POSEIDON WATER

Agenda Items
Th9a & 10a

May 11, 2022

VIA E-MAIL

Chair Brownsey and Honorable Commissioners
California Coastal Commission
455 Market Street, Suite 300
San Francisco, CA 94105

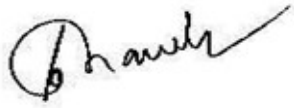
Re: Huntington Beach Desalination Project: Response to Comments on Appeal No. A-5-HNB-10-225 (Agenda Item Th9a) and Application No. 09-21-0488 (Agenda Item Th10a)

Dear Chair Brownsey and Honorable Commissioners:

We are writing regarding comments submitted to the Commission regarding Poseidon Water's ("Poseidon") proposed Huntington Beach Desalination Project (the "Project") at its May 12, 2022, meeting. **Attachment A** responds to the following letters and documents submitted to the Commission regarding the Project: (1) Chatten-Brown, Carstens & Minteer LLP's letter on behalf of California Coastal Protection Network, California Coastkeeper Alliance, Orange County Coastkeeper, and Surfrider Foundation (collectively, "CCPN"), dated February 11, 2022; and (2) documents submitted by the Environmental Coalition in January 2022. **Attachment B** responds to CCPN's March 4, 2022, letter to the Commission, entitled "Transparency and Inequity Issues Concerning the Proposed Brookfield-Poseidon Permit Process." For the reasons set forth in **Attachments A and B**, CCPN's and the Environmental Coalition's claims are without merit. We therefore respectfully request that the Commission objectively consider Poseidon's CDP application and Appeal No. A-5-HNB-10-225 and approve the Project.

Thank you for your consideration, and we look forward to presenting the Project to you at the May 12 meeting.

Sincerely,



Sachin Chawla
Senior Vice President, Poseidon Water

Attachments

cc: Tom Luster, California Coastal Commission
DJ Moore, Latham & Watkins LLP

These materials have been provided to the Coastal Commission Staff

Agenda Items Th9a&10a

ATTACHMENT A:
RESPONSES TO CALIFORNIA COASTAL PROTECTION NETWORK AND ENVIRONMENTAL COALITION COMMENTS

This Attachment A responds to letters and documents submitted to the Commission that oppose Poseidon Resources (Surfside) LLC's ("Poseidon") application for a coastal development permit ("CDP") for Poseidon's proposed Huntington Beach Desalination Facility ("Project"): (1) Chatten-Brown, Carsten & Minteer LLP's letter on behalf of California Coastal Protection Network, California Coastkeeper Alliance ("CCKA"), Orange County Coastkeeper, and Surfrider Foundation (collectively, "CCPN"), dated February 11, 2022 (the "CCPN Letter"); and (2) documents submitted by the Environmental Coalition (the "Coalition") in January 2022. As described herein, the arguments raised by CCPN and the Coalition are without merit.

TABLE OF CONTENTS

PAGE

I. Analysis of Alternatives and Mitigation Measures....1

A. The Commission Is Bound by the Regional Board's Water Code Section 13142.5(b) Determination for Water Quality....1

B. The Proposed Dredge and Fill for the Intake and Outfall Are Permitted Under Coastal Act Section 30233....3

C. While the Project Complies with Applicable Coastal Act and LCP Policies, the Project Nonetheless Qualifies as a Coastal-Dependent Industrial Facility....4

D. Alternative Intake Locations and Designs Are Infeasible....9

1. Alternative Intake Locations....9

2. Alternative Intake Designs....10

E. The Project Proposes Maximum Feasible Mitigation....13

1. Wedgewire Screens Are Legally-Mandated and Are an Appropriate Method to Minimize Entrainment of Marine Life....14

2. The Project's Linear Brine Diffuser Fully Complies with the Desalination Amendment....15

3. The Project's Marine Life Mitigation Is Not Speculative....17

F. As a Responsible Agency under CEQA, the Commission Does Not Re-Evaluate Wholesale Project Alternatives....18

1. Conservation Is Not Sufficient; New Water Supplies Are Needed to Meet Future Demand 19

2. A Smaller Facility Has Been Repeatedly Rejected as Infeasible 20

3. The Carson Project Is Not a Feasible Project Alternative 20

II. Duty to Analyze Environmental Impacts and Project Changes under CEQA 21

A. Marine Life Mitigation Plan ("MLMP") and Artificial Reef 21

B. Project Changes 25

1. Grading/Site Plan Changes 26

2. Alleged Changes to the Project's Circumstances and New Information 27

III. Critical Infrastructure Standards 31

IV. Sea Level Rise and Coastal Hazards 36

V. Seismic Hazards 42

VI. Wetlands and ESHA 49

A. AES Enforcement Action 49

B. The Project's Limited Dredge and Fill Is Consistent with Applicable Coastal Act and LCP Policies 49

C. Protection of Environmentally Sensitive Habitat Areas 50

VII. Marine Biological Resources 56

VIII. Visual Resources 62

IX. Environmental Justice 63

X. Energy Consumption and Climate Change 66

XI. Groundwater Quality 71

XII. Recreation and Coastal Access 72

I. ANALYSIS OF ALTERNATIVES AND MITIGATION MEASURES

A. The Commission Is Bound by the Regional Board's Water Code Section 13142.5(b) Determination for Water Quality

- CCPN argues that, under Coastal Act section 30412, the Commission is not bound by the Santa Ana Regional Water Quality Control Board's ("Regional Board") Water Code section 13142.5(b) determination with respect to considering Project alternatives because the Commission has authority to consider alternatives under Coastal Act section 30233. (CCPN Letter, pp. 6, 8.)

    - The Coastal Act explicitly states that the State Water Resources Control Board and the Regional Water Quality Control Boards have "primary responsibility for the coordination and control of water quality." As such, the Coastal Act prohibits the Commission from "modify[ing], adopt[ing] conditions, or tak[ing] any action in conflict with any determination by the [State Board] or any California regional water quality control board in matters relating to water quality or the administration of water rights. . . ."[1]

    - The Regional Board has already assessed the Project's impacts pursuant to the federal Clean Water Act and California's Porter-Cologne Act. The Regional Board found that the Project meets the requirement under Water Code Section 13142.5(b) that new industrial facilities using seawater for processing use the best available site, design, technology, and mitigation feasible to minimize the intake and mortality of all forms of marine life. Accordingly, no additional investigation into new alternative sites, designs, technologies, or mitigation is required in regard to marine life impacts. The Commission may not take any action in conflict with the Regional Board's determination on the Project.[2]

    - CCPN misinterprets Coastal Act section 30412, calling it a "delegation of authority to the Regional Board." (CCPN Letter, p. 6.) To the contrary, it is a restriction on the Commission's authority. The plain text of Coastal Act section 30412 states that the Commission "***shall not***, except as provided in [circumstances inapplicable here for treatment works plans], ***modify, adopt conditions, or take any action in conflict with any determination by . . . any California regional water quality control board in matters relating to water quality*.**" (Emphasis added.) Thus, the purpose of Section 30412 is to ensure that the Commission does not frustrate the Regional Board's regulatory decisions. (See *ibid*.)

---

[1] Pub. Resources Code, § 30412, subd. (b).

[2] See also Pub. Resources Code, §§ 30400, 30401 (The Legislature did not intend for the Regional Board and the Commission to make separate and potentially conflicting determinations regarding water quality compliance for the same project; inter-agency duplication and conflict are to be avoided).

- In addition, CCPN ignores that the Commission was actively involved in the development of the amendment to the Water Quality Control Plan for Ocean Waters of California ("Ocean Plan") regarding desalination facilities (the "Desalination Amendment") to implement Water Code section 13142.5(b). "In formulating the Desalination Amendment, State Water Board staff consulted with staff from the affected regional water boards and staff from the following state agencies: ***Coastal Commission***, Coastal Conservancy, California Department of Fish and Wildlife (CDFW), Ocean Protection Council, State Lands Commission, Department of Public Health, and Department of Water Resources."[3] The Coastal Commission provided comments on the proposed Desalination Amendment before its adoption, and the Coastal Commission never took the position in these comments that it is not bound by the Regional Board's section 13142.5(b) determination. (See *id.*, pp. H-410 to H-417.) The Commission has authority to implement Coastal Act requirements, but it lacks statutory authority to implement Water Code section 13142.5(b). (*Id.*, p. 68; Water Code, § 13142.5(b).)

- Further, contrary to CCPN's suggestion, Poseidon does not take the position that the Commission cannot consider marine life protection. (See CCPN Letter, pp. 7-8.) Rather, CCPN is taking an overly narrow view of the Regional Board's consideration of the Project, claiming that the "delegation of authority to the Regional Board is limited to decisions concerning water quality and water rights but does not include decisions regarding marine life protection." (*Id.*, p. 7.) In addition to conferring authority to regulate marine water quality, Water Code section 13142.5(b) confers authority on the Regional Board to consider marine life protection. "For each new . . . industrial installation using seawater for . . . industrial processing, the best available site, design, technology, and mitigation measures feasible shall be used ***to minimize the intake and mortality of all forms of marine life***." (Water Code, § 13142.5(b) [emphasis added].) The overwhelming focus of the Regional Board's proceedings on the Project was marine life protection and mitigation. (See, e.g., Regional Board Order R8-2021-0011 ("2021 Regional Board Order"), p. 5 [explaining that, under Section 13142.5(b), the Regional Board must "analyze a range of reasonable alternatives for best available site, design, technology, and mitigation measures feasible to minimize intake and mortality of all forms of marine life"]; *ibid*. [requiring Poseidon to prepare a Marine Life Mitigation Plan]; *id*., pp. G-19 to G-26 [detailing the Regional Board's consideration of direct and indirect impacts to marine life].)

- Moreover, CCPN erroneously contends that the Regional Board's Water Code section 13142.5(b) determination does not regulate water quality because it applies only to the seawater intake. (CCPN Letter, p. 7.) The Regional Board thoroughly evaluated the Project's discharge and diffuser and considered the

[3] See State Water Resources Control Board, *Final Staff Report Including the Final Substitute Environmental Document, Amendment to the Water Quality Control Plan for Ocean Waters of California* (May 6, 2015), p. 31 (emphasis added) (hereafter referred to as the "SED").

Desalination Amendment's discharge requirements. (See 2021 Regional Board Order, p. F-13; see also Regional Board Addendum (July 2020) ["This Addendum evaluates the potential impacts of the installation, maintenance, and operation of the modified diffuser as compared to the 2017 . . . diffuser analyzed in the 2017 FSEIR"].) The Regional Board concluded, based on substantial evidence in the record, that the revised multiport diffuser would result in *less* shearing-related mortality of marine life as compared to the previous diffuser design. (2021 Regional Board Order, p. F-14.) "The Order also requires the Discharger to comply with the receiving water limitation for salinity . . . in the Ocean Plan and establishes a smaller brine mixing zone [compared to the Project studied in 2010], resulting in a smaller area of impact." (*Ibid*.)

B. The Proposed Dredge and Fill for the Intake and Outfall Are Permitted Under Coastal Act Section 30233

- CCPN argues that, under Coastal Act section 30233(a), the Commission must consider wholesale Project alternatives to the filling or dredging of coastal waters or wetlands. (CCPN Letter, pp. 8-9.)[4] CCPN misconstrues section 30233(a).
    - Section 30233 provides that dredging and filling of coastal waters "shall be permitted [for coastal-dependent industrial facilities] . . . where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects."
        - The Commission's authority under Section 30233 is limited to review of alternatives to those Project components within the Commission's jurisdiction that involve filling or dredging, rather than wholesale alternatives to the entire Project. (See Pub. Resources Code, §§ 30233, 21002.1, subd. (d).) CCPN only identifies wholesale alternative projects—conservation, the proposed Carson wastewater treatment plant, or a smaller desalination plant with slant wells. Not only are these outside the scope of the Commission's authority to consider, but they are not feasible alternatives to the Project. (See Section I.F. *infra*.)
    - Further, the Commission can make all the required findings that the Project complies with Section 30233. Here, the Project requires dredge and fill in order to modify the existing intake and outfall structures in order to comply with the Desalination Amendment. (See 2017 SEIR, pp. 2-23 to 2-29.) "Installation of the wedgewire screens and diffusers requires . . . anchoring, dredging, [and] riprap reconfiguration." (*Id.*, p. 2-23.) There can be no dispute that the intake and outfall components are coastal-dependent industrial facilities because they must

[4] CCPN also argues that the restoration of the Palos Verdes artificial reef requires dredge and fill. (CCPN Letter, p. 9.) As explained in Section II.A *infra*, the Palos Verdes artificial reef is a restoration project permitted by Section 30233(a)(6) and would be subject to its own CDP and environmental analysis.

be located on or adjacent to the ocean to function. (See Pub. Resources Code, § 30101.)

- The State Lands Commission's ("SLC") Supplemental Environmental Impact Report ("2017 SEIR") thoroughly analyzed the potential environmental impacts of the Project's dredge and fill activities, finding that potential impacts would be less than significant with mitigation, assuming that vibratory pile driving is utilized. (See, e.g., 2017 SEIR, pp. 4-31, 4-33 to 4-34, 4-36.) For instance, the 2017 SEIR explained that "[a]nchor placement, dredging, and riprap reconfiguration could crush benthic organisms or result in short-term, temporary displacement. Fish would likely avoid the area during construction and return after activities are completed. Injury or mortality to fish is not expected and displacement would be temporary. Impacts would be less than significant." (2017 SEIR, p. 4-36.) In addition, pursuant to Applicant Proposed Measure No. 6, Poseidon is required to provide an Anchoring, Riprap Reconfiguration, and Dredging Plan for review and approval by SLC staff. (*Id.*, p. 4-11; *id*., p. 4-36.)

- The Regional Board fully evaluated potential impacts from dredging and filling activities associated with the modified diffuser design. Based on substantial evidence in the record, including the Addendum, the Regional Board determined that "the modified diffuser will not result in new or substantially greater significant environmental effects when compared to the impacts disclosed for the 2017 duckbill diffuser analyzed in the 2017 FSEIR." (Addendum, p. 15.)

- Because the dredging associated with the modifications to the intake and outfall structures would result in less than significant environmental impacts with mitigation if vibratory pile driving is utilized, no additional mitigation is required. Poseidon has proposed Special Condition 29, which requires that Poseidon utilize vibratory pile driving, or, if vibratory pile driving is infeasible due to site-specific geotechnical conditions, Poseidon must obtain Commission approval for impact pile driving. Accordingly, consideration of additional less environmentally damaging alternatives is not necessary, as potential adverse impacts have already been minimized.

C. <u>While the Project Complies with Applicable Coastal Act and LCP Policies, the Project Nonetheless Qualifies as a Coastal-Dependent Industrial Facility</u>

- CCPN argues that Coastal Act section 30260 does not apply to the Project. (CCPN Letter, pp. 8, 60-61.) In particular, CCPN claims that the "[d]evelopment of a water source is not coastal dependent." (*Id*., p. 60.) CCPN asserts that "Section 30260 was not intended to apply to developments like the Project," but rather only to power plants and coastal oil production. (*Ibid*.)

- Section 30260 only applies when a proposed project does not comply with the Coastal Act or applicable LCP. (See Pub. Resources Code, § 30260.) Because the Project complies with the City's LCP—the City approved a local CDP in 2010—and applicable Coastal Act policies, an evaluation of the Project's compliance with Section 30260 is not necessary. (See Poseidon CDP Application, Att. 9 [Coastal Act and LCP Consistency Analysis].)

- Further, Section 30260 provides that "[c]oastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division." (Pub. Resources Code, § 30260.) That is precisely what Poseidon proposes here by siting a desalination facility on the existing AES Huntington Beach Generating Station site.

- However, CCPN takes an overly narrow interpretation of "coastal-dependent," claiming it only applies to power plants and coastal oil production. (CCPN Letter, p. 60.) Section 30101 defines "coastal-dependent" as "any development or use which requires a site on, or adjacent to, the sea to be able to function at all." (Pub. Resources Code, § 30101.) Commission staff has previously found desalination facilities to be coastal-dependent uses, such as the Carlsbad Desalination Project.

    - The Coastal Act and LCP define the term "coastal-dependent" as "any development or use which requires a site on, or adjacent to, the sea to be able to function at all."

    - In 2007, Commission staff explained that the Carlsbad Desalination Project "has been determined to be "coastal-dependent" pursuant to Coastal Act Section 30101, which defines a coastal-dependent development or use as that which "requires a site on or adjacent to the sea to be able to function at all."[5]

    - The Project is coastal-dependent because the source material for the desalination plant is the ocean water itself. The Project also relies on the existing pipeline infrastructure from the AES Huntington Beach Generating Station, which is a coastal-dependent power plant,[6] in order to extract the ocean water and discharge brine. The Project requires a site on and adjacent to the sea in order to pull in ocean water for the desalination plant and to send processed brine back to the sea, where it is diffused and mixed back into the ocean water.

[5] See Commission Staff Report, E-06-013 (Nov. 2, 2007), p. 68, 71.

[6] The Commission's *Designation of Coastal Zone Areas Where Construction of An Electric Power Plant Would Prevent Achievement of the Objectives of the California Coastal Act of 1986* (Adopted September 1978; Re-Adopted December 1985) identifies the AES Huntington Beach Generating Station as one of 19 existing coastal power plants.

- Further, the Project cannot feasibly be located inland because it would result in additional environmental impacts, such as increased construction impacts to install miles of pipeline, increased electric power demands, and increased air pollution, among others. Consistent with Coastal Act Section 30001.2, locating the Project at the site of the existing AES Huntington Beach Generating Station enables orderly economic development by utilizing existing, developed infrastructure and avoiding economic and environmental waste of attempting to duplicate that existing infrastructure elsewhere.

- CCPN also argues that, even if Section 30260 does apply to the Project, it requires the Commission to (1) consider whether alternatives locations are infeasible, (2) consider the public welfare, and (3) incorporate all feasible mitigation. (CCPN Letter, pp. 8-9; see also *id*., p. 61.) According to CCPN, the Project fails to satisfy Section 30260. (*Id*., pp. 60-61.)

  - As discussed above, an evaluation of Section 30260 is not required because the Project complies with applicable Coastal Act and LCP policies. Nevertheless, and as demonstrated below, the Project would comply with Section 30260 if it did apply.

  - Section 30260 gives the Commission the discretion to approve the Project, even if the Project is inconsistent with a Coastal Act or LCP policy as long as the Commission makes certain findings. (See Pub. Resources Code, § 30260 ["where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted . . . if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible."].) As explained below, to the extent that the Commission finds that the Project is inconsistent with any applicable policies, the Project satisfies all three prongs of Section 30260.

  - ***Alternative Locations.*** Section 30260's plain language focuses on "***alternative locations***," ***not alternatives to an entire project***. (See Pub. Resources Code, § 30260 [emphasis added].) As explained above, CCPN's proffered alternatives are wholesale Project alternatives—beyond the scope of the Commission's authority—and are not feasible. (See Section I.F. *infra*.) The City of Huntington Beach and Regional Board thoroughly evaluated alternative Project locations and determined that, based on substantial evidence in the record, the current Project site is the least environmentally damaging location feasible for the Project. (See 2010 SEIR, pp. 6-1 to 6-46; see also 2021 Regional Board Order, pp. G.1-68 to G.1-78.) Therefore, the Project satisfies the first prong of Coastal Act section 30260.

