Draft SEIR pursuant Public Resources Code section 21092.1 and CEQA Guidelines section 15088.5. Rather, the corrections simply clarify information that already exists in the Draft SEIR and has been circulated for public review and comment.

Poseidon appreciates staff's consideration of the Lease Modification Project and looks forward to the SLC's continued review of the Project. We would be pleased to respond to any further questions you may have during the CEQA process for the Project.

Sincerely,

s/ Scott Maloni

Scott Maloni
Vice President
Poseidon Resources (Surfside) LLC

Enclosures

cc: Kelly Huffman, Poseidon Water

COMMENT SET AP2: POSEIDON (cont.)

ATTACHMENT A

Suggested Revisions to Chapter 5, Alternatives

Comment #	Section Name	Page #	Paragraph or Table #	Issue	Suggested Resolution	
5. Alternatives						
1.	5.2.1 Guidance on Alternatives Development and Evaluation	5-2	Between lines 19-20	The SEIR addresses the appropriate scope of an alternatives analysis for environmental impact reports in general, but does not explain the required scope of an alternatives analysis for a supplemental environmental impact report or for a responsible agency.	Suggest adding the following text after line 19: "When an EIR has been prepared for a project, a responsible agency must consider adoption of alternatives and mitigation measures within its authority that may reduce or avoid environmental impacts of those aspects of the project that it decides to carry out, finance, or approve. (State CEQA Guidelines, § 15096(g)). For these reasons, this SEIR focuses its alternatives analysis on those alternatives that are within the CSLC's authority. In addition, when a prior environmental impact report has been certified and a supplemental environmental impact report is being prepared, the supplemental environmental impact report "need contain only the information necessary to make the previous EIR adequate for the project as revised." (State CEQA Guidelines, § 15163(b)). A leading CEQA treatise interprets this provision to mean that "an EIR supplement need respond only to the project changes, changes in circumstances, or new information that triggered the need to prepare a further EIR." Stephen Kostka and Michael Zischke, Supplemental EIR, in CEB Onlaw: Practice under the California environmental quality act §19.5 (2d edition, updated March 2015). The California Court of Appeal has also explained that "[w]hen a lead agency is considering whether to prepare an SEIR, it is specifically authorized to limit its consideration of the later project to effects not considered in connection with the earlier project." *Temecula Band of Luiseno Mission Indians v. Rancho Cal. Water Dist.*, 43 Cal.App.4th 425, 437 (1996). For these reasons, the CSLC has focused its alternatives analysis on those alternatives that would have the potential to address impacts associated with the Lease Modification Project—that is, the addition of the wedgewire intake screens and the multiport brine diffuser described in Section 2.0, Project Description." AP2-2
2.	5.2.3 Summary of Screening Results	5-5	Lines 6-7	The SEIR section cross-references are incorrect.	Suggest revising text to read: "These alternatives are listed as follows; the rationale for their elimination is presented in Section 5.3.~~4~~3:" AP2-3
3.	5.2.3 Summary of Screening Results	5-5	Lines 23-24	The SEIR section cross-references are incorrect.	Suggest revising text to read: "Ultimately, it was eliminated from consideration as described in Section 5.3.~~5~~4." AP2-4
4.	5.3 Alternatives Eliminated from Further Consideration	5-5	Line 25	The SEIR refers to alternatives that were eliminated from further consideration in the SEIR. This choice of wording does not take into account the analysis that is contained in the SEIR for each alternative.	Suggest revising text to read: "Alternatives Eliminated from ~~Further~~ Detailed Consideration." AP2-5

COMMENT SET AP2: POSEIDON (cont.)

Comment #	Section Name	Page #	Paragraph or Table #	Issue	Suggested Resolution	
5.	5.3.3 Alternatives Eliminated in the 2010 Final Subsequent Environmental Impact Report	5-8	Footnote 1	The SEIR section cross-references are incorrect.	Suggest revising text to read: "After publication of the 2010 FSEIR, an Independent Scientific and Technical Advisory Panel conducted a detailed evaluation of the feasibility of a Subsurface Infiltration Gallery Intake (see Section 5.3.~~7~~4)."	AP2-6
6.	5.4 Alternatives Evaluated In This Supplemental EIR	5-12	Line 28	The SEIR refers to alternatives that were "evaluated" in the SEIR as only the three "new" alternatives listed on pages 5-12 to 5-16. This choice of wording does not take into account the analysis that is contained in the SEIR for each of the other alternatives analyzed earlier in the chapter.	Suggest revising text to read: "Alternatives Evaluated **In Detail** In This Supplemental EIR."	AP2-7

RESPONSE TO COMMENT SET AP2: POSEIDON (cont.)

RESPONSE TO COMMENT SET AP2: POSEIDON

AP2-1 This comment introduces comments AP2-2 through AP2-7 and requires no individual response.

AP2-2 CSLC declines to add the text suggested by the commenter. The scope of the Supplemental EIR's alternatives analysis is adequately described in Section 5.2.1 (Guidance on Alternatives Development and Evaluation). See also master responses MR-3*, Responsible Vs. Lead Agency & Supplemental Vs. Subsequent EIR*, and MR-8, *Alternatives*, regarding the Supplemental EIR's alternatives identification, screening, and evaluation process. The text change suggested by the commenter would not substantively modify the text in the Supplemental EIR or provide any necessary correction.

AP2-3 The suggested change to the section cross-reference is made.

AP2-4 The suggested change to the section cross-reference is made.

AP2-5 The minor text change suggested by the commenter would not provide any necessary correction.

AP2-6 The suggested change to the section cross-reference is made.