- For example, in the 2010 Supplemental Environmental Impact Report ("2010 SEIR"), the City evaluated locations inside and outside the City and concluded, based on substantial evidence, that alternative locations were infeasible. The City conducted a preliminary investigation of available land 5-acres or larger within a 2-mile radius of the Huntington Beach Generating Station. (2010 SEIR, p. 6-8; see also 2010 SEIR, Appx. Z.) This investigation yielded public parks, wetlands, and a former landfill. However, none of these sites were available or feasible for the development of a desalination facility. (*Ibid*.) The City also identified locations outside City limits, but concluded these locations were infeasible for project-sizing, technical/engineering, and environmental impact reasons. (2010 SEIR, pp. 6-8 to 6-13.)

- Similarly, the Regional Board, as part of its Water Code section 13142.5(b) obligations, evaluated alternative locations for the Project's intake and discharge infrastructure. (See 2021 Regional Board Order, Att. G.1 – Narrowing of Sites.) The Water Board reviewed Poseidon's expert submittals and "analyses provided by the Neutral Third Party Reviewer" regarding "nine (9) alternative segments along the Orange County coast . . . , five (5) alternative onshore locations for the desalination treatment facility . . . , and [three (3)] subsurface intake stations." (*Id*., p. G.1-2.) Based on substantial evidence in the record, the Regional Board appropriately determined that the Project's location "is the best onshore location for the desalination facility and . . . for an offshore seawater surface intake and discharge location." (*Ibid*.)

- ***Public Welfare.*** "Public welfare" is not defined in the Coastal Act, but it generally includes "the economic welfare, public convenience and general prosperity of the community.'" (*Miller v. Bd. of Pub. Works* (1925) 195 Cal. 477, 487.) Under Coastal Act section 30260, the evaluation of what would adversely affect the public welfare requires a balancing of interests: "[the] protection and preservation of coastal natural resources and the need for some coastal development." (*Gherini v. Cal. Coastal Com.* (1988) 204 Cal.App.3d 699, 708; see also *Marina Coast Water Dist. v. Cal. Coastal Com.* (2016) 2016 WL 6267909, at *12, *23.) Not permitting the Project would adversely affect the public welfare for several reasons. As such, the Project satisfies the second prong of Coastal Act section 30260.

    - Substantial evidence in the record demonstrates that the Project would provide a much-needed climate resilient water supply to Orange County. California remains in a severe drought for a third year in a row, with its major water reservoirs well below average levels.[7] (See Applicant

[7] See, e.g., Cal. Drought Action, available at: https://drought.ca.gov/; see also New York Times, *How Bad Is California's Drought Ahead of Dry Season?* (Mar. 31, 2022), available at: https://www.nytimes.com/2022/03/31/us/california-rain-drought.html.

Proposed Staff Report, Section IV.N, submitted to Commission staff on May 10, 2022; see also Poseidon Response to Staff Report, Section K, submitted to Commission staff on May 10, 2022.) These historically dry conditions will impact planned State Water Project ("SWP") deliveries, as the Department of Water Resources recently announced that it must reduce SWP allocations to five percent of requested supplies for 2022.[8] California's current water conditions underscore the need for local drought proof water supplies, such as the Project, that reduce local dependence on water supplies allocated by the SWP. Without the Project, water supply shortages could arise or worsen, causing public hardship for the region in the event water cutbacks are required or imported water rates increase. Moreover, the Project provides significant benefits in terms of reducing reliance on imported water, providing a local drought-proof water supply, and freeing up imported water supplies for other regions of the State, such as inland communities that are more reliant on imported water supplies and do not have access to alternative water sources.

- CCPN argues that denying the Project would not adversely affect the public welfare because "denial of the CDPs would drastically reduce ratepayer costs, reduce greenhouse gasses . . . and eliminate a burden on the electrical system. Preventing the deaths of 108 million marine organizations each year is another great public benefit." (CCPN Letter, p. 61.) As explained below in Sections VII, IX, X, however, the Project would not result in significant impacts to environmental justice, greenhouse gas emissions, energy, or marine resources.

- ***Mitigation.*** The Coastal Act requires that impacts be mitigated to the "maximum extent feasible." (See, e.g., 14 Cal. Code Regs., § 13053.5, subd. (a); see also *id.*, §§ 13328.1, 13356, subd. (b)(2), 13540, 13666.4.) As part of their review of the Project, the City imposed 77 mitigation measures,[9] the SLC imposed an additional 16 mitigation measures,[10] and the Regional Board imposed special conditions in its Order—all to ensure that the Project's potential environmental impacts would be fully mitigated where feasible. In addition, Poseidon has proposed 29 Special Conditions to minimize potential impacts to coastal resources to the maximum extent feasible. Thus, and as explained in greater detail below, the Project's impacts have been mitigated to the maximum extent feasible. Accordingly, the Project satisfies the third prong of Coastal Act section 30260.

[8] Cal. Dep't of Water Resources, *Historically Dry Conditions Impact Planned State Water Project Deliveries* (Mar. 18, 2022), available at: https://water.ca.gov/News/News-Releases/2022/March-22/SWP-Allocation-March.

[9] See City of Huntington Beach, Mitigation Monitoring and Reporting Program (Aug. 2010).

[10] See SLC, Mitigation Monitoring and Reporting Program (Oct. 2017). In addition, Poseidon agreed to implement eight Applicant-Proposed Measures.

D. Alternative Intake Locations and Designs Are Infeasible

1. Alternative Intake Locations

- CCPN argues that Poseidon has not demonstrated that alternative intake locations are infeasible. (CCPN Letter, p. 16.)

    - To the contrary, the City and Regional Board fully analyzed alternative intake locations and determined that alternative locations are not feasible.

    - For example, as described above, the 2010 SEIR evaluated alternative site locations within a 2-mile radius of the Project and determined that implementation of the alternative site locations would not avoid the Project's impacts and may result in significant aesthetic and/or marine biological impacts. The City therefore determined that the alternative locations should be eliminated from further consideration. (2010 SEIR, p. 6-13.)

    - Similarly, the Regional Board reviewed alternative intake locations analyses provided by a Third-Party Reviewer and documents from Poseidon and determined that Poseidon's proposed intake location (Station E) was "the best available site feasible for an offshore seawater surface intake and discharge location." (2021 Regional Board Order, Att. G – Narrowing Sites, November 21, 2019, p. G.1-2.) The Regional Board found that Stations E, U2, and D2 shared similar characteristics, and all three stations had significantly lower entrainment impacts than all the other stations evaluated. (*Id.*, G.1-48, G.1-57.) Although potential entrainment was lowest for Stations U2 and D2 as CCPN claims, the Regional Board determined that Poseidon's proposed location was the best site feasible "[b]ased on considerations of technological, economic, and social factors and the additional time that would be needed to move the surface intake for the proposed Facility to an alternative location at Station U2 or D2." (*Id.*, G.1-78.)

        - In particular, Stations U2 and D2 would result in major on-shore and off-shore construction and public access impacts, as well as significantly higher construction costs. (*Id.*, pp. G.1-75, G.1-77.)[11] "Construction of a pipeline . . . to an intake and discharge structure located at either Station D2 or U2 would result in the loss of beach access and usage within the construction area." (*Id.*, p. G.1-75.) In addition, "[a]n alternative intake located and either Stations D2 or U2 would require significant onshore and offshore construction to install conveyance pipelines and an air burst system, and would require new lease agreements for the permanent structures on the beach and permits." (*Id.*, p. G.1-70.)

[11] CCPN cites *City of Marina v. Board of Trustees of the California State University* (2006) 39 Cal.4th 341 for the proposition that permitting cost does not render an alternative infeasible. (See CCPN Letter, p. 16.) CCPN ignores, however, that the Regional Board did not only consider costs associated with Stations U2 and D2. The Regional Board also considered technical and social feasibility and, based on substantial evidence in the record, determined that these stations were infeasible. (See 2021 Regional Board Order, p. G.1-77.)

- CCPN attempts to dismiss this evidence by mischaracterizing the Regional Board's findings as focusing solely on economic considerations. Not so. The Regional Board prepared a 78-page analysis in which it considered alternative intake locations based on the factors required by the Water Code and Desalination Amendment. (See 2021 Regional Board Order, Att. G.1.) As such, substantial evidence in the record demonstrates that alternative intake locations are infeasible.

2. Alternative Intake Designs

- CCPN argues that slant wells would be feasible for the Project, especially if the Project's capacity were reduced. (CCPN Letter, p. 17.) Contrary to CCPN's claims, slant wells have been determined to be infeasible by every agency reviewing the Project.

  - The 2010 SEIR already considered slant wells as an alternative intake method, ultimately concluding that slant wells would have greater impacts to benthic and marsh habitat, public access, aesthetics, geology and soils, hazards and product water quality, finding slant wells to be an undesirable and infeasible alternative. (2010 SEIR, § 5.3.3.)

  - The Independent Scientific Technical Advisory Panel ("ISTAP"), jointly convened by the Commission and Poseidon, corroborated these findings in its Phase 1 Report, determining that each subsurface well intake system studied had "at least one technical fatal flaw that eliminated it from further technical consideration." (ISTAP Phase 1 Report (Oct. 19, 2014), pp. 63-64.) In particular, ISTAP concluded that slant wells at the Project site could result in adverse groundwater impacts, including impacts to the seawater intrusion barrier system of injection wells in the Talbert Gap operated by the Orange County Water District, as well as adverse impacts to nearby wetland ecosystems.[12] (*Id.*, pp. 47, 56, 64.) Specifically, as part of the ISTAP process, a Well Investigation Team[13] was developed to analyze the use of smaller scale wells to provide source water from the Talbert Aquifer for the Project. The Team's investigation concluded that smaller scale wells were infeasible because an unacceptable amount of inland groundwater would be produced, which would reduce the yield of the groundwater basin and, likewise, effectively reduce the net yield of "new" water produced by an ocean desalination project and ultimately negatively impact the Talbert Aquifer.[14]

[12] CCPN argues that the ISTAP analysis is somehow inadequate because it did not analyze the economic feasibility of slant wells. (CCPN Letter, p. 17.) However, the ISTAP Phase 1 Report determined that slant wells were *technically* infeasible—therefore, there was no need for an economic analysis. (See ISTAP Phase 1 Report, pp. 15, 63-64.)

[13] Participants in the Well Investigation Team process included Coastal Commission staff. (See CONCUR, Summary of the California Coastal Commission-Poseidon Well Investigation Team Process (Jan. 13, 2016), p. 1.)

[14] See Geosyntec, *Revision and Sensitivity Analysis of Slant Well SSI Model Feasibility Assessment of Shoreline Subsurface Collectors Huntington Beach Seawater Desalination Project* (Nov. 9, 2015), pp. 2, 6.

- Moreover, the 2017 SEIR identified alternative intake designs, including subsurface intakes, that it reconsidered from prior environmental analyses but rejected as infeasible or environmentally inferior to the Project. (See 2017 SEIR, pp. 5-5 to 5-12 ["The alternatives considered but eliminated from further consideration in the 2010 FSEIR ***were reconsidered*** as alternatives to the proposed Lease Modification Project, but were eliminated from consideration in this Supplemental EIR because they were 1) outside the scope of this Supplemental EIR, or 2) for the same reasons as in the 2010 FSEIR."] [emphasis added].) Thus, because subsurface slant wells would not reduce or avoid any of Project's significant impacts and would impact additional resource areas, the 2017 SEIR appropriately eliminated slant wells from further detailed consideration. (2017 SEIR, § 5.3.4.)

- The Regional Board similarly concurred that "[s]ubsurface intakes are not feasible at the proposed site or at nearby sites." (2021 Regional Board Order, p. G-39.) The Regional Board clearly stated its finding: "Based on a comparative analysis of surface and subsurface intakes that considered geotechnical data, hydrogeology, benthic topography, oceanographic conditions, presence of sensitive habitats, presence of sensitive species, energy use for the entire facility, design constraints, and project life cycle cost, the Santa Ana Water Board finds that subsurface intakes are not feasible." (*Id.*, p. G-40.)

    - In addition, the Regional Board's analysis of groundwater extraction from other nearby aquifers supported its conclusion that slant wells are infeasible because they would result in undesirable hydrogeologic impacts and the groundwater aquifer has a limited capacity to provide the necessary feed water. (See 2021 Regional Board Order, p. G.1-25.)

- With respect to capacity, the Regional Board explained that "[t]he need for 56,000 [acre-feet per year ("AFY")] is consistent with applicable water planning documents. . . The finding that subsurface intakes are not feasible was not based upon a design capacity in excess of the need for desalinated water." (2021 Regional Board Order, p. G-39.) Nevertheless, in compliance with the Desalination Amendment, the Regional Board considered "whether subsurface intakes are feasible for a reasonable range of alternative intake design capacities." (Desalination Amendment, Ch. III.M.2.d(1)(a)(ii).) Accordingly, the Regional Board asked Poseidon to identify whether slant wells could feasibly provide some portion of the Project's source water. Based on information provided by Orange County Water District ("OCWD") regarding potential impacts to seawater intrusion barriers and groundwater resources and additional hydrogeologic modeling, the maximum pumping rate for a small-scale system of slant wells at Huntington Beach would produce only 3.8 million gallons per day ("MGD"). (2021 Regional Board Order, pp. 42-46.) Therefore, the Regional Board found that "subsurface intakes are infeasible for all reasonable intake design capacities." (*Id.*, pp. 45-46.)

- CCPN takes issue with OCWD's objection to withdrawing more than 1,000 afy of freshwater into the slant wells, and calls OCWD's threshold "arbitrary." (CCPN Letter, pp. 13-14.)

    - In response to a request from Regional Board staff, OCWD estimated the maximum amount of freshwater from the inland aquifer that could be extracted without impacting OCWD's management of the inland aquifer – most importantly, the sea water intrusion barrier. OCWD determined that 1,000 acre-feet/year (3.8 MGD) or approximately 3.5% of the required intake volume (106.7 MGD) could be collected using slant-well subsurface technology without impacting the inland aquifer and OCWD's operations. (See Letter from OCWD to Santa Ana Regional Water Quality Control Board (May 18, 2018).) This determination was not based primarily on "cost," as CCPN alleges. Rather, OCWD explained that modeling showed that slant wells at the Talbert Gap would withdraw a significant amount of inland groundwater, which would "be at odds with the fundamental project objective of developing a new water supply from seawater" and would "interfere with the operations and benefits of OCWD's Talbert Seawater Barrier," including because it would require increased replenishment water. (*Ibid*.)

- CCPN argues that a March 2020 analysis by HydroFocus shows that slant wells at the Talbert Gap are feasible if OCWD modifies its injection rate. (CCPN Letter, p. 13.)

    - The HydroFocus report is not new; it was submitted to the Regional Board and Poseidon's consultant, Geosyntec, provided a written response in May 2020, which is also part of the Regional Board's record. As discussed in the Geosyntec response, the injection rate at Talbert Gap is controlled by OCWD, not Poseidon. The injection rates are intended to mitigate seawater intrusion *and* replenish deeper aquifers, which would be impeded by a lower injection rate. In addition, each of the model simulations presented by HydroFocus show that inland groundwater contributions to the hypothetical slant well pumping would exceed the maximum ACCEPTABLE 1,000 acre-feet/year volume identified by OCWD. In addition, all of the HydroFocus modeling scenarios would require lower groundwater elevations at the injection barrier, which would in turn require lower injection rates—which would impede OCWD's aquifer replenishment goals. (See Geosyntec, Comments on California Coastkeeper Alliance 5 May 2020 "Supplemental Documentation" (May 14, 2020).)

- CCPN also argues that the Commission should consider a potential new site for a desalination facility that would desalt extracted water in the Sunset Gap. (CCPN Letter, pp. 14-15.)

    - The Regional Board, which is charged with making a best available site determination pursuant to Water Code section 13142.5(b), already considered the Sunset Gap as a potential location for slant wells. (See 2021 Regional Board Order, pp. G.1-30 to G.1-31). The Regional Board concluded this alternative would be infeasible because "[s]ubsurface intakes in this area would require engineering fortification to withstand the significant beach erosion expected as a result of SLR. This fortification would add substantial cost and complexity to the Project." (*Ibid.*) In addition, "potentially contaminated sites may affect the viability of subsurface intakes in the Sunset Gap area." (*Id.*, p. G.1-31.)

    - In addition, modeling results for Sunset Gap indicate a maximum sustainable pumping rate of 9 mgd from slant wells along the shoreline, of which an estimated 13% (approximately 1.2 mgd or 1,300 AFY) would come from inland aquifers—above the maximum acceptable 1,000 acre-feet/year volume identified by OCWD. (See Letter from OCWD to Santa Ana Regional Water Quality Control Board (May 18, 2018).)

    - CCPN points to a December 14, 2021, presentation by OCWD concerning potential plans to extract groundwater seaward of a potential seawater intrusion barrier at Sunset Gap. (CCPN Letter, pp. 14-15.) That presentation discussed conceptual options for seawater barriers, of which extraction of an annual average of 3 MGD of brackish water is one option. This amount of source water is insufficient to meet the Project's objectives and Orange County's water needs, and would require new infrastructure and disturbance to deliver the water to the Project site. In addition, CCPN fails to acknowledge that the presentation identified various groundwater contaminant sites in the vicinity of Sunset Gap, including chlorinated VOCs.[15]

E. <u>The Project Proposes Maximum Feasible Mitigation</u>

CCPN argues that the Commission is obligated to impose the "maximum feasible mitigation available" on the Project pursuant to Coastal Act section 30260. (CCPN Letter, pp. 15-20.) As discussed above, assessing the Project's compliance with Section 30260 is not necessary. Nevertheless, the Project already has been fully mitigated through approvals from the City, the SLC, and the Regional Board—and Poseidon even proposes to go above and beyond the mitigation imposed in order to satisfy the Commission. (See Proposed Special Conditions, submitted to Commission staff on May 10, 2022.) Therefore, should a finding be required under Coastal Act section 30260, the Commission can certainly find that the Project's "adverse environmental effects are mitigated to the maximum extent feasible."

[15] See https://www.ocwd.com/media/10290/ocwd-seawater-intrusion-webinar-presentation-master-deck.pdf.

CCPN's specific mitigation arguments are addressed below.

1. Wedgewire Screens Are Legally-Mandated and Are an Appropriate Method to Minimize Entrainment of Marine Life

- CCPN challenges the Regional Board's approval of the Project's wedgewire screens, claiming they reduce entrainment by a single percent or less. (CCPN Letter, p. 18.) CCPN ignores that wedgewire screens were thoroughly analyzed in the State Water Board's SED for the Desalination Amendment and are required for surface water intakes. (Desalination Amendment, Ch. III.M.2.d(1)(c), p. 46.)

    - The Desalination Amendment states that "[t]he regional board ***shall require that surface water intakes be screened***." (Desalination Amendment, Ch. III.M.2.d(1)(c), p. 46 [emphasis added].[16]) "In order to reduce entrainment, all surface water intakes must be screened with a 1.0 mm (0.04 in) or smaller slot size screen when the desalination facility is withdrawing seawater." (*Ibid*.)

    - The SED evaluated a variety of intake screens to determine that wedgewire screens are effective at reducing impingement and entrainment. (SED, pp. 53-62.) "The proposed Desalination Amendment includes a requirement that screen slot size is no larger than 1.0 mm because it would be feasible at all open ocean intakes and reduce entrainment while ensuring regulatory consistency." (*Id*., p. H-299.)

    - As stated in the SED, the addition of 1-mm wedgewire screens reduces entrainment of all organisms measuring 1 to 10 mm by 1 percent as compared to unscreened intakes. (SED, pp. H-424, H-437.) However, for organisms larger than 10 mm, a 1-mm wedgewire screen reduces entrainment by 100 percent. (*Id*., p. H-300.) Indeed, the State Board explained:

        - "[T]he majority of the biomass is protected from entrainment [by using a 1-mm screen]. The 1% reduction only occurs in those organisms that are smaller than 10 mm. Some species will never reach the size to prevent entrainment at that slot size, however low velocity intake coupled with ocean currents will ensure that many organisms are not entrained. This residual entrainment will be mitigated." (SED, p. J-76.)

    - Further, Project-specific impacts from the use of wedgewire screens were evaluated exhaustively during the SLC's and Regional Board's proceedings.

[16] Desalination Amendment Ch. III.M.2.c(2) provides that if the Regional Board determines that subsurface intakes are not feasible and surface water intakes are proposed instead, the Regional Board must analyze potential designs for those intakes in order to minimize the intake and mortality of all forms of marine life. Here, the Regional Board determined that subsurface intakes are not feasible for the Project; therefore, the Desalination Amendment provisions for screened surface intakes apply to the Project, including the requirement to install a 1-mm screen. (See 2021 Order, p. G-34.)

- The SLC prepared the 2017 SEIR in part to evaluate the impacts of "[i]nstall[ing] four 1-millimeter wedgewire screens with a through-screen velocity of 0.5 feet per second or less on the offshore end of the seawater intake pipeline . . . to reduce entrainment and impingement to *de minimis* levels." (2017 SEIR, p. I-3.)

- The 2017 SEIR analyzed the effects of the wedgewire screens, and concluded that "[t]he proposed wedgewire screen would further reduce entrainment, especially for fish," as well as eliminate impingement. (See Draft SEIR, Section 4.1, Ocean Water Quality and Marine Biological Resources, at 4-56; Table 4.1-6.) The SEIR explains that "any impingement or entrainment impacts . . . would not substantially reduce populations of any affected species, or affect the ability of any affected species to sustain their populations." (*Ibid*.)

- The Regional Board also studied the potential impacts from the wedgewire screens and the resulting mitigation required. The Regional Board ultimately determined that "the existing surface intake and discharge structures at the AES HBGS . . . be used for the proposed desalination facility and upgraded as required by the Ocean Plan (i.e., add 1mm wedgewire screens to the intake structure, linear diffuser to the discharge structure)." (2021 Regional Board Order, p. G.1-78; see also *id*., p. F-14 ["Pursuant to this Order, and as discussed in the 2017 FSEIR, the Discharger ***must*** install wedgewire screens with a 1.0 mm or smaller slot size screen at the onset of the intake pipe"] [emphasis added]; *id*., p. 13 [intake specifications].)

- Poseidon acknowledges that wedgewire screens do not completely eliminate potential impacts to marine life. Therefore, in compliance with the Desalination Amendment, Poseidon has proposed robust marine life mitigation projects to "replace[] all forms of marine life or habitat that is lost due to the construction and operation of [the] desalination facility after minimizing intake and mortality of all forms of marine life through best available site, design, and technology,"[17] as described below.

2. The Project's Linear Brine Diffuser Fully Complies with the Desalination Amendment

[17] Desalination Amendment, Ch. III.M.2.e.

- CCPN argues that the Project's linear brine diffusers will cause shear mortality[18] for marine life. (CCPN Letter, p. 18.) CCPN is particularly concerned about the effects of the diffuser on marine eggs, larvae, soft-shelled veligers, and juvenile adults. (*Ibid.*)[19]

    - The Desalination Amendment expresses a preference for multiport diffusers if brine cannot be commingled with wastewater.[20] (See Desalination Amendment, Ch. III.M.2.d(2)(b) ["Multiport diffusers are the next best method for disposing of brine when the brine cannot be diluted by wastewater and when there are no live organisms in the discharge."].) Although Poseidon previously proposed to commingle brine with wastewater as part of a co-located operation with the Huntington Beach Generating Station ("HBGS"), HBGS is scheduled to cease its once-through-cooling operations by December 31, 2023, pursuant to State law. (See 2021 Regional Board Order, p. G-29.) "The substantial reduction and eventual termination of [once-through-cooling] operations will significantly reduce HBGS's discharge and the available wastewater will not be sufficient to commingle with the proposed Facility's brine discharge to meet the receiving water limitations for salinity. As such, the Discharger will not be able to commingle brine discharge with wastewater from the adjacent HBGS." (*Ibid.*) Therefore, the Desalination Amendment mandates that Poseidon install a linear multiport diffuser. (Desalination Amendment, Ch. III.M.2.d(2)(b).)

    - The SLC previously analyzed this issue in the 2017 SEIR using a worst-case, very conservative assumption of 100% mortality of diffuser entrained larvae. (2017 Final SEIR, p. 4-62.) Notwithstanding this assumption, because the proposed diffuser would be located along a fairly homogenous stretch of coastline dominated by sandy habitat, estimated levels of mortality would be generally quite low. (*Id.*, p. 4-63.) Further, Mitigation Measure OWQ/MB7 requires that Poseidon develop and implement a detailed Diffuser-Operation Marine Life Mitigation Plan to address this very issue. (*Id.*, pp. 4-67 to 4-68.)

---

[18] "Shear stress" refers to "the measure of friction or force from the discharge on an organism entrained during this process." (See 2017 SEIR, p. 4-61.) Discharge or diffuser entrainment is separate from intake entrainment, which occurs when organisms are drawn through an intake screen. (*Id*., p. 4-57.)

[19] CCPN cites a 2020 Brine Diffuser Study by the West Basin Municipal Water District for the proposition that "[e]ven documents produced in support of desalination facilities describe shear mortality." (CCPN Letter, p. 18 fn. 28.) CCPN misses the point. Agencies that have evaluated the Project have assessed the Project's shear mortality impacts, including under the worst-case scenario of 100% mortality. (See, e.g., 2017 Final SEIR, p. 4-62.) Even under the worst-case scenario, the evidence shows that estimated levels of mortality would be generally quite low because the proposed diffuser would be located along a fairly homogenous stretch of coastline dominated by sandy habitat. (*Id.*, p. 4-63.)

[20] As the Regional Board explained, "[w]astewater is not available to dilute the proposed Facility's brine discharge . . . . Orange County Sanitation District (OCSD) is the only wastewater agency with an ocean outfall in the area of the proposed Facility. OCSD has indicated that commingling of their wastewater with the Discharger's brine would not be compatible with their strategic plan for 100% reuse of reclaimable wastewater." (2021 Regional Board Order, p. G-28.)

- Moreover, to mitigate any impacts the diffuser may have on marine life, Mitigation Measure OWQ/MB7 requires compensatory mitigation of the Area of Production Foregone ("APF"), including up to 95.9 acres of restoration. (*Id.*, p. 4-67.) The calculated APF is meant to compensate for all direct and indirect diffuser entrainment impacts to all organisms in the affected source water body because it takes into consideration both the affected species itself and its contribution to the ecological community. (*Id.*, p. II-148; see also *id.*, pp. 4-64 to 4-67.) When considering this additional mitigation, the 2017 SEIR concluded that the impact is less than significant. (*Id.*, p. 4-59.) CCPN fails to mention the Project's APF mitigation or demonstrate how the 2017 SEIR's conclusion is unsupported by substantial evidence in the record.

- In addition, the Regional Board thoroughly analyzed the Project's brine diffuser and concluded that the Project complies with the Desalination Amendment. "[T]he design of the 14-port linear diffuser has been optimized to produce rapid mixing to maximize dilution, minimize the [brine mixing zone], and reduce the volume of seawater that would expose organisms within the entrained seawater to lethal shearing stresses." (2021 Regional Board Order, p. G-67.) "The Santa Ana Water Board finds that the proposed linear diffuser is designed so that the brine mixing zone does not encompass or otherwise result in adverse effects to existing sensitive habitat." (*Id.,* G-36 [citing over a dozen technical appendices supporting the Regional Board's conclusions].)

3. The Project's Marine Life Mitigation Is Not Speculative

- CCPN alleges that the Project's proposed mitigation is "speculative," pointing to concerns about how sea level rise might impact the Project's proposal to provide marine life mitigation at the Bolsa Chica wetlands. (CCPN Letter, p. 18.) CCPN claims that "a recent study of the Bolsa Chica Lowland Restoration Project recently found that, without intervention, the majority of the wetlands will be inundated by sea level rise between 2060 and 2100." (*Id*., pp. 38-39.)

  - Poseidon is committed to mitigating fully the Project's marine life impacts. Poseidon recognizes that sea level rise is a consideration for wetland habitats up and down California's coast. Therefore, Poseidon has already planned to develop adaptive management measures for the Bolsa Chica wetlands mitigation project, as reflected in the Regional Board's Order and Poseidon's Marine Life Mitigation Plan.

  - Projected sea level rise at Bolsa Chica under the medium-high risk aversion scenario ranges from 3.6 feet to 4.3 feet in 2080, with a probability of 1:200. (Moffatt & Nichol, Memorandum re: SLR Vulnerability Assessment for Bolsa Chica Mitigation Plan Elements of Poseidon (April 2022), attached hereto as **Exhibit 1**.) The Bolsa Chica wetlands are surrounded by an engineered perimeter

levee with a crest elevation of 12.12 feet NAVD88.[21] This levee will not be overtopped in year 2080 under the medium-high risk aversion sea level rise scenario. (*Id.,* p. 4.)

- Further, as explained in Moffatt & Nichol's assessment, the Intertidal Shelf, Full Tidal Basin, and Muted Tidal Basin can be restored and maintain their intended design functionality over the Project's 50-year design life. For example, Poseidon's adaptive management plans for the Bolsa Chica mitigation projects that will be developed in accordance with the 2021 Regional Board Order might include adaptive measures such as raising the elevation of the Intertidal Shelf within the FTB gradually over time to keep pace with sea level rise. (*Id.,* p. 6.) In addition, "water levels in the Muted Tidal Basin can be controlled via properly configured tidal control structures, pumping, and ground elevation adjustments." (*Id.,* p. 6.)

- Finally, in response to Coastal Commission staff's concerns on this topic, the Regional Board explained that even if sea level rise will affect the function and success of Bolsa Chica, "maintenance dredging will remain an essential component for Bolsa Chica to successfully function." (Regional Board Responses to Comments (July 21, 2020), p. 304.) In addition, the adaptive management component of the Bolsa Chica restoration design will "ensure that all contingencies are addressed and a plan is implemented." (*Id.,* pp. 304-305.)

F. As a Responsible Agency under CEQA, the Commission Does Not Re-Evaluate Wholesale Project Alternatives

- CCPN argues that CEQA requires the Commission to analyze feasible alternatives and mitigation measures. (CCPN Letter, p. 27.) According to CCPN, "feasible alternatives and mitigation measures exist in the form of increased water conservation, a smaller plant, and the Carson potable reuse project." (*Id.,* p. 28.)

  - The Commission, as a CEQA responsible agency, is limited to considering mitigation and alternatives within its jurisdiction—here, the Coastal Zone. (See, e.g., Pub. Resources Code, § 21002.1, subd. (d); Cal. Code Regs., Tit. 14, Div. 6, Ch. 3 ("CEQA Guidelines"), §§ 15042, 15096, subd. (g)(1) ["When considering alternatives and mitigation measures, a responsible agency is more limited than a lead agency. A responsible agency has responsibility for mitigating or avoiding only the direct or indirect environmental effects of those parts of the project which it decides to carry out, finance, or approve."]; *RiverWatch v. Olivenhain Mun. Water Dist.* (2009) 170 Cal.App.4th 1186, 1207 ["If the responsible agency finds that any alternatives or mitigation measures ***within its powers*** are feasible and would substantially lessen or avoid a significant effect of the project, the responsible agency may not approve the project as proposed, but must adopt the feasible mitigation measures or alternatives."] [emphasis added]; *Sierra Club v.*

[21] Elevations are referenced to the North American Vertical Datum of 1988 ("NAVD88").

Cal. Coastal Com. (2005) 35 Cal.4th 839, 860 [holding that neither the Coastal Act nor CEQA allow the Commission to consider impacts of projects located outside the Coastal Zone]; *Schneider v. Cal. Coastal. Com.* (2006) 140 Cal.App.4th 1339, 1347 [concluding that the Coastal Act did not permit the Commission to consider ocean boaters' right to view coastline from the ocean].)

- CCPN's proffered alternatives are only wholesale Project alternatives—some outside the Coastal Zone and beyond the scope of the Commission's authority—and they are not feasible as described below.

1. Conservation Is Not Sufficient; New Water Supplies Are Needed to Meet Future Demand

- CCPN argues that the region's water needs could be satisfied through conservation. (CCPN Letter, pp. 9-11.) In particular, CCPN contends that OCWD's Groundwater Replenishment System ("GWRS") currently supplies a local drought-proof supply of 100 mgd and is on track to expand by an additional 30 mgd. (*Ibid.*)

  - CCPN's arguments concerning water conservation are not new and were rejected by the Regional Board. The Regional Board acknowledged that "water conservation is an important aspect of reducing the overall water demand in our region. However, the water demands in the future cannot be met only by water conservation. The water agencies' planning documents indicate the need for new sources of reliable water supplies in the future and demand project[ion]s rely on water conservation practices." (Regional Board Responses to Comments (July 21, 2020), p. 116.) Further, the Regional Board explained that "OCWD and MWDOC, as the relevant water planning agencies, have taken into account water conservation actions in developing their water portfolios." (*Id.*, p. 122.)

    - For example, a close review of MWDOC's projections demonstrate that it is not technically feasible or helpful to add an extra 56,000 AFY to the annual conservation that is already occurring and planned for in Orange County. MWDOC's 2018 Reliability Study assumed that water agencies would ask their customers to reduce water use by 10% every 20 years. (2018 Reliability Study, p. 1-6.) MWDOC found that with demand hardening, this was a reasonable working limit. Demand hardening occurs because successful implementation of water conservation devices (e.g., water efficient plumbing codes, conservation mandates, utility rebates etc.) make it harder to conserve additional water. Thus, as MWDOC's study recognizes, there are limits to conservation and additional supplies are needed to close Orange County's water supply gaps. Further, there are economic and social costs associated with mandatory conservation, such as the cost of replacing landscapes, potential impacts to the economy from businesses leaving the area due to reliability issues, and impacts to quality of life that are difficult to quantify. (*Id.*, Appendix H – Comments on the Draft Study Presentations and Draft Documentation – MWDOC letter to Member Agencies, p. 11.)

- Moreover, OCWD has stated that the proposed GWRS expansion does not obviate the need for desalination. "OCWD included the GWRS expansion in its assessment of its water supply needs and stated that ***the desalinated water is needed to increase water supply reliability***." (Regional Board Responses to Comments (July 21, 2020), p. 239 [emphasis added].)

2. A Smaller Facility Has Been Repeatedly Rejected as Infeasible

- CCPN alleges that a smaller desalination facility using subsurface slant wells to withdraw source water is feasible and must be required under the Coastal Act policies. (CCPN Letter, pp. 10-11, 12-15.)

  - A smaller facility would fail to meet Orange County's water supply needs and has already been considered and rejected. The 2010 SEIR considered a smaller alternative desalination facility to meet Orange County's needs and determined that a 25 mgd facility would not significantly reduce potential environmental impacts as compared to the Project. (2010 SEIR, p. 6-43; see also 2017 SEIR, p. 5-8.) Moreover, the 25 mgd facility would substantially increase the cost of the desalinated water because the smaller alternative would require much of the same infrastructure and construction capital, but would produce much less water. (2010 SEIR, p. 6-43.) Consequently, the 25 mgd alternative would not achieve the Project objectives to provide a sufficient volume of water that would meet the future water needs projected by Orange County water agencies, and would reduce overall water supply reliability that is sustainable and independent of climactic conditions. (*Ibid.*) Based on these same considerations, the SLC similarly rejected a reduced facility size alternative in 2017. (2017 SEIR, p. 5-8.)

  - Further, as described in Section I.D.2 *supra*, slant wells have been ruled out as infeasible.

3. The Carson Project Is Not a Feasible Project Alternative

- CCPN contends that Metropolitan Water District of Southern California ("MWD") is currently planning a potable reuse project in Carson, California, that would provide approximately 150 mgd for regional distribution. (CCPN Letter, p. 11.) CPCN argues that because "[t]he Carson project would meet OCWD's claimed need for a drought-proof supply of potable water," the Project is not needed. (*Ibid*.)

  - The Commission is not the agency charged with making determinations about what is the best project for water suppliers to meet their water demands. OCWD has determined a need for desalinated water from the Project, and the Commission lacks authority to second-guess that determination. (See 2017 SEIR, p. 11-19; 2021 Regional Board Order, Att. G.2, p. 7.)

  - In addition, as CCPN correctly notes, MWD is currently ***planning*** a Potable Reuse project in Carson—it is far from shovel ready. As MWD's website explains,

"[e]nvironmental planning [is] in progress from 2021 to 2024. Once approved, design and construction will follow for an estimated eight years."[22] The Regional Board explained that "the Carson project is still in the planning stages—the project needs to undergo CEQA review and [MWD] needs to approve the project before it goes forward." (Regional Board Responses to Comments (July 21, 2020), p. 239.) Moreover, the Carson project has not solidified funding,[23] making it unclear at this point how the $3.4 billion project would be financed. Because the Carson project will take a *at least a decade* to become operational, it is not a feasible alternative.

- In addition, as the name suggests, water reuse projects require the availability of source water that comes from resident and business use, which can then be reused. Such projects do not create new sources of potable water; they only recycle water that has already been imported into Southern California or extracted from groundwater to make it potable. Therefore, the source waters for a water reuse project are not entirely drought resilient. Unlike the Project, the Carson reuse project would not provide a new source of climate-resilient water supply.

- Finally, the Carson project is intended to serve primarily Los Angeles County. To that end, "OCWD has [] stated that it does not necessarily see the Carson project as an additional supply because it may not extend to Orange County and the cost of water is uncertain." (Regional Board Responses to Comments, p. 239; see also Letter from OCWD to Regional Board (May 11, 2020), p. 2 ["the initial phase of the Carson project is no longer expected to provide water to OCWD"].) As such, the Project remains needed to serve Orange County.

II. DUTY TO ANALYZE ENVIRONMENTAL IMPACTS AND PROJECT CHANGES UNDER CEQA

A. Marine Life Mitigation Plan ("MLMP") and Artificial Reef

- CCPN contends that the Commission must conduct an environmental review of the Project's MLMP, including the artificial reef project that Poseidon is required to construct and maintain on the Palos Verdes Shelf (the "Reef Project"). (See CCPN Letter, pp. 21-22.) CCPN argues that this review must be conducted now, prior to the Commission's approval of the Project, and that to assess the Reef Project's environmental impacts in a later proceeding would result in "impermissible segmentation" under CEQA. (*Id.*, p. 22.)

  - CCPN ignores that the mitigation projects set forth in the MLMP will each be subject to its own CEQA review process, as well as separate discretionary CDPs that must be approved by the Commission before the projects may be

[22] MWD, *Expanding Local Resources*, available at https://www.mwdh2o.com/planning-for-tomorrow/building-local-supplies/regional-recycled-water-program/.

[23] MWD, *Regional Recycled Water Program Update*, slide 15, available at https://www.mwdh2o.com/media/22575/rrwp_update_mar2022.pdf.

implemented. This approach is consistent with the Commission's review and approval of the mitigation projects for Poseidon's Carlsbad facility.[24] (See, e.g., Commission Approval of Carlsbad Facility MLMP (Aug. 6, 2008); CDP #9-14-0731 (Apr. 30, 2021) [CDP for Carlsbad facility final restoration plan].)

- CEQA explicitly permits this process for developing a project's mitigation measures, allowing agencies to articulate specific mitigation performance criteria at the time of project approval with which the project proponent must later comply through future studies and approvals. (See CEQA Guidelines, § 15126.4, subd. (a)(1)(B) ["specific details of a mitigation measure, . . . , may be developed after project approval when it is impractical or infeasible to include those details during the project's environmental review provided that the agency (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure."]; *Oakland Heritage Alliance v. City of Oakland* (2011) 195 Cal.App.4th 884, 906 ["the details of exactly how mitigation will be achieved under the identified measures can be deferred pending completion of a future study"]; *Endangered Habitats League, Inc. v. Cty. of Orange* (2005) 131 Cal.App.4th 777, 793-794.)

- Poseidon's development of the MLMP projects are subject to exactly the type of performance criteria that CEQA mandates for mitigation measure formulation. As set forth in the MLMP schedule, Poseidon will perform the studies necessary to inform the CEQA analyses for each mitigation project and complete the required environmental review under CEQA. (See, e.g., 2021 Regional Board Order, Att. K, p. 1 ["The proposed projects are conceptual at this time and sufficient details are not available to complete a meaningful environmental analysis under the California Environmental Quality Act (CEQA). The Marine Life Mitigation Plan Schedule below requires the Discharger to perform additional studies, complete supplemental reports, and coordinate with the appropriate agencies."].) Further, MM OWQ/MB-7, which the SLC imposed in the 2017 SEIR and required development of the MLMP, includes specific performance criteria to which Poseidon must adhere in developing Project

[24] California courts rejected multiple challenges to the MLMP for the Carlsbad facility. In 2008, Surfrider Foundation challenged the Commission's approval of a CDP for the Carlsbad facility, including alleging that the Commission improperly deferred mitigation by imposing a special condition requiring the Commission to approve the MLMP before issuing Poseidon's CDP. The trial court rejected this argument, and found that CEQA permitted the Commission to approve the MLMP pending completion of future studies on the mitigation measures required under the plan. (See *Surfrider Found. v. Cal. Coastal Com.* (Super. Ct. San Diego County, May 8, 2009, No37-2008-00075727), p. 3 ["The fact that the entire extent and precise details of potential mitigation measures are not known does not undermine a conclusion that impacts can be successfully mitigated."].) Further, the Court of Appeal rejected an additional challenge from Surfrider to the San Diego Regional Board's approval of an NPDES permit for the Carlsbad facility, dismissing assertions that the Regional Board improperly relied on the MLMP as a basis for mitigation required for the facility under Water Code section 13142.5(b). (See *Surfrider Found. v. Cal. Regional Water Quality Control Bd.* (2012) 211 Cal.App.4th 557, 575-580.)

mitigation. (See 2017 SEIR, pp. 4-67 to 4-68.) Finally, the Ocean Plan itself provides for the detailed mitigation project requirements with which Poseidon must comply in carrying out Project mitigation. (See Cal. Ocean Plan, chapter III.M.2.e(3).)

- With respect to the Reef Project in particular, the Reef Project is a wholly separate project that must undergo its own thorough and timely CEQA analysis before Poseidon begins construction. As stated in the 2021 Regional Board Order, the Regional Board will conduct any necessary CEQA analysis in reviewing the plans for the Reef Project before the Board approves such plans. (2021 Regional Board Order, p. 24.) Indeed, as CCPN acknowledges, the SLC will also be required to conduct its own CEQA review of the Reef Project before Poseidon may begin construction on that project, given that the Reef Project will be sited on an SLC submerged lands lease, (Pub. Resources Code, § 9448.9) that will require amendment for the Reef Project. (CCPN Letter, p. 22; 2021 Regional Board Order, Att. G-5, p. 25; *id*., Att. K, p. 1.)

- This sequence of analysis does not amount to the "segmentation" that CCPN alleges. CEQA does not require a responsible agency, like the Commission, to evaluate the environmental impacts of a mitigation project imposed by a separate responsible agency when that mitigation project must itself undergo its own permitting and CEQA process. While it is true that the Reef Project benefits the Project, the two are really separate projects with independent utility, "not 'piecemealed' components of the same project." (See *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 99.)

- CCPN cites *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645 for the proposition that a CEQA document must assess "both the adverse environmental impacts caused by mitigation and the efficacy of that mitigation." (CCPN Letter, p. 22.) First, CCPN ignores that *San Joaquin Raptor Rescue Center* involves a challenge to the adequacy of the mitigation measures set forth in an EIR by a lead agency—a wholly separate procedural posture from the current proceeding, in which the Commission is acting as a responsible agency for a project that has already been reviewed by a lead agency. Second, the *San Joaquin Raptor Center* court determined that the lead agency in that case had improperly deferred formulation of mitigation measures because the EIR did not contain "specific criteria or standard[s] of performance" for the mitigation measures in question." (149 Cal.App.4th at p. 670.) Here, by contrast, the Regional Board has already set forth specific performance requirements for the mitigation to be provided for the Project, and a detailed schedule for implementation of such mitigation. (See 2021 Regional Board Order, Att. K.) The deferred mitigation caselaw cited by CCPN is inapposite.

- CCPN also cites *Vineyard Area Citizens v. City of Rancho Cordova* (2007) 40 Cal.4th 412, for the proposition that "CEQA's informational purpose 'is not satisfied by simply stating information will be provided in the future.'" (CCPN

Letter, p. 22.) However, as explained in *Cal. Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal.App.4th 603, 624, the primary issue addressed in *Vineyard* was not analysis of a mitigation project's impacts, but rather "the sufficiency of an EIR's analysis of future water supplies." The principle set forth in *Vineyard* and quoted by CCPN concerned the California Supreme Court's finding that an agency may not tier its analysis of a project's impacts off an EIR to be conducted in the future. (*Vineyard*, 40 Cal.4th at p. 441.) That is not the situation here, where the impacts of the Project itself have been fully analyzed across various EIRs, and the mitigation projects described in the MLMP will be subject to their own CEQA review and approval processes. As explained by the *Cal. Native Plant Society* court, there is no reason why the principles set forth in *Vineyard* "can or should be extended to the sufficiency of an EIR's formulation of mitigation measures." (172 Cal.App.4th at pp. 624-625.) Further, CEQA explicitly permits an agency to identify specific offsite habitat mitigation projects, guided by performance standards and the results of "a future study to fix the exact details of the implementation of the mitigation measures the agency identified in the EIR"—precisely the approach set forth in the Project MLMPs. (See *Cal. Native Plant Society*, 172 Cal.App.4th at p. 622; Cal. Code Regs., tit. 14, § 15126.4, subd. (a)(1)(B).)

- CCPN alleges that constructing the Reef Project will result in environmental impacts, including greenhouse gas ("GHG") emissions, air pollution, and cumulative impacts, and also raises concerns about DDT contamination in the Reef Project area. (CCPN Letter, pp. 21-22.)

    - While the Reef Project will be analyzed separately by the SLC and the Regional Board, there is no reason to believe that the Reef Project will result in any unique or extraordinary environmental impacts that would impact its feasibility.[25] The Reef Project will be located adjacent to the Palos Verdes Reef Restoration Project (the "PV Reef"), which was successfully constructed in 2020, pursuant to an environmental analysis set forth in a National Environmental Policy Act ("NEPA") environmental assessment ("EA").[26] Nevertheless, in the event that the CEQA review for the Reef Project determines that the Reef Project will create significant environmental effects, the 2021 Regional Board Order provides that the Regional Board may require Poseidon to propose alternative mitigation projects and undergo a new Water Code section 13142.5(b) process with respect to such alternative mitigation. (See 2021 Regional Board Order, Att. F, p. F-13.)

    - Further, as the Reef Project will be based upon the existing PV Reef, the EA conducted for that project is instructive here, and indicates that the Reef Project is not likely to result in significant environmental impacts of the sort alleged by

[25] To the extent CCPN takes issue with the Reef Project as part of the mitigation plan for the Project, the Regional Board has already approved the Reef Project as a component of the Project MLMP, and the Commission is not the correct forum to challenge that decision.

[26] See https://www.oxy.edu/academics/vantuna-research-group/palos-verdes-reef.

CCPN.[27] For example, the National Oceanic and Atmospheric Administration ("NOAA") determined that the GHG emissions associated with the PV Reef would not exceed South Coast Air Quality Management District ("SCAQMD") thresholds, and were therefore minor and did not require mitigation. (PV Reef EA, p. 44.) Similarly, NOAA found that daily and quarterly emissions of criteria air pollutants associated with the PV Reef were "well below" the SCAQMD thresholds of significance. (*Id.*, p. 43.)

- Finally, multiple agencies, including the Commission, determined that DDT contamination in the vicinity of the PV Reef and the proposed Reef Project site does not pose a threat to the implementation of the artificial reef projects. NOAA determined in the EA that the amount of DDT in the sediment is at "the ambient levels consistent with the rest of the nearshore habitats in the Southern California Bight, and reef construction will not expose any buried pollutants currently available to the ecosystem." (See PV Reef EA, Appx. D1, p. 11.) Further, the Commission, in issuing a CDP for the PV Reef, found that "the results of sediment testing carried out at the project site have not shown elevated levels of DDTs or PCBs, suggesting that exposure to these contaminants would be very limited for fish attracted to or produced on the proposed reef."[28] Commission staff also recognized that during sampling at the project site, DDT was only observed in one sample at 10.5 parts per billion ("ppb")—less than half of the U.S. Environmental Protection Agency's designated cleanup level for DDT of 23 ppb. (May 19, 2019 Coastal Commission Staff Report, p. 22.) These determinations were confirmed in post-construction sampling conducted in 2020, which confirmed that DDT isomer values were all below the probable effects level.[29]

B. Project Changes

- CCPN argues that, as a responsible agency, the Commission must analyze changes to the Project that have not been analyzed in the Project's certified CEQA documents, and must also consider changed circumstances. (CCPN Letter, pp. 23-27.) Specific arguments concerning Project changes and changed circumstances are addressed below. As a threshold issue, however, supplemental or subsequent environmental review is only required if, and indeed is ***prohibited*** unless, there are changes to the Project or its circumstances or new information that result in new or more severe environmental impacts. (Pub. Resources Code, § 21166; CEQA Guidelines, § 15162, subd. (a).) None

[27] It should be noted that the existing Palos Verdes Reef Restoration Project received its NEPA approvals via an EA and a Finding of No Significant Impact, rather than a more detailed environmental impact statement. (See Palos Verdes Reef Restoration Project EA (Feb. 22, 2017) ("PV Reef EA"), available athttps://www.montroserestoration.noaa.gov/wp-content/uploads/2018/10/PalosVerdesEA_Final.pdf.)

[28] See Addendum to May 9, 2019 Coastal Commission Staff Report for PV Reef, p. 11, available at https://documents.coastal.ca.gov/reports/2019/5/Th10b/Th10b-5-2019-addenda.pdf.

[29] See Post-Construction Report for Palos Verdes Reef Restoration Project (Dec. 8, 2020), available at https://drive.google.com/file/d/1hLCK2kFkHVuB1y4PFOY1mW44FFFYxSjH/view.

of the arguments put forward by CCPN indicate that new information or changed circumstances exist such that additional CEQA review is required.

1. Grading/Site Plan Changes

- CCPN argues that the Project's revised site plan, including grading some of the existing berms, could have significant impacts related to air quality, hazards and toxins, water quality, and environmental justice due to potential soil contamination. (CCPN Letter, p. 24.)

    - Dudek's CEQA equivalence review, which was provided to the Commission as an attachment to Poseidon's 2021 CDP application, demonstrates that the Project refinements do not result in any new significant environmental impacts or substantially increase the severity of previously identified impacts when compared to the 2010 SEIR. (Dudek CEQA Equivalence Review and Updated Cumulative Analysis for CDP Application (July 2021) ("2021 Dudek CEQA Equivalence Review") p. 2.) Additionally, in response to concerns from Coastal Commission staff, Poseidon has proposed additional site plan changes to maintain the existing eastern exterior berm adjacent to the site to provide an additional buffer protecting potential wetland habitat and to meet Risk Category IV design standards, and submitted an analysis to the Commission, which did not identify any new or substantially more severe significant impacts. (See Dudek, Huntington Beach Desalination Plant Site Plan Revision Memoranda (May 10, 2022) ("Dudek Memo").)

    - To the extent CCPN is referring to the fact that soil on the Project site is potentially contaminated, this is not new information. The City thoroughly evaluated impacts associated with potential site contamination in the 2010 SEIR, including soil, and determined that impacts would be less than significant with mitigation. (2010 SEIR, pp. 4.9-42, 4.9-56 to 4.9-58 [identifying fifteen mitigation measures].) For instance, Poseidon is required to comply with a soil management plan to address any contaminated soil it encounters during Project construction, as well as comply with the City's Soils Clean-Up Standard. (*Id.*, pp. 4.9-42, 4.9-57.)

        - CCPN misleadingly asserts that the extent of contamination of soil is unknown. (CCPN Letter, p. 24.) This is untrue. The soil and groundwater contamination on the Project site is confined to the limited area around the fuel oil tanks and this contamination only extends to the top six inches of the soil. (Poseidon Response to Staff Report (Nov. 11, 2013) p. 53.) Poseidon's proposal to use on-site soil to elevate some portions of the Project site's finished grade will not result in the use or mobilization of contaminated soil. (*Id.*, p. 54; see also 2021 Dudek CEQA Equivalence Review, pp. 36-38.) Poseidon also proposes a special condition requiring Poseidon to submit documentation to the Coastal Commission demonstrating that a Remedial Action Plan has been approved by the Department of Toxic Substances Control.

2. Alleged Changes to the Project's Circumstances and New Information

a. Linear Brine Diffusers

- CCPN argues that supplemental environmental review is required because "much more is known about the shear mortality impacts of linear brine diffusers" since issuance of the 2010 SEIR. (CCPN Letter, p. 24.)

    - As explained in Section VIII, *infra*, the 2017 SEIR fully analyzed the marine life mortality impacts of the Project diffusers using a conservative assumption of 100% mortality of diffuser entrained larvae. (2017 Final SEIR, p. 4-62.) As the proposed Project diffuser would be located along a fairly homogenous stretch of coastline dominated by sandy habitat, estimated levels of marine life mortality are generally quite low. (*Id.*, p. 4-63.) Further, Mitigation Measure OWQ/MB7, imposed by the 2017 SEIR, requires that Poseidon develop and implement a detailed Diffuser-Operation MLMP to fully compensate for all loss of marine life associated with the linear brine diffusers. (*Id.*, pp. 4-67 to 4-68.) To mitigate any impacts the diffusers may have on marine life, including all direct and indirect diffuser entrainment impacts, Mitigation Measures OWQ/MB7 requires compensatory mitigation of the Area of Production Foregone ("APF"), including up to 95.9 acres of restoration. (*Id.*, p. 4-67.) When considering this additional mitigation, the 2017 SEIR concluded that the Project's impact to marine life is less than significant. (*Id.*, p. 4-59.) In addition, as part of the Regional Board's process in 2020 and 2021, Poseidon modified the multiport diffuser design to further minimize shearing mortality, consistent with recommendations from the Regional Board's independent reviewer, Dr. Phillip J.W. Roberts. (2020 Addendum, p. 4.) As discussed in the Regional Board's Addendum, shearing-related mortality from the 2017 duckbill diffuser design could occur in 782 MGD of feed water. By incorporating Dr. Robert's recommendations and redesigning the diffuser, shearing-related mortality was reduced to affect only 168 MGD. Thus, the modified diffuser will significantly reduce shearing-related mortality as compared to the already less-than-significant impacts identified in the 2017 SEIR. (*Id.*, p. 14.) As such, the impacts of the Project's brine diffusers on marine life are not new information or changed conditions that would require supplemental CEQA review. (Pub. Resources Code, § 21166; CEQA Guidelines, § 15162, subd. (a).)

b. Orange County Water Supplies

- CCPN argues supplemental CEQA review is required because OCWD "has announced expansion of the Groundwater Replenishment System to add 30 million more gallons per day to local water supplies as an alternative." (CCPN Letter, p. 24.)

    - As explained in the 2017 SEIR, in responses to comments raising this precise issue, an expanded OCWD Groundwater Replenishment System was an option "available to Orange County since before preparation of the [2017] Supplemental

EIR and do not require a change in the alternatives considered." (See 2017 SEIR, p. II-44; see also *id.*, pp. II-18 to II-19.) As such, the expansion of this system does not trigger the need for additional environmental review of the Project. (Pub. Resources Code, § 21166; Cal. Code Regs., tit. 14, § 15162, subd. (a).)

- Nevertheless, as explained in Section I.F.1 *supra*, the Groundwater Replenishment System does not change OCWD's conclusion that the Project is needed for water system reliability and resiliency.

c. OCWD Product Water Delivery System

- CCPN claims that OCWD has added five new alternative delivery options for Poseidon product water to those considered in the 2010 SEIR and these delivery options have not yet been considered under CEQA. (CCPN Letter, p. 25.)

  - To date, OCWD has not proposed changes to the water distribution system from what was evaluated in the 2010 EIR. As such, CCPN's argument has been repeatedly rejected by all agencies and courts to consider the issue.

  - In support of this argument, CCPN cites only to a 2016 OCWD presentation describing hypothetical delivery options for Project desalinated water. (CCPN Letter, p. 25, fn. 36.) However, as explained in the 2017 SEIR, neither Poseidon nor OCWD have proposed any changes to the Project's water distribution as originally analyzed in the 2010 EIR. (2017 SEIR, pp. II-16 to II-17.) Rather, OCWD expressly confirmed that "potential modification contemplated to distribute desalinated water . . . is speculative at this time." (*Id.*, p. 1-12.) In 2021, the California Court of Appeal upheld this finding in response to ***precisely the same*** arguments put forward by Coastkeeper in challenging the 2017 SEIR, concluding that the evidence demonstrated that "OCWD did not require changes to the distribution system analyzed by Huntington Beach in 2010." (See *California Coastkeeper Alliance v. State Lands Comm.* (2021) 64 Cal.App.5th 36.)

    - The Court of Appeal explained that "whether OCWD or another body may elect to employ a different water distribution system than what was reviewed in the 2010 subsequent EIR is speculative and not reasonably foreseeable." ((2021) 2021 Cal. App. Unpub. LEXIS 2284, at *80.)[30] "While the OCWD Board of Directors was presented with a number of distribution options to consider . . . and directed staff to further explore [those options]," "[t]here is no way to know the particulars of any new distribution system to evaluate attendant environmental impacts, let alone that one particular option is reasonably foreseeable." (*Ibid.*)

    - The Regional Board likewise considered and rejected this argument in evaluating Water Code section 13124.5(b). "The 2010 FSEIR analyzed the proposed distribution system for the proposed Facility's desalinated

[30] The published portions of the opinion are available at 64 Cal.App.5th 36.

water. The Discharger has not proposed any changes to that distribution system." (Regional Board, California Coastkeeper Alliance – Response to Comments (July 21, 2021), p. 75.) In addition, "OCWD has submitted letters [to the Regional] Board stating that it has not made any final decisions regarding how it will use the water and affirmed this position at the May 15, 2020 workshop on the Tentative Order." (*Ibid*.) "At this point, it would be too speculative for the Santa Ana Water Board to analyze uncertain changes to the distribution system that neither the Discharger nor OCWD has proposed." (*Ibid*.) As the Regional Board explained: "To analyze such a speculative change as suggested by CCKA, the Board would need to guess at how much water might be injected, where the injections might take place, and all the other critical information needed to analyze the reasonably foreseeable impacts of injection and alternatives. Such a speculative analysis would not provide the public or the Board with meaningful information and is not required by CEQA." (*Ibid*.)

- As explained by OCWD in multiple letters to the Regional Board, OCWD is "considering a variety of water conveyance and utilization options that could be implemented if it purchases the desalinated water from the project." (See Aug. 8, 2019 Letter from OCWD to Regional Board, p. 2.) However, "[a]t this time, OCWD has not reached any conclusions or made any decisions regarding how desalinated water could be used by the District and distributed to the local water community, so no specific conveyance and utilization option has been formally selected." (*Ibid.*; see also June 26, 2020 Letter from OCWD to Regional Board, p. 3 ["No decision on the distribution of the water will be made until the project is fully permitted and the District can make a final assessment of the project's cost."].)

- CCPN fails to provide ***any*** information to suggest that circumstances have changed since the SLC's issuance of the 2017 SEIR, such that the Commission, or any other agency, is required to analyze hypothetical OCWD distribution systems.

d. <u>Boron</u>

- CCPN alleges that a 2016 investigation by the Irvine Ranch Water District determined that, in order to avoid boron contamination in the aquifers into which Project water could be injected in the future, the Project will need to implement a second pass reverse osmosis treatment process, which will increase Project flow rates, a Project change that CCPN argues has never been assessed. (CCPN Letter, p. 25.)

  - However, as explained in Section XI, *infra*, after undergoing the Project's reverse osmosis treatment process, "the desalted water boron level is approximately 0.6-1.0 mg/L, which is below the [California Department of Public Health] action level." (2010 SEIR, p. 4.11-13.) Further, to address concerns regarding the

presence of boron in treated Project water, the Regional Board added boron monitoring to both the influent and effluent monitoring requirements for the Project. (See 2021 Regional Board Order, Att. E, p. E-10; see also Regional Board Responses to Comments Received on or before Jan. 21, 2020, p. 31.)

- Finally, as described above, neither Poseidon nor OCWD have identified distribution options for Project's desalinated water—as such, the injection of Project water into underlying aquifers remains purely hypothetical and needs not be considered by the Commission at this time. Any alleged impacts of Project water injection on groundwater quality will be the subject of future approval processes and environmental review carried out once OCWD selects a final distribution option. (See Section II.B.2.c *supra*.)

e. Cumulative Projects

- CCPN argues that cumulative impacts could occur from construction projects at the AES power site, Ascon Landfill remediation, and Magnolia Tank Farm demolition and development. (CCPN Letter, p. 25.) CCPN asserts that the "2010 SEIR does not include cumulative impacts analyses for these new projects." (*Id*.)

  - CCPN ignores that the Project has updated its cumulative impacts analysis since 2010, including in 2015 in response to the Coastal Commission's Notice of Incomplete Application ("NOIA") letter dated October 2, 2015. The 2015 analysis considered the potential cumulative effects of construction of the AES Huntington Beach Energy Project and the Ascon Landfill Cleanup Project.[31] The updated cumulative impact analysis found that no cumulative impacts beyond those previously identified in the 2010 Final SEIR would occur.

  - CCPN also ignores that the Project's cumulative impacts analysis was updated in 2017 as part of the SLC's review of proposed Project modifications. The 2017 SEIR specifically analyzed the three projects identified by CCPN, including in each of the substantive impact analyses. (See, e.g., 2017 SEIR, pp. 3-1 to 3-14; 4-68 to 4-69; 4-128 to 4-131; 4-136 to 4-137.) The 2017 SEIR concluded that the Project's cumulative impacts would be less than significant for all impacts other than cumulative air emissions from construction.

  - In addition, as part of its 2021 CDP Application, Poseidon submitted an updated cumulative projects list and cumulative impacts assessment, which includes the AES Huntington Beach Energy Project, Ascon Landfill remediation, and Magnolia Tank Farm. This analysis confirms that the Project's proposed site plan refinements would not affect the previous cumulative impact conclusions in the

[31] Dudek, Updated Cumulative Environmental Impacts Assessment for the Proposed Huntington Beach Desalination Project (Nov. 9, 2015), attached as **Exhibit 2**.

2010 SEIR or 2017 SEIR, and only short-term construction impacts would occur. (See 2021 CDP Application, Att. 8, pp. 45-54.)

- Additionally, CCPN, based on a 2019 Cumulative Impacts Report prepared on behalf of CCPN, argues that the effects of five individual projects when considered together, are considerable and likely to compound other environmental impacts. (January 24, 2022, Letter from Orange County Coastkeeper to Coastal Commission, p. 1; see also C. Whitcraft, Cumulative Impact Analysis for Poseidon Project (January 2019).) CCPN argues that the Project's cumulative impact analysis needs to be updated to understand the impacts of these projects. (January 24, 2022, Letter from Orange County Coastkeeper to Costal Commission, p. 2.) Specifically, CCPN asserts that additional analysis is required for the following projects:

    1) AES Demo and Re-Power;

    2) Ascon Landfill Remediation;

    3) Magnolia Tank Farm – Tank Removal and Grading; and

    4) Proposed Magnolia Tank Farm Development.

    - The projects identified by CCPN and the Whitcraft cumulative impacts analysis were included and considered by the State Lands Commission in the 2017 FSEIR. (2017 FSEIR, pp. 3-6 to 3-9.) CCPN and Whitcraft ignore that State Lands Commission addressed the Project's potential cumulative impacts in relation to these projects in great detail. Further, the Regional Board's 2020 Addendum to the City's 2010 FSEIR and the State Lands Commission 2017 FSEIR confirmed that "cumulative impacts, were not different than the impacts identified in the 2010 FSEIR and 2017 FSEIR." (2020 Addendum, p. 15.) The Regional Board also note that it "is not aware of new projects in the area that were not analyzed in the 2010 FSEIR or the 2017 FSEIR that would require additional analysis to assess cumulative impacts." (*Id.*)

    - Moreover, as stated above, as part of its 2021 CDP Application, Poseidon submitted an updated cumulative projects list and cumulative impacts assessment, which includes the projects identified by CCPN and the Whitcraft cumulative impacts analysis. Poseidon's updated analysis confirms that the Project's proposed site plan refinements would not affect the previous cumulative impact conclusions in the 2010 SEIR or 2017 SEIR, and only short-term construction impacts would occur. (See 2021 CDP Application, Att. 8, pp. 45-54.) Thus, there is no need to re-open the Project's cumulative impacts analysis.

III. CRITICAL INFRASTRUCTURE STANDARDS

- CCPN argues that under the Ocean Protection Council's 2018 State of California Sea-Level Rise Guidance ("2018 OPC Guidance"), the Project would be considered critical

infrastructure because Poseidon would supply water in the event of an emergency, and therefore the Project must comply with Risk Category IV Critical Infrastructure design standards. (CCPN Letter, p. 3.)

- ***First***, this conclusion is not grounded in the 2018 OPC Guidance. Nothing in the 2018 OPC Guidance mentions the link between emergency water supplies and critical infrastructure, nor does it discuss desalination plants.

- ***Second***, the City's approvals do not require the desalination facility to be operational immediately following a natural disaster. The City's 2010 SEIR acknowledged that the desalination facility's drought-proof supplies would be "essential for aiding the general public for disaster recovery to provide a local potable water source." (2010 SEIR, p. 12-617.) Accordingly, Project Design Feature ("PDF") PW-4 requires Poseidon to develop an earthquake preparedness plan that would be coordinated with the City's preparedness activities. The plan would include "coordination procedures with appropriate agencies and facility operations procedures to ensure water delivery under earthquake emergency conditions are maintained." (*Id.*, p. 1-11.) This measure would be important if, for example, an earthquake damaged water pipelines that deliver water to Huntington Beach from other supply sources outside of the City. Importantly, the measure applies to Poseidon's operations—it does not impose any specific construction-related requirements. The measure also does not require Poseidon to deliver a specified amount of water in earthquake emergency conditions, and could be satisfied by a plan for Poseidon to deliver water from its product water tank via bottles or trucks if water production from the desalination facility is off-line.

    - In addition, the City approvals also recognize that, depending on the extent of any natural disaster, the desalination facility may be completely off-line. For example, the 2010 SEIR explained that "[d]uring the times of potential outages caused by scheduled or unscheduled maintenance or emergency events such as earthquakes [desalination facilities] operate at reduced capacity or are down for a certain period of time." (2010 SEIR, p. 4.11-16.) In addition, in response to comments arguing that the facility should have back-up power in its design, the Final SEIR acknowledged that the desalination facility would not include a backup generator [sufficient to continue production of desalinated water] and would rely on electrical grid power and/or the HBGS's auxiliary reserve bank. (*Id.*, p. 4.6-14; 2010 Final SEIR, p. 12-617.) Further, the City expressly declined to mandate specific reliability or emergency service requirements, noting that "issues of reliability of the supply and emergency service provisions would be dictated by the terms of the institutional agreements negotiated with the regional water purveyors . . . and by the terms of the water supply agreements negotiated with potential customers that would purchase the product water." (2010 SEIR, p. 4.11-16.) Thus, the City approvals should not be read as ***requiring*** the facility to operate continuously or

immediately following a natural disaster or be designed or constructed to Risk Category IV standards.

- ***Third***, the City's local CDP for the Project includes a number of conditions including an option for the City to purchase water from Poseidon's desalination facility on an ongoing basis and an option to obtain water during a declared water supply emergency.[32] To date, the City has not exercised either of these options. Furthermore, the City does not currently have existing potable water facilities necessary to directly connect to the desalination facility site and no funds have been identified in the City Public Work's capital improvement plan to build such facilities in the future.

    - In June 2021, the City adopted its 2020 Urban Water Management Plan ("UWMP") to satisfy the UWMP Act of 1983 and subsequent California Water Code requirements. The UWMP provides an assessment of the present and future water supply sources and demands within the City's service area over the next twenty years to ensure a reliable water supply. The Project is not identified as a City-led initiative in the UWMP, but rather as a regional water supply capable of enhancing water supply reliability throughout Orange County by offsetting the need to import water. (UWMP, pp. 6-28 to 6-29.)

    - Further, in June 2021 the City adopted a Water Shortage Contingency Plan ("WSCP"). The City's WSCP evaluates a range of water supply emergency scenarios including loss of between 0-100% of the City's water supplies. The City's WSCP further identifies demand reduction and supply augmentation actions that will be taken during an event resulting in a loss of 50% or more of the City's water supply. The City's supply augmentation plan includes additional purchases of groundwater water from OCWD and/or imported water from MWDOC capable of replacing up to 100% of the water lost during a water supply emergency. (WSCP, Table 8-3.) The WSCP does not identify or rely on the Project for water during a water supply emergency. Accordingly, while the City maintains an option to acquire water from the desalination facility during a water supply emergency, the City has no formal plans to rely on that supply in the future.

- Nevertheless, although Poseidon believes the Project was properly classified as a Risk Category III facility, Poseidon has agreed to construct the Project to meet Risk Category IV design and construction standards pursuant to Poseidon's Special Condition 21. (See Proposed Special Conditions 7 and 21; see also

[32] The CDP defines a declared water emergency as "a 50% or greater loss in overall City water supply (not including droughts) or connected facilities such as distribution system, booster stations, reservoirs, wells and imported connections causing a reduction of at least 50% of the City's water supply." (See CDP No. 10-1014.)

Poseidon, Analysis of Site Hazards Risk Category IV Potential Project Modifications (Apr. 12, 2022) ("Risk Category IV Memo").)

- CCPN argues that the Project must be conditioned on being designed and constructed to Risk Category IV Critical Infrastructure standards. (CCPN Letter, pp. 19, 29-31.) CCPN asserts that unless the Project is constructed to withstand geologic, coastal, and seismic hazards while continuing to operate at full capacity, the Project would run counter to the Coastal Act and certain Local Coastal Program ("LCP") policies. (*Ibid.*)

    - The California Building Standards Code (California Code of Regulations, Title 24) requires that every building and structure be assigned a risk category in accordance with Table 1604.5, based on the nature of its occupancy. Table 1604.5 requires that buildings and other structures designated as "essential facilities" be constructed to Risk Category IV Critical Infrastructure standards. (Table 1.5-1.) "Essential facilities" are defined as "[b]uildings and other structures that are intended to remain operational in the event of extreme environmental loading from flood, wind, snow, or earthquakes." (California Building Code, § 202.)

    - Table 1604.5 provides examples of the types of buildings and structures that typically fall into each risk category. Risk Category III includes, among other things, "[p]ower-generating stations, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Risk Category IV." On the other hand, Risk Category IV includes only one type of water infrastructure: "Water storage facilities and pump structures required to maintain water pressure for fire suppression." (California Building Standards Code Table 1604.5).

    - The Project is intended to provide potable water to Orange County residents; Poseidon has not designed the Project to provide water for fire suppression. Therefore, the Project is most appropriately categorized as Risk Category III, like other "water treatment facilities for potable water."

    - To Poseidon's knowledge, no existing desalination plant in California (or anywhere else for that matter) is built to Risk Category IV Critical Infrastructure standards. There is no reason that the Project should be required to comply with higher building standards than other existing desalination plants. Nevertheless, although Poseidon believes that the Project would more appropriately be categorized as a Risk Category III facility, Poseidon has proposed to build the Project to Risk Category IV design standards to ensure the Project can withstand potential hazards during its operating life. (See Proposed Special Conditions 7 and 21; see also Risk Category IV Memo.)

- CCPN argues that because the Project will be built along the Huntington Beach coast and along the active Newport-Inglewood fault, it will be subject to seismic hazards and threats from sea level rise, flooding, and tsunamis. (CCPN Letter, pp. 28-29.)

    - Poseidon is aware that projects along the California coast are subject to certain hazards, including earthquakes, sea level rise, flooding, and tsunamis. Poseidon's

2010 SEIR requires that operations staff develop an earthquake mitigation and preparedness plan. (2010 SEIR Findings, p. 44.) Additionally, because the Project is not directly on the coast, it is somewhat less vulnerable to sea level rise, flooding, and tsunami threats. For example, a Maximum Considered Tsunami ("MCT") (with a return frequency of once every 2,475 years) combined with 3.3 feet of sea level rise would result in temporary flooding on certain limited portions of the Project site at depths of no more than 2.5 to 3 feet, receding in as little as thirty minutes. (*See* Section IV.)

- Refer to Sections IV and V for a more detailed response to CCPN's specific arguments related to coastal and seismic hazards. The Project would be resilient to coastal hazards in combination with potential projected sea level rise during the Project's projected operation.

- CCPN argues that the Newport-Inglewood fault can generate earthquakes up to 7.5 magnitude and the Project must be designed to withstand seismic damage and continue operation during and after an earthquake. (CCPN Letter, pp. 28-29.)

  - ***First***, CCPN ignores that the Project site is not located within the Newport-Inglewood Fault Zone ("NIFZ"; fault zone is determined by the Alquist-Priolo Fault Study), but is in fact situated approximately 0.5 miles southwest of the main trace of the NIFZ. (See Nov. 2013 Poseidon Response to Commission Staff Report, p. 90.)

  - ***Second***, notwithstanding the Project's distance from the NIFZ, Poseidon's expert consultant Geosyntec completed site-specific seismic modeling, which was later updated by Geo-Logic Associates, that evaluates the potential impacts to the Project of a moment magnitude Mw 7.5 event of the NIFZ. Geosyntec determined that, with implementation of design standards for Site Class F, as required by Poseidon's Special Condition 21, the Project would withstand ground shaking, liquefaction, and lateral spread hazards at the site. (Nov. 2013 Poseidon Response to Staff Report, p. 92; see also July 8, 2021 Poseidon CDP Application, Att. 6, p. 3 [Geo-Logic Associates supplemental seismic assessment determined that "the impact of M 7.5 on the overall seismic hazard can be accommodated by the current design."]; May 2022 Geo-Logic Associates Response to Staff Report, pp. 10-12.) The Project already has undergone precisely the sort of design and seismic assessment which CCPN argues is necessary.

  - ***Third,*** although not required by the California Building Code, Poseidon's expert consultants – at the request of Coastal Commission staff – modeled the potential impacts if a hypothetical secondary fault were to rupture with 25% of the expected displacement of the main trace of the NIFZ in the bedrock directly beneath the Project site. This is an overly conservative assessment, but nevertheless the results were the same, indicating that significant structural damage to the Project is unlikely. (Geo-Logic Associates, Supplemental Assessment of Seismic Hazards, Huntington Beach Desalination Project (June 29, 2020), Table 1 (attached as Attachment 6 to the 2021 CDP Application).)

- ***Fourth***, the risk of earthquakes damaging California's existing water infrastructure underscores precisely why Orange County would benefit from a new, drought-proof and locally controlled water supply like the Project. Research has shown that a magnitude M 7.8 earthquake on the San Andreas Fault could sever all four aqueducts that transport water south from Northern California at once, cutting off more than 70% of Southern California's water supply.[33] Local desalination would provide much-needed resiliency in the face of such risks to the State's water infrastructure.

- CCPN states that "[i]t is undisputed that the Carlsbad Desalination Plant is considered a critical facility." (CCPN Letter, p. 31.) However, this is misleading and inaccurate. The Carlsbad Desalination Plant is not built to Risk Category IV Critical Infrastructure standards, nor is any other desalination plant in California.

IV. SEA LEVEL RISE AND COASTAL HAZARDS

- CCPN argues that the Project must be designed to withstand 10 feet of sea level rise by 2100 (H++ scenario) as a critical asset. (CCPN Letter, p. 29; see also *id.*, pp. 51-52.) As a primary matter, the H++ scenario is only relevant for critical infrastructure projects, which this Project is not, as explained above in Section III.

    - Even if the Project were considered "critical infrastructure," the Commission ***excluded*** desalination facilities from its recently adopted Sea Level Rise Planning Guidance for Critical Infrastructure ("CCC SLR Guidance"). Although the CCC SLR Guidance states that desalination facilities could be considered "critical infrastructure" if "they are integrated with other water systems, provide needed or emergency water supply to communities, or have the potential to cause significant environmental impacts or social consequences if damaged by future hazards," the CCC SLR Guidance does not require critical facilities to design for extreme sea level rise scenarios. (See CCC SLR Guidance, p. 24.) Indeed, both the CCC SLR Guidance and the 2018 OPC Guidance provide that critical infrastructure projects need only "***understand and plan*** for the H++ scenario, ***not necessarily to site and design for*** the H++ scenario." (See CCC SLR Guidance, p. 24 [emphasis added]; see also 2018 OPC Guidance, p. 25.) As the Commission's own Guidance explains, "in some cases it may not be appropriate or feasible to site and design a project today such that it will avoid the impacts associated with, for example, ~10 feet of sea level rise (the approximate H++ scenario in 2100 for much of the California coast)." (CCC SLR Guidance, p. 24.)

[33] See NPR, *Southern California's Water Supply Threatened By Next Major Quake* (Jan. 27, 2015), available at https://www.npr.org/2015/01/27/381887197/southern-california-s-water-supply-threatened-by-next-major-quake#:~:text=Research%20shows%20that%20a%20magnitude,the%20water%20sustaining%20Southern%20California.

- Consistent with the CCC SLR Guidance, Moffat & Nichol studied the H++ scenario for the Project.[34] (M&N SLR Analysis, p. 6.) Even under worst-case flood hazard projections (i.e., 6.6 feet under the H++ scenario by 2080—the anticipated end of the design life of the facility), the Project will comply with Coastal Act and LCP policies regarding sea level rise and coastal hazards. (September 2021 Poseidon Response to Commission Notice of Incomplete Application ("September 2021 NOI Response"), pp. 6-8.) Further, Poseidon has proposed to design the Project to Risk Category IV standards to ensure that the Project is resilient to sea level rise and coastal hazards through the Project's design life. (See Risk Category IV Memo, pp. 6-7; see also proposed Special Condition 21.)

- Notably, recent guidance from the U.S. National Oceanic & Atmospheric Administration ("NOAA") explains that "[b]ased on the most recent scientific understanding . . . , the uncertain physical processes such as ice-sheet loss that could lead to much higher increases in sea level are now viewed as less plausible in the coming decades before potentially becoming a factor toward the end of the 21st century and beyond." (NOAA, Global and Regional Sea Level Rise Scenarios for the United States (Feb. 2022), p. 12.) The H++ scenario is "thus viewed as less plausible, and the associated scenario has been removed from [NOAA's] report." (*Ibid*.) Under NOAA's most recent guidance, under the "High" scenario, sea level projections include 4 feet by 2082, 6 feet by 2098, and 8 feet after 2100.[35] With the Risk Category IV design requirements, the Project site would be resilient to 6.6 feet of sea level rise by 2080—well beyond the "High" scenario included in NOAA's updated guidance.

- Finally, the Regional Board thoroughly evaluated potential sea level rise impacts when evaluating the Project site and location. The Regional Board "recognize[d] the importance of addressing climate change impacts to the proposed facility." (Regional Board Responses to Comments (July 21, 2020), p. 307.) As a result, the 2021 Regional Board Order requires Poseidon to prepare a Climate Change Action Plan to address the potential for future sea level rise and flooding. (2021 Regional Board Order, pp. 26-27.)

    - In the Climate Change Action Plan, Poseidon must identify "[p]rojected regional impacts on the Facility and operations due to climate change if current trends continue," as well as "[s]teps being taken or planned to address . . . [f]looding and sea level rise risks that may affect operations

[34] See Moffatt & Nichol, Huntington Beach Desalination Project Sea Level Rise Analysis and Adaptation Plan (Sept. 2020) ("M&N SLR Analysis"); see also Moffatt & Nichol, Addendum to Huntington Beach Desalination Project Sea Level Rise Analysis and Adaptation Plan (May 2022) ("M&N SLR Addendum"). Both of these reports were submitted to the Commission and Commission staff on May 10, 2022.

[35] See NOAA, Coastal County Snapshot: Orange County Sea Level Rise, available at: https://coast.noaa.gov/snapshots/#&state=eyJmaXBzIjoiMDYwNTkiLCJzbmFwc2hvdElEIjoiZnV0dXJlRmxvb2QiLCJzZWN0aW9uSUQiOiJoZWFkZXJTZWN0aW9uIiwic2xyVmFsdWUiOiIyIn0=.

including discharges at the Facility." (2021 Regional Board Order, p. 27.) In other words, the purpose of the Climate Change Action Plan "is to project potential climate change impacts on the Facility and operations, and document steps to address potential impacts on the Facility." (*Id*., p. F-43.)

- CCPN contends that Poseidon failed to comply with the State's most recent guidance, which recommends planning for tsunami run-up elevations between 12 and 15 feet, plus predicted sea level rise of 3.5 feet by 2050, and up to 13.8 feet by 2120. (CCPN Letter, p. 50.) Further, CCPN cites 2011 and 2022 tsunami events to argue that the Project must be designed to withstand damage from potential coastal hazards. (*Id.*, p. 29.)

    - As an initial matter, neither the 2011 nor 2022 tsunamis caused flooding in or anywhere near the Project site.

    - Importantly, CCPN ignores that Poseidon thoroughly evaluated potential tsunami risks and submitted detailed modeling that simulated floodwater depths and speeds at the Project site and adjacent areas using the American Society of Civil Engineers-prescribed MCT.[36] Further, "the MCT event has such a low probability of occurrence [that] it is not practical from a design point of view to combine this event with unlikely or worst-case SLR projections for design purposes."[37] (M&N Tsunami Analysis, p. 2.)

    - Under all scenarios considered, tsunami-related flooding would be limited only to the western side of the Project site. (*Id.*, p. 3.) A tsunami combined with 3.3 feet of sea level rise would result in temporary limited flooding of about 2.5 to 3 feet. (*Id.*, p. 33; see also M&N Tsunami Addendum, p. 5.) Any flood waters would recede quickly on the site, in as little as thirty minutes. (M&N Tsunami Analysis, p. 36.) Therefore, the Project would be resilient to tsunami-related hazards in combination with projected sea level rise during the Project's design life.

- CCPN makes a series of arguments that various Project design features are shoreline protection devices or otherwise armoring that violates the Coastal Act and Huntington Beach LCP. As explained in Poseidon's submissions to the Commission, none of the Project's features would act as a shoreline protection device or shoreline armoring.

    - ***First***, CCPN claims that the Project's "sound wall" abutting the Magnolia Marsh tidal wetlands is an improper shoreline protection device. (CCPN Letter, p. 44.) As explained in Poseidon's September 2021 NOI Response, Poseidon is not

[36] See Moffatt & Nichol, Huntington Beach Desalination Project Tsunami Flood Assessment (August 2020) ("M&N Tsunami Analysis"); see also Moffatt & Nichol, Addendum to Huntington Beach Desalination Project Tsunami Flood Assessment (May 2022) ("M&N Tsunami Addendum"). Both of these reports were submitted to the Commission and Commission staff on May 10, 2022.

[37] As Moffatt and Nichol explain: "The joint probability of the MCT event with SLR at the upper end of likely projections . . . is nearly 1/15,000.

proposing to construct a permanent sound wall to protect the Project from coastal hazards. Poseidon included the proposed sound wall specifically in response to Commission staff's request for enhanced noise attenuation. (September 2021 NOI Response, p. 6.) Nevertheless, as shown in the revised site plans submitted on April 14, 2022, Poseidon has removed the proposed sound wall from the Project's design.

- ***Second***, CCPN argues that the Project involves mass grading to remove existing berms and raise the foundation 14 to 16 feet, which would elevate the Project above sea level rise and tsunami hazards and serve as a form of shoreline armoring. (CCPN Letter, pp. 45, pp. 46, 48.) "This is twice the height of the 7-foot plinth the Commission found was an impermissible shoreline protective device at the proposed Belmont Pool," which was ultimately moved further inland. (CCPN Letter, p. 45.)

    - Poseidon is not proposing to raise the foundation or elevate the Project site above the grade of the existing berms. The existing berms have a top elevation of approximately 22 feet NAVD 88, rising above the existing ground by approximately 14 feet. The removal of the berms and Project construction to Risk Category IV standards would result in finished floor elevations ranging from 14 to 16 feet NAVD 88, with the exception of the Product Water Tank, which would have a top elevation of 10 feet NAVD 88. (See Risk Category IV Memo, p. 6.)

    - Further, CCPN overstates the Commission's conclusion with respect to the City of Long Beach's Belmont Pool.[38] There, the Commission explained that the applicant was neither proposing nor entitled to a shoreline protective device. (Belmont Pool Staff Report, p. 59.) The project site was "immediately adjacent to a natural sandy beach and would be constructed on top of silty sands and young estuarine and alluvium deposits." (*Id.*, p. 54.) In addition, the site already experienced flooding events during large storms and high tides. (*Ibid.*) As such, the applicant proposed to locate the project on a plinth elevated seven feet above the surrounding grade. The Staff Report explained that "[w]hile the proposed structures located on the plinth may not be directly damaged under [sea level rise], as proposed, access to the site may be blocked by inland flooding [and] the plinth may fail due to wave uprush." (*Id.*, p. 58.) The Commission conditioned its approval of the project to ensure that the project's foundation system would not "provide shore protection." (*Id.*, p. 60.) Therefore, although the continuous footing around the project "supports a wall around the 7 ft. high plinth, the wall is not expected to function as a shoreline protective device." (*Ibid.*)

[38] See Coastal Commission, Staff Report and Recommendation on Appeals for Application No. 5-18-0788 (Jan. 21, 2021), available at: https://documents.coastal.ca.gov/reports/2021/2/Th14a/th14a-2-2021-report.pdf.

- Here, the Project is over 2,000 feet away from the active shoreline. "Even under a very conservative, probabilistic worst-case future sea level rise scenario (i.e., 6.6 ft. in the year 2100), the Project will be setback 1,750 feet from the active shoreline, which indicates the site has a high adaptive capacity in the form of a horizontal setback from littoral processes and hazards through 2100 and likely beyond." (September 2021 NOI Response, p. 6.) Therefore, the Project would not contribute to the alteration of any natural shoreline processes or require a shoreline protection device.

- ***Third,*** CCPN contends that sea level rise and coastal hazards could result in the Project site becoming an "inaccessible island" by as early as 2030, thereby violating LCP Policy C1.1.1, which requires that new development be located in areas with adequate public services. (See CCPN Letter, pp. 44-46 [citing Dr. Revell memoranda].) This ignores that, as described above, flooding under an MCT event coupled with likely sea level rise would be limited to temporary flooding along the western portion of the Project site. (See M&N Tsunami Analysis, pp. 33-36.) In addition, adequate public services exist to serve the Project site now and in the foreseeable future—as required by LCP Policy 1.2.3. Should an issue with access to public services arise in the future, Poseidon would be able to adapt and develop alternative access. (See M&N Tsunami Analysis, p. 34; M&N SLR Analysis, pp. 39-40.)

  - Further, CCPN's cited precedent is inapposite. (See CCPN Letter, p. 47.)

    - CCPN cites Commission staff's recommendation denying the City of Morro Bay's proposed demolition of its existing wastewater treatment plant ("WWTP") and construction of a new WWTP on the same site, just inland of the beach.[39] Staff explained that the WWTP site is located in a flood plain, and the City of Morro Bay's LCP prohibits new development in such areas. (*Id*., pp. 28-30.) The City of Morro Bay's own modeling demonstrated that the site would be flooded under scenarios with maximum wave run-up, predicted sea level rise, and a 100-year flood. (*Id.*, p. 30.) Although Morro Bay proposed to raise the elevation two feet above expected flood levels, "raising the site on fill does not change the fact that the footprint of the new development is in a 100-year flood hazard zone as designated by the City's LCP." (*Ibid*.) Further, staff explained that adding the fill would convert the WWTP into an island during a flood event, with 2 to 5-foot-deep waters along the only access roads. "Therefore, in a 100-year flood, when equipment is most at risk for failure, it would be

[39] See Coastal Commission, Staff Report: De Novo Hearing for Application No. A-3-MRB-11-001 (Dec. 21, 2012), available at: https://documents.coastal.ca.gov/reports/2013/1/Th23b-1-2013.pdf.

difficult for plant operators to reach the site, potentially increasing the risk of a malfunction or sewer spill." (*Id.*, p. 33.)

- Here, unlike the Morro Bay WWTP, the Project site is not located in an area identified as a hazard in the City of Huntington Beach's LCP. Further, substantial evidence in the record demonstrates that the Project is resilient to sea level rise and coastal hazards through its design life to 2080. Flooding due to an MCT event coupled with potential sea level rise would be limited to temporary flooding along the western portion of the Project site. (See M&N Tsunami Analysis, pp. 33-36; M&N Tsunami Addendum, p. 5.) In addition, Poseidon has proposed to develop and implement adaptation strategies to address sea level rise and coastal hazards in the future. (See Proposed Special Condition 20.)

- Next, CCPN cites the Commission's approval of construction of a single-family residence on the beachfront in the City of Malibu.[40] There, the Commission imposed a special condition prohibiting future encroachment onto public trust lands "unless the Coastal Commission determines that the encroachment is legally permissible pursuant to the Coastal Act and authorizes it to remain."

  - Here, as explained above, the Project is currently over 2,000 feet away from the active shoreline. Under a worst-case sea level rise scenario of 6.6 feet in 2100, the Project would still be set back 1,750 feet from the active shoreline. (September NOI Response, p. 6.)

- CCPN argues that the Project site is in an area with a high groundwater table, which may result in earlier than predicted flooding at the site and surrounding area as sea levels rise. (CCPN Letter, p. 45.) CCPN ignores that the Project has been designed based on site-specific groundwater data and experience from the construction of the adjacent AES Huntington Beach Energy Project. (See September 2021 NOI Response, p. 11.)

  - Based on site-specific groundwater monitoring, "there has been no evidence or observations of 'groundwater daylighting' in the low-lying neighborhoods of south Huntington Beach" or adjacent areas. (M&N SLR Analysis, p. 30.) Although "[i]ncreased groundwater levels in the future may create additional buoyancy forces on underground structures . . . the threat of persistent flooding

[40] See Coastal Commission, Staff Report for Application No. A-4-MAL-19-0218 (Jan. 27, 2022), available at: https://documents.coastal.ca.gov/reports/2022/2/w11d/w11d-2-2022-report.pdf.

from groundwater levels (groundwater daylighting) is not a concern at the project site." (*Id.*, p. 31.)

- Further, Poseidon has proposed adaptive measures that could be taken to minimize potential impacts from increases in groundwater elevations. For instance, Poseidon can add ballast concrete inside the Product Water Tank. (*Id.*, p. 8.) "The bottom elevation of the tank foundation would be above the design groundwater elevation. Any buoyancy could be countered by placing an additional ballast concrete inside the tank that could easily be accomplished during an extended shutdown in the future. Or, if the tank is never completely emptied during operation, the remaining fluid inside the tank would be adequate to offset the additional buoyant force." (*Ibid.*)

V. SEISMIC HAZARDS

- CCPN argues that the Project violates Coastal Act section 30253 and related LCP policies requiring that new development minimize risk to life and property in areas of high geologic, flood, and fire hazard, and assure stability and structural integrity in light of geological and seismic events. (CCPN Letter, pp. 48-49.) Specifically, CCPN contends that Poseidon has not sufficiently analyzed the impact of a rupture on the South Branch Fault, alleged to run beneath the Project site. (*Id.*, p. 49.)

  - The Newport Inglewood Fault is considered active and extends a total of approximately 44 miles from Newport Beach to Beverly Hills. The 2010 SEIR estimated that the maximum earthquake magnitude assigned to the fault zone is 6.9 momentum magnitude. (See 2010 SEIR, p. 4.2-4.) The City of Huntington Beach's Environmental Hazards Element states that the Newport Inglewood Fault has an expected maximum earthquake magnitude of 7.0 momentum magnitude.

  - The South Branch Fault is a postulated secondary fault—it is known that the South Branch Fault, if it exists, is not the main trace of the NIFZ. (See May 2022 Geo-Logic Associates Response to Staff Report, p. 9; see also May 2022 Geo-Logic Associates Response to Comments, p. 2.) As described in Poseidon's 2021 CDP Application, the site is not located within an Alquist-Priolo Earthquake Fault Zone. Further, authoritative technical literature on seismic hazards in Southern California does not assign a magnitude or style of faulting to the hypothetical South Branch Fault. (See September 2021 NOI Response, p. 9; May 2022 Geo-Logic Associates Response to Staff Report, p. 5.) Additionally, the U.S. Geological Survey ("USGS") has not mapped the exact location of the South Branch Fault, and there is no mapped trace of the South Branch Fault beneath the Project site. (See Nov. 2013 Poseidon Response to Staff Report, p. 89.)

  - The 2010 SEIR, which evaluated the potential for fault rupture impacts, concluded that the Project would have no significant geotechnical impacts. (2010 SEIR, p. 4.2-16.) The 2010 SEIR's conclusions considered a 2002 Geo-Logic Associates report that analyzed the potential for fault rupture to occur beneath the

Project site. (*Id*., p. 4.2-7.) That report concluded that, while there was a possibility of fault rupture in small areas of the Project site, the overall risk of surface fault rupture was determined to be minimal over the lifespan of the Project. (*Id*., p. 4.2-11.) Nevertheless, because the South Branch Fault could present a potential hazard, Mitigation Measure GEO-1 requires a subsurface fault investigation to be performed in accordance with California Geological Survey ("CGS") Note 49 to assess the nature and extent of possible surface-fault rupture across the southern portion of the Project site. (*Id*., p. 4.2-14.)

- Geosyntec's subsequent site-specific geologic hazards assessment concluded that the site's surface fault rupture hazard was approximately 1.0 foot of vertical offset of the South Branch Fault. (See, e.g., May 2022 Geo-Logic Associates Response to Staff Report, pp. 8-10; Sept. 2015 Geo-Logic Associates Review and Evaluation of Supplemental Information, Table 1.)

    - In conducting this assessment, Geosyntec assumed the presence of a hypothetical secondary fault directly beneath the Project site, and estimated that this hypothetical secondary fault could produce 25% of the displacement of the main trace of the NIFZ, based upon an assessment of displacement produced by similar secondary faults. (See May 2022 Geo-Logic Associates Response to Staff Report, pp. 8-10.)

    - Geosyntec further determined that the at least 200-foot thick deposit of alluvial sediments below the Project site would mitigate the effects of the bedrock rupture that would be experienced on the surface. (See Nov. 2013 Poseidon Response to Staff Report, p. 90; see also Nov. 2013 Geosyntec Response to Staff Report, p. 6.) The mitigating effects of the alluvial deposit would ensure that if a worst-case fault rupture were to occur beneath the Project site, the Project's proposed structures would experience only reparable aesthetic and temporary serviceability issues, but significant structural damage would be unlikely. (2013 Poseidon Response to Staff Report, p. 90.)

    - Notably, while the March 2013 Geosyntec report and subsequent analyses conservatively determined that the risk of surface rupture at the site can be mitigated by only 200 feet of alluvial deposits, the Geosyntec investigation determined that alluvial sediments at the site may be up to 500 feet thick, further mitigating any potential for surface fault rupture. (See Nov. 2013 Geosyntec Response to Staff Report, p. 6; May 2022 Geo-Logic Associates Response to Staff Report, pp. 2, 3.)

    - As such, Geosyntec determined that no changes to the Project layout were necessary, and that with the implementation of appropriate structural design measures, development on the Project site would not present any seismic related hazards or associated risks. (*Ibid*.)

- Geosyntec's March 2013 report also assessed potential ground shaking at the Project site, based upon a worst-case seismic event—i.e., a Mw 7.5 earthquake on the NIFZ. Geosyntec concluded that, with specific structural design measures for the Project, even worst-case ground shaking is not expected to present a significant risk to the Project's structural stability or to public health and safety. (See Nov. 2013 Poseidon Response to Staff Report, p. 92.) The California Energy Commission ("CEC") reached a similar conclusion with respect to the Huntington Beach Energy Project ("HBEP"). There, the CEC found that compliance with the California Building Code's seismic requirements would effectively mitigate the danger to power plant structures from seismic ground shaking. (CEC Final Decision on the HBEP, pp. 4.5-10, 5.4-23.)

- Geosyntec's March 2013 analysis also assessed the potential for a worst-case Mw 7.5 seismic event on the NIFZ to cause liquefaction-induced settlement at the site. Geosyntec identified two liquefiable zones in the surbsurface soils; an upper layer approximately 4 feet thick, and multiple lenses between 45 and 70 feet below ground surface. (See Nov. 2013 Poseidon Response to Staff Report, p. 93.) Based on this evaluation, Geosyntec estimated that up to 9 inches of total liquefaction-induced reconsolidation settlement may occur at the Project site, within the normal range for a site with this type of soil profile in an area of high seismicity. (*Ibid*.)

    - In order to address the potential for liquefaction-induced settlement the Project foundation design will include several proven methods of ground improvement based upon the current California Building Code, such as soil/cement mixed shear walls, rigid grout inclusions with a load transfer platform, over excavation and soil compaction, and/or auger cast in place pile deep foundation elements. (See September 2021 NOI Response, pp. 4-5.) The Engineer of Record for the Project will select the specific foundation type to be used. Further, under Poseidon's proposed Special Condition 21, prior to commencing desalination plant construction, Poseidon will provide to the Executive Director documentation from a California-licensed structural engineer certifying that the desalination plant is designed to resist, without collapse or structural damage, the forces from liquefaction-induced settlement of at least 9 vertical inches, in accordance with Geosyntec's modeling.

- Finally, Geosyntec's March 2013 report assessed the potential for lateral spread at the site, estimating potential lateral spread displacement on the Project site as ranging from approximately 15 to 38 inches. (Nov. 2013 Poseidon Response to Staff Report, p. 94.) Geosyntec concluded that this range of displacement could be accommodated through then-proposed Project design features and that based on results of the investigation and analysis, no change to the Project layout was needed to ensure structural stability. (*Ibid.*)

        - To address any potential for lateral spread impacts, Poseidon will install 3-foot-thick soil/cement mixed shear panels, which will be approximately 50 feet long, spaced at approximately 9 feet center to center, and approximately 26 feet deep to extend below the liquefiable layer. (See September 2021 NOI Response, p. 4.) These design features are based upon measures employed during the successful construction of the adjacent HBEP to address potential for lateral spread. (*Ibid.*) Further, under Poseidon's proposed Special Condition 21, prior to commencing desalination plant construction, Poseidon will provide to the Executive Director documentation from a California-licensed structural engineer certifying that the desalination plant is designed to resist, without collapse or structural damage, the forces from at least 38 inches of lateral spread.

    - In response to comments from Commission staff, Geo-Logic Associates prepared a supplemental seismic hazard evaluation, which reviewed parametric studies performed by Geosyntec (2013) and Geo-Logic Associates (2015). Geo-Logic Associates confirmed previous analyses demonstrating that impacts from even a worst-case scenario seismic event can be accommodated by the current Project design. (Geo-Logic Associates, Supplemental Assessment of Seismic Hazards, Huntington Beach Desalination Project (June 29, 2020), Table 1.)

- CCPN claims that Poseidon has not shown that the desalination facility is adequately designed as Risk Category IV critical infrastructure that could be relied on to remain safe and functional in the event of a large earthquake on the Newport-Inglewood Fault. (CCPN Letter, p. 49.)

    - As a preliminary matter, as described in Section III, *supra*, the Project is not required to be constructed to Risk Category IV standards.

    - Further, as explained above, the risk of serious damage to the facility from an earthquake is low. Poseidon's expert seismic consultants have modeled the impact of a hypothetical fault rupture directly beneath the Project site, and determined that the Project as designed can withstand such an event with only "reparable aesthetic and temporary serviceability issues." (See Nov. 2013 Poseidon Response to Commission Staff Report, pp. 90-91.) Even under this hypothetical scenario, it is unlikely that the Project would experience significant structural damage. (*Ibid.*)

    - Further, CCPN ignores that AES' HBEP, located directly adjacent to the Project site, is designed to meet Risk Category III standards. (Cal. Energy Comm'n, Final Decision, Huntington Beach Energy Project, p. 5.4-12.) CCPN makes no effort to explain why the Project, which would be subject to similar seismic risks as the HBEP, would need to meet higher Risk Category IV standards.

    - Nonetheless, as described above, Poseidon has proposed Special Conditions requiring the proposed development on the Project site be designed to Risk

Category IV standards. (See Risk Category IV Memo.) As such, Poseidon will design the desalination plant to meet an Immediate Occupancy Structural Performance objective, such that the facility will be capable of operating following a Maximum Considered Earthquake event. (*Id.*, pp. 2, 3.)

- CCPN argues that if the Project is damaged, destroyed, or merely rendered nonoperational by a large earthquake, the Project could risk life and property, which CCPN claims is a further inconsistency with Huntington Beach LCP policies. (CCPN Letter, p. 49.) CCPN points specifically to concerns about (1) the Project's "large electrical generation units" and connection to the AES HBEP; (2) damage to storage containers for RCRA hazardous wastes; and (3) dissolving "toxic chemicals in onsite soils." (*Ibid*.)

    - ***First,*** as described above, the Project is designed to withstand worst-case seismic impacts without significant structural damage.

    - ***Second,*** CCPN is simply incorrect that the Project will include the presence of "large electrical generation units" at the desalination facility—in reality, the desalination plant will only include on 200 kw emergency diesel generator that would run in the event of a loss of power to the plant. Further, Poseidon does not anticipate that the Project will be connected directly to the HBEP.

    - ***Third,*** with respect to storage containers for wastes, as described in the 2010 SEIR, all hazardous materials will be managed in accordance with the California Hazardous Waste Control Law (Cal. Health & Safety Code, Div. 20, Ch. 6.5) and Hazardous Waste Control Regulations (Cal. Code Regs., Tit. 22, Div. 4.5). (See also 2021 Dudek CEQA Equivalence Review, pp. 37-38.) The Project's hazardous waste management, transportation, use, storage, and disposal information and procedures would be processed and approved through the Huntington Beach Fire Department Hazardous Materials Division and other applicable regulatory agencies. In accordance with the US Occupational Safety and Health Administration ("OSHA") guidance, operation of the proposed facility will require the preparation of a Process Safety Management Program, which is designed to prevent or minimize the catastrophic releases of toxic, reactive, flammable, or explosive chemicals. (29 CFR § 1910.119.) The Project would also be required to comply with the US Environmental Protection Agency's ("EPA") Risk Management Planning Rule (40 CFR § 68), which would require Poseidon to register the facility with the EPA prior to onsite storage of hazardous chemicals. Further, the Project would coordinate with the Certified Unified Program Agency and the City of Huntington Beach to identify hazardous materials stored on-site and facilitate coordination and emergency planning. (2021 Dudek CEQA Equivalence Review, pp. 37-38.) In addition, Poseidon is required by the Regional Board Order to establish a site-specific Best Management Practices Plan to prevent, or minimize the potential for, the release of toxic or hazardous pollutants. (2021 Regional Board Order, p. F-42.) CCPN does not explain why these robust measures are insufficient.

- ***Fourth,*** with respect to impacts from chemicals in onsite soils, the City thoroughly evaluated impacts associated with potential site contamination, including soil contamination, in the 2010 SEIR and determined that impacts would be less than significant with mitigation. (2010 SEIR, pp. 4.9-42, 4.9-56 to 4.9-58 [identifying fifteen mitigation measures].) For instance, Poseidon is required to comply with a soil management plan to address any contaminated soil it encounters during Project construction, as well as comply with the City's Soils Clean-Up Standard. (*Id.*, pp. 4.9-42, 4.9-57.)

- Based on the foregoing, it is extremely unlikely that a chemical release could occur in the event of an earthquake, and even if one did occur, the Project has protections in place to ensure that contamination does not enter the Project's product water or surrounding areas. Further, product water must be tested to ensure it complies with State drinking water standards.

- The Coalition submitted a report to the Commission prepared under direction from the group by Lettis Consulting International ("LCI"), claiming to "offer an independent third-party analysis of the potential seismic risks to the Poseidon Huntington Beach Project" (the "LCI Report"). (See Letter from Raymond Hiemstra, Orange City, Coastkeeper to Tom Luster, Cal. Coastal Comm. (Jan. 21, 2022) ("Coalition Seismic Risk Letter"), p. 1.) The LCI report is a "desktop" assessment of "the Newport-Inglewood fault zone and the potentially active fault strands proximal" to the Project site. (*Ibid.*)

    - Seismic experts Geo-Logic Associates have reviewed the LCI Report for accuracy, and its conclusions are summarized below in response to each of LCI's findings.[41]

- LCI concluded that the South Branch Fault "is not the principal active strand of the Newport-Inglewood fault zone ["NIFZ"]," and that the principal active strand is located 0.6 km east of the project site. (LCI Report, pp. iv, 12, 13.) LCI further notes that "the largest surface displacements from future earthquake ruptures on the [NIFZ] are expected on the principal active fault strand, ***with relatively minor displacements expected on other secondary strands***." (*Id.* p. iv.)

    - Poseidon concurs that the South Branch Fault is not the principal active strand of the NIFZ, and only relatively minor displacements (if any) would be expected on secondary strands, such as the hypothetical South Branch Fault. (May 2022 Geo-Logic Associates Response to Comments, p. 2.) Nonetheless, to provide a conservative basis for facility design, Geo-Logic's engineering evaluations assumed an intensity of fault rupture displacement along the South Branch Fault equal to 25% of the estimated displacement for the principal active fault strand. (*Ibid.*)

[41] The May 2022 Geo-Logic Associates Response to Comments was submitted to the Commission and Commission staff on May 10, 2022 as Exhibit 4 to Poseidon's response to the Staff Report.

- LCI determined, based on its desktop assessment, that "[d]ata does not exist" to adequately assess whether the South Branch Fault has ruptured in the Holocene Epoch (the last 11,700 years) and would be considered an active fault by the CGS. (LCI Report, pp. iv, 14.)

    - There is ***no*** evidence supporting the categorization of the South Branch Fault as an active fault. (May 2022 Geo-Logic Associates Response to Comments, p. 2.) As LCI acknowledges, the South Branch Fault has not met the criteria of "sufficiently active and well defined" to be included in the Alquist-Priolo Earthquake Fault Zone ("APEFZ") by the CGS. (*Id.*, p. 2.) Further, as discussed in the 2010 SEIR, according to data collected (including exploratory borings and radiocarbon dating of organic sediments and shells), no evidence of faulting within Holocene sediments was found beneath the site. (2010 SEIR, p. 4.2-7; see also 2010 Final SEIR, p. 12-648.)

- Despite describing the numerous geotechnical and seismic studies carried out at the Project site to characterize fault activity in the vicinity, LCI contends that the subsurface exploration methods used in these past studies at the Poseidon site "cannot definitively preclude the presence of minor secondary Holocene fault activity at the site." (LCI Report, pp. iv, 10-11, 13, 14.)

    - A "minor secondary Holocene fault activity," even if it were present, is not likely to indicate that the South Branch could pose a significant risk to the facility and additional analyses are not necessary to adequately design and construct the Project to ensure its safety in the event of such a hypothetical rupture. (May 2022 Geo-Logic Associates Response to Comments, p. 5.)

- LCI states that while no data exists to directly implicate the South Branch fault as being active, "there are no data that demonstrably preclude Holocene activity." (LCI Report, pp. iv, 14.) LCI therefore states that additional investigations could be performed to evaluate the presence of active faults at the Project site, although "thick Holocene deposits in the Santa Ana Gap could make an evaluation difficult." (*Id.*, pp. iv, 6, 13-14.)

    - As explained above, additional investigation is not necessary, given that conservative modeling has already demonstrated the Project's ability to withstand a hypothetical South Branch rupture beneath the Project site with only reparable aesthetic and temporary serviceability issues. (See Nov. 2013 Poseidon Response to Commission Staff Report, pp. 90-91.) Further, as LCI acknowledges, additional investigation would be "difficult," if not impossible, due to the depth of the work that would be required and the relatively high groundwater elevations. (See May 2022 Geo-Logic Associates Response to Comments, pp. 2-3.)

- The Coalition also provides a link to a simulation developed by the USGS depicting the shaking intensity produced in Southern California by a magnitude 7.8 earthquake on the San Andreas Fault. (See Coalition Seismic Risk Letter, p. 1.) The Coalition notes that the simulation "demonstrates that Huntington Beach would experience 'severe' and

'extreme' shaking in the vicinity of the proposed plant and would reach level X Shaking Intensity on the MMI scale." (*Ibid.*) The Coalition further notes that "there are other faults that are closer to the proposed plant that could cause similar impacts." (*Ibid.*)

- The earthquake simulation cited by the Coalition was developed by USGS as part of a public awareness campaign to promote earthquake preparedness through a series of annual drills—it was not developed to serve as the basis for engineering design. (Geo-Logic Report, p. 4.) Further, the MMI scale is irrelevant for engineering design and, as stated by USGS, "does not have a mathematical basis; instead, it is an arbitrary ranking based on observed effects." (*Id.*, p. 4.) Finally, as LCI notes, the CGS have determined that there is no basis to include the trace of the South Branch Fault in the APEFZ. (*Id.*, p. 4.)

VI. WETLANDS AND ESHA

A. AES Enforcement Action

- CCPN contends that the Commission should resolve its open enforcement action with AES regarding on-site wetlands prior to approving the CDP for the Project. (CCPN Letter, pp. 32-33.)

  - CCPN provides no authority supporting its assertion that the Commission must or can delay its consideration of a CDP for the Project while it resolves a separate enforcement action with AES concerning AES's past conduct on its property. Any alleged prior violations of the Coastal Act by property owner AES, which do not involve Poseidon, are not relevant to this proceeding.

  - Nevertheless, Poseidon has offered to work with Commission staff and AES on an appropriate resolution to the unresolved enforcement action, and remains willing to work with Commission staff and AES to discuss appropriate next steps to resolve any concerns about potential historical wetland conditions. (See September 2021 NOI response, pp. 12-13.)

B. The Project's Limited Dredge and Fill Is Consistent with Applicable Coastal Act and LCP Policies

- CCPN argues that that Coastal Act and City of Huntington LCP policies do not authorize the Project's dredging and filling of wetlands and coastal waters because: (1) there are feasible alternative water sources that are cheaper and less environmentally damaging; (2) mitigation measures in the form of slant wells are likely feasible; and (3) the Project is neither coastal-dependent nor "incidental" to public use. (Coastal Act, §§ 30233, 30322.) (CCPN letter, pp. 33-34.)

  - CCPN points to the following project activities: (1) retrofitting the existing seawater intake; (2) placing a brine diffuser on the outfall; (3) constructing the

Palos Verdes artificial reef; and (4) "continued maintenance of the Project." (CCPN Letter, p. 34.)

- As discussed in Sections I.B and I.C. *supra*, the proposed dredge and fill for the intake and outfall are permitted under Coastal Act section 30233 because the intake and outfall are coastal-dependent industrial facilities.

  - CCPN argues that the intake and outfall are not coastal-dependent, because a "water source is not coastal-*dependent* by nature." (CCPN Letter, p. 34.) As described in Section I.C, CCPN's argument is contrary to established Commission precedent confirming that seawater intake and outfall infrastructure is appropriately considered "coastal-dependent." Moreover, it is nonsensical to argue that an ocean water intake and a discharge pipeline into the ocean, along with their appurtenances, are not dependent on the ocean to function.

- With respect to the Palos Verdes artificial reef, as described in Section II.A, *supra*, the Reef Project will be subject to a separate CDP process. Construction of an artificial reef to create or enhance fish habitat is a restoration project explicitly permitted by Coastal Act section 30233(a)(6).

- It is unclear what CCPN refers to by "continued maintenance of the Project." (CCPN Letter, p. 34.) However, to the extent that maintenance of any of the above-listed components requires dredge and fill, such activities would be permitted for the reasons described above.

- CCPN also argues that the Project would permanently fill several acres of on-site wetlands. (CCPN Letter, p. 35.) As reflected in the Staff Report, Commission Staff have identified historic wetlands within the Project's proposed footprint, which have been previously disturbed. The Staff Report requires Poseidon to mitigate for impacts to historic wetlands at a 4:1 ratio, and Poseidon has committed to doing so. (See Special Condition 11.) Accordingly, any impacts to historic wetlands will be fully mitigated.

- Finally, as discussed in Section I.F. *supra*, CCPN's proffered alternatives are not feasible and are beyond the scope of the Commission's review; Poseidon has agreed to implement mitigation measures that minimize the Project's environmental impacts to the maximum extent feasible; and the Project is coastal-dependent. Therefore, the Coastal Act and the City of Huntington Beach LCP policies permit Poseidon to perform dredging and filling activities in connection with the Project.

C. Protection of Environmentally Sensitive Habitat Areas

- CCPN contends that the Project will have significant indirect impacts on adjacent wetlands and ESHA during Project construction and operations, which must be avoided or fully mitigated. (CCPN Letter, pp. 35-38.)

    - The Project is located and designed to "prevent impacts which would significantly degrade [ESHA] areas, and [to] be compatible with the continuance of those habitat areas" as required by Coastal Act section 30240.

    - The closest ESHA to the proposed Project designated by the City's LCP is the Huntington Beach Wetlands (also referred to as Magnolia Marsh).[42] The Project is located more than 600 feet from the Magnolia Marsh.[43] The Project will implement several mitigation measures in the 2010 SEIR to minimize potential impacts from construction relating to noise, light, and air emissions (fugitive dust). (See 2010 SEIR, section 4.) Implementation of these measures will minimize impacts to any sensitive species or habitat in the Magnolia Marsh and will therefore avoid inconsistencies with LCP and Coastal Act policies regarding impacts to wetlands/ESHA. Outdoor lighting will be directed downward, away from the sky and wetlands to prevent impacts to Magnolia Marsh. (*Id.*, p. 4.7-17; see also Dudek CEQA Equivalence Analysis, pp. 14-15.) The Project's outdoor pumps will also be enclosed, setback, and screened to mitigate noise, which will be monitored to ensure compliance with the City's noise ordinance. (2010 SEIR, p. 4.5-18; see also Dudek CEQA Equivalence Analysis, pp. 40-41, 52.)

    - Within the Project site, but outside of the footprint of the exterior berm, is a triangular area ("Triangle Area") that is partially vegetated with plants, including what appears to be some degraded pickleweed vegetation. The Triangle Area was not identified as wetlands in the 2010 SEIR; however, the Coastal Commission's 2013 Staff Report described it as including approximately 0.5 acres of wetlands. While Poseidon disputed the characterization of the Triangle Area as wetlands, the Project will, nonetheless, avoid direct impacts to the Triangle Area as all development will be limited to the tank sites.

    - Further, since submitting the Project's CDP application in 2021, Poseidon has agreed to further modify the Project's proposed site plan to maintain the existing berm along the Triangle Area and move development farther away from the Triangle Area, consistent with the buffer provision set forth in LCP Policy C 7.1.4. As proposed under Special Condition 7, the only operational component of the Project within 100 feet of the Triangle Area will be an access road on the Project's side of the existing earthern berm that separates the Project site from the Triangle Area and that Poseidon is now proposing to retain in place. Poseidon proposes Special Condition 7 to require that the access road be used solely for

[42] See City LCP at Coastal Element page IV-C-75.

[43] It should be noted that the footprint of the newly-constructed AES HBEP is closer to Magnolia Marsh than the proposed Project's footprint, and was found to not result in any significant impacts to biological resources. (CEC, Huntington Beach Energy Project Final Staff Assessment (May 2014), p. 4.2-1.)

emergency use or maintenance activities that cannot be conducted by any other means of access. Poseidon would also be required to identify bollards or other physical methods to restrict access to these uses. Accordingly, once the facility is operational, there will be no regular activity that occurs within 100 feet of the existing fence line or the Triangle Area.

- Additionally, Project facilities would be physically separated from the Triangle Area by the existing 60-foot wide earthen containment berm. The top of the berm is approximately eight feet above the proposed Project's grading elevation, and 14 feet above the top of the Triangle Area. The berm would function as a physical barrier between the Project site and the Triangle Area, providing a buffer from noise, light and views between the Project Site and any potential wetlands. (Dudek Memo, p. 4.)

- To further ensure that the Project does not cause any adverse impacts to sensitive species or habitats within the Triangle Area, Poseidon proposes Special Condition 3.c, requiring that, prior to commencement of construction, Poseidon submit to the Executive Director documentation from the California Department of Fish and Wildlife ("CDFW") demonstrating that it has reviewed the Project's buffer zone between nearby wetlands and determined that the buffer is sufficiently wide to ensure that the most sensitive species will not be significantly disturbed.

- CCPN raises specific concerns about indirect dewatering and noise impacts on adjacent wetlands. (CCPN Letter, pp. 36-37.)

    - With respect to dewatering, during construction, care will be taken to limit the dewatering to only the excavated area, and to prevent potential draining of any wetlands. (2010 SEIR, pp. 4.9-7 to 4.9-8; see also Dudek CEQA Equivalence Analysis, p. 39.) The Project includes a monitoring well system that will be installed along the perimeter of the site, including at the fence line between the Project site and the Triangle Area. The monitoring well system will be operated for the duration of the construction period in order to confirm that groundwater levels in adjacent wetlands are not influenced by the dewatering operations. (2010 SEIR, pp. 4.9-7 to 4.9-8.) Based on actual monitoring well results, the Project may implement slurry or sheet pile cutoff walls to limit the radius of influence from dewatering to the site boundaries. (*Ibid.*) Further, to resolve any concerns regarding construction dewatering, Poseidon proposes Special Condition 12, which would require Poseidon to submit, for Executive Director review, a Geotechnical Investigation Plan. The Plan will identify the expected volumes of dewatering needed during construction and the extent of drawdown expected from that dewatering. (See Special Condition 12.) If drawdown exceeds specified depths and durations established as the limits of natural variability, Poseidon will immediately cease construction dewatering activities and either reduce its groundwater pumping or utilize another method identified in the approved Geotechnical Investigation Plan to safely dewater the area without impacting nearby wetlands or ESHA. (*Ibid.*)

- With respect to construction-related noise impacts, in areas where sensitive wildlife are present, monitoring of construction will be required pursuant to Mitigation Measure CON-48, to ensure that there are no adverse construction-related impacts impacts on sensitive biological resources would occur. (2010 SEIR, pp. 4.9-60 to 4.9-62.) Poseidon's Special Condition 13 would limit noise generated by construction to 60 dBA Leq(h) at any active nesting site within 500 feet of the Project site for various special status bird species. Further, Special Condition 13 would require Poseidon to install and maintain a temporary sound wall at least 12 feet high, as close as feasible to the eastern edge of the eastern Access Road parallel with the existing eastern berm, at all times during Project construction. Special Condition 13 would further prohibit onshore impact pile driving, and require that for any onshore vibratory pile driving occurring within 310 feet of a delineated wetland, Poseidon must use a sound-blocking and/or sound absorbing shroud or partial enclosure that provides 6 dBA of sound abatement on the pile driver. In turn, Special Condition 9 would require that the Project's Construction Plan incorporate provisions to implement the sound mitigation measures required pursuant to Special Condition 13. Thus, as a condition of its permit, Poseidon will be required to develop a sound mitigation plan that satisfies Coastal Commission requirements. (Pub. Resources Code, § 30240; LCP Policies C 7.1.2 to C 7.1.3.)

- During the facility's operation, the Project will comply with City of Huntington Beach Noise Ordinance standards, which require noise attenuation that would be protective of wildlife within areas that support sensitive species in the Project's vicinity. (2010 SEIR, pp. 4.5-18.) Project components that would be noise generating will be enclosed within structures reducing the potential for an increase in noise levels that would impact sensitive wildlife. (2010 Final SEIR, p. 12-656.) Additionally, the existing containment berm will act as a physical barrier that will reduce noise levels during Project construction and operation.

- Through the mitigation measures and Special Conditions described above, Poseidon will ensure that the Project does not cause significant indirect impacts to adjacent wetlands.

- CCPN cites *Bolsa Chica Land Trust v. Superior Court* (1997) 71 Cal.App.4th 493, 399, for the proposition that "[t]he Coastal Act does not permit destruction of an environmentally sensitive habitat area simply because the destruction is mitigated offsite." (CCPN Letter, p. 36.)

    - The Project's circumstances are different from the *Bolsa Chica Land Trust* case. There, the Commission approved a residential development project that would have removed an existing eucalyptus grove at the proposed project site and recreated the habitat in another location. The court held that the Commission's approval violated Coastal Act section 30240 because the project was not designed to "protect *the areas* of ESHA" and instead treated its habitat values "as intangibles which can be moved from place to place to suit the needs of the

development." (*Id.*, p. 507.) By contrast, the Project has imposed mitigation measures to avoid significant adverse impacts to ESHA near the Project site, and has proposed additional buffering measures to protect adjacent areas that the Commission has identified as potential wetlands.

- The Coalition asserts that Poseidon should provide a Sound Mitigation Plan now, not after Project approval. (CCPN Letter, p. 37.)

  As noted above, Poseidon will be required to develop a Sound Mitigation Plan that satisfies Coastal Commission requirements. (Pub. Resources Code, § 30240; LCP Policies C 7.1.2 to C 7.1.3.) It would be premature to prepare the Sound Mitigation Plan now, as the measures contained in it will be influenced by the Facility Plans, which will be completed after approval of the CDP. Delaying preparation of the plan to final design is permissible, as the performance standards for the plan are clearly articulated in the 2010 SEIR and the Special Conditions referenced above.

- The Coalition argues that elevating the desalination facility or its components would likely increase noise levels at the nearby wetlands or ESHA areas, and would require additional electricity to pump water to higher elevations, increasing GHG emissions. (CCPN Letter, pp. 37-38.)

  - As discussed above, the Project will include noise attenuation measures and Special Conditions that will ensure that noise levels are maintained at an appropriate level throughout Project's construction and operation to ensure that there are no adverse impacts to nearby wetlands and ESHA area. (See Special Conditions 9, 13, 14, 3.c; Dudek Memo, p. 9.)

  - As for the Project's electricity use, the Project will be using the same intake pumps under the new site plans and the horsepower will not change. Additionally, the hydraulic differential that results from the few additional feet of elevation will actually require less energy to operate the Project's discharge equipment. Thus any modest increase in electricity related to intake, if there is any increase at all, will be offset by energy savings related to discharge. On balance, the few extra feet of elevation will not result in a significant change in the Project's electricity use of GHG emissions. Further, under Special Condition 22 and through implementation of the Project's revised GHG Plan and Poseidon's amended lease from the SLC, the Project will minimize its energy consumption and avoid or offset 100% of the Project's GHG emissions to ensure that the Project will have not result in any adverse impacts related to its indirect emissions from electricity use.

- CCPN claims that the Project does not ensure adequate mitigation for its dredge and fill impacts to ESHA, or its indirect impacts to adjacent wetlands. (CCPN Letter, p. 38.)

- As discussed in Section I.B, *supra*, the dredge and fill associated with the intake and outfall have been evaluated and will not result in any significant adverse impacts.

- With respect to indirect impacts to adjacent wetlands, Poseidon has proposed Special Condition 11, which would require Poseidon to submit for Executive Director approval a Wetland Mitigation Plan that provides for creation and/or restoration of no less than 14 acres of coastal wetland habitat similar to wetland habitat found in the vicinity of the approved development. This mitigation would more than satisfy the Commission's typical 4:1 ratio for wetland mitigation.

- CCPN contends that the Project does not contain adequate buffers to protect adjacent wetlands and ESHA. (CCPN Letter, pp. 39-40.)

  - As described above, Poseidon has proposed revisions to its site plan to increase the buffer between the Project and the Triangle Area. Project buildings would be located 100 feet or more from the Triangle Area, and would remain separated from the Triangle Area by an existing 60-foot wide earthen containment. Additionally, Poseidon proposes Special Condition 3.c, requiring that, prior to commencement of construction, Poseidon submit to the Executive Director documentation from CDFW demonstrating that it has reviewed the Project's buffer zone and determined that the buffer is sufficient to avoid significant impacts to nearby wetlands.

  - Under LCP Policy C.7.1.4, a buffer near wetlands or ESHA of less than 100 feet may be permitted under certain circumstances. For those limited portions of the Project described in Special Condition 7 that are less than 100 feet from the Triangle Area, the proposed Project's buffer zone satisfies all the factors that permit a less than 100-foot setback under LCP Policy C 7.1.4. Specifically, pursuant to LCP Policy C 7.1.4(a), the Project's proposed buffer is sufficient to protect the limited biological values associated with the Triangle Area. Pursuant to LCP Policy C 7.1.4(b), given the significant protections and screening provided by the existing containment berm, there would be no significant disturbance to sensitive species from the proposed development and the buffer as proposed would be sufficient to protect the limited habitat areas in the Triangle Area. Pursuant to LCP Policy C 7.1.4(c), the buffer is sufficiently wide to allow for interception of any additional material eroded as a result of the proposed development because the containment berm would block potential eroded material from escaping the Project Site. Pursuant to LCP Policy C 7.1.4(d), which requires that the Project make use of existing features, the Project will retain the existing containment berm as a physical buffer, which will provide sufficient protection for the adjacent Triangle Area.

  - Further, potential human impacts to wetland areas will not be significantly increased as the Project will only directly employ approximately 20-30 people, thus minimizing the number of people who would be brought into proximity to

the wetlands as a result of the Project. In addition, the Project's location is part of an existing industrial site that has remained in operation for more than 55 years and, although the existing fuel oil storage tanks are no longer in use, there is still regular use of the access way between the eastern and western side of the Project and of the AES HBEP that is in the Project site's vicinity.

- CCPN argues that Poseidon's planned mitigation projects at the Bolsa Chica wetlands will be impacted by sea level rise and would be unlikely to provide long-term mitigation credits. (CCPN Letter, pp. 38-39.)

  - In response to concerns about sea level rise impacts at Bolsa Chica, Moffatt & Nichol reviewed existing Bolsa Chica Wetlands site conditions and projected sea level rise over the Project's operational design life. As discussed in their report, projected sea level rise at Bolsa Chica ranges from 1.6 to 2.2 feet under the Low Risk Aversion scenario (likely range), and from 3.6 to 4.3 feet under the Medium-High Risk Aversion scenario (1-in-200 chance of occurrence). A significant portion of the wetlands are protected by an existing perimeter levee, which separates the Full Tidal Basin from surrounding areas. The perimeter levee will not be overtopped even under a hypothetical 4.9-foot sea level rise scenario in conjunction with king tides or 100-year coastal storm events. In addition, the Intertidal Shelf restoration area of the wetlands can be restored to support Pacific cordgrass and other coastal salt marsh vegetation over the 50-year design life of the Project by gradually adding thin layers of soil over time to maintain an optimal elevation relative to rising sea levels. Further, the water circulation in the Muted Tidal Basin area and the associated restoration works can be improved and maintained over the 50-year design life of the Project by improving drainage connections, modifying drainage patterns, increasing pumping capacities, and raising certain areas of the site. These improvements will continue to promote the desired wetland habitat conditions that are the goal of the proposed restoration work. Habitat restoration on the wetlands' Fieldstone site, oil pads, berms, and roadway areas, which are all located in the muted tidal basin area that is protected by the perimeter levee, is likely to be successful in meeting the applicable performance standards throughout the entire 50-year design life of the Project if appropriate tidal inundation and site drainage in the MTB is maintained. Therefore, all of the mitigation credits available at Bolsa Chica can be preserved, even under extreme sea level rise scenarios. (See Moffatt & Nichol, SLR Vulnerability Assessment for Bolsa Chica Mitigation Plan Elements of Poseidon (April 22, 2022).)

VII. MARINE BIOLOGICAL RESOURCES

- CCPN argues that the Project violates LCP policies designed to protect marine life because the Project will lead to entrainment of millions of organisms each year, causing violations of the Coastal Act and LCP policies. (CCPN Letter, p. 40.)

- The City of Huntington Beach, the State Lands Commission, and most recently the Regional Board have assessed the proposed Project and its potential impact on marine resources, and have determined that with mitigation its impacts on marine life will be less than significant and are consistent with the Ocean Plan.

- The 2010 SEIR estimated entrainment from the Project and concluded that larval entrainment losses due to stand-alone operation of the Project would affect only a small fraction of the larvae within the source water, and would not substantially reduce populations of affected species or affect the ability of the affected species to sustain their populations. Therefore, entrainment impacts would be less than significant. (2010 Final SEIR, pp. 4.10-67 to 4.1068.)

- In May 2015, the State Water Resources Control Board amended the Ocean Plan to address the construction and operation of seawater desalination plants in the Desalination Amendment.[44] (2017 Final SEIR, pp. 1-8 to 1-9.) Effective as of January 28, 2016, the Desalination Amendment "establish[ed] a uniform statewide approach for protecting beneficial uses of ocean waters from degradation due to seawater intake and discharge of brine wastes from desalination facilities." (2015 SWRCB Final Staff Report, p. 11.)

- The Desalination Amendment imposes certain restrictions on the use of different types of seawater intake systems. Although the Desalination Amendment prefers subsurface intakes, where subsurface intakes are infeasible, it requires surface water intakes be screened with a one millimeter or smaller size screen. (Desalination Amendment, § III.M.2.d(1)(c)(ii).) As for brine discharge, the Desalination Amendment prefers that facilities commingle brine generated during the desalination process with wastewater before discharging the brine into the ocean. (*Id*., § III.M.2.d(2)(a).) However, "[m]ultiport diffusers are the next best method for disposing of brine when the brine cannot be diluted by wastewater and when there are no live organisms in the discharge." (*Id*., § III.M.2.d(2)(b).)

- Following the Desalination Amendment's adoption, Poseidon proposed technological improvements to the underwater components of the Project to add: (1) one-millimeter slot width wedgewire screens on the offshore end of the Project's seawater intake pipeline to reduce entrainment and impingement of organisms; and (2) a multiport diffuser on the end of the discharge pipeline to enhance the mixing of brine with seawater. (2017 Final SEIR, pp. 1-3.) Poseidon has also reduced the Project's seawater intake volume by 30 percent—from 152 to 106.7 mgd—to further reduce

[44] In adopting the Desalination Amendment, the State Board "was assisted by the formation of expert review panels, an interagency workgroup, and extensive stakeholder outreach that provided the State Water Board with many concepts and recommendations to consider in the development of the proposed amendment." (2015 SWRCB Final Staff Report, pp. 11-12.) This process culminated in the issuance of the SED that evaluated the environmental impacts and mitigation measures associated with desalination plants, including the screens and intake system that Poseidon has proposed to implement for the Project. (*Id.*, pp. 11, 16.)

entrainment of marine life. (2017 State Lands Commission Staff Report Findings, p. D-31; 2017 Final SEIR, pp. 1-3.)

- In July 2016, Poseidon applied to the State Lands Commission to amend its existing lease to reflect the intake and outfall modifications. The State Lands Commission analyzed the environmental effects of these enhancements, including on fish larvae and other marine life, and determined that such impacts would be less than significant with implementation of Mitigation Measure OWQ/MB-7, which requires restoration of the total calculated acreage of habitat impacted to fully compensate for any larvae lost. (2017 Final SEIR, pp. 11-148, 4-57 to 4-69; 2010 SEIR Findings of Fact, p. 29.) Further, Project operation will only impact a fraction of the larvae in the water column and will not substantially reduce populations of affected species or affect the ability of such species to sustain their populations. (2017 Draft SEIR, pp. 4-55 to 4-63; 2017 Final SEIR, pp. 11-34 to 11-36.)

- On April 29, 2021, the Regional Board approved the renewal of the Project's National Pollutant Discharge Elimination System (NPDES) Permit, and adopted findings under Water Code Section 13142.5(b), which requires that "for each new or expanded coastal powerplant of other industrial installation using seawater for cooling, heating, or industrial processing, the best available site, design, technology, and mitigation measures feasible shall be used to minimize intake and mortality of all forms of marine life."

    - As conditionally approved in the Regional Board's Order, Poseidon proposes to fully mitigate for the mortality to marine life by completing one or more mitigation projects, including various wetland restoration, enhancement, and preservation projects at the Bolsa Chica Wetlands as well as the creation of an artificial reef near the Palos Verdes Peninsula. (2021 Regional Board Oder, pp. G-80 to G-84.)

    - In support of its mitigation proposal, Poseidon prepared a detailed entrainment study as part of its Marine Life Mortality Report, in compliance with Ocean Plan section III.M.2.e(1)(a). As mandated by section III.M.2.e(1)(a) of the Ocean Plan, Poseidon calculated the Project's entrainment impacts using the Empirical Transport Model ("ETM")/Area of Production Foregone ("APF") method, which assess direct and indirect impacts on marine life. This analysis was also peer reviewed by a neutral third-party reviewer, Dr. Peter Raimondi. The analysis translates the Project's entrainment impacts into a number of acres that will be needed to mitigate for the impact—in this case, 100.5 acres, after appropriate mitigation ratios are applied. (2021 Regional Board Order, pp. G-60 to G-71, G-88; see also *id.*, Attachment G.4.) The proposed mitigation projects provide sufficient acreage to meet this standard, as confirmed by the Regional Board. (*Id.*, pp. F-49 to F-50.)

- Further, in order to address specific questions and concerns from Commissions staff, Poseidon has agreed to implement additional marine life mitigation, above and

beyond the mitigation that the Regional Board found fully mitigated the Project's marine life impacts.

- CCPN argues that the Project will harm State Marine Conservation Areas and State Marine Reserves. (CCPN Letter, p. 42.)

    - CCPN relies solely on one statement from the Commission's 2013 Staff Report and ignores subsequent evaluations that have confirmed that no Marine Protected Area ("MPA")[45] resources would be significantly impacted by the Project, including studies analyzing potential impacts on MPAs and finding such risks to be "extremely low." (2017 Final SEIR, p. 4-24.)

    - At the request of Commission staff, in 2015, Poseidon analyzed the relationship between the proposed Project's ocean intake and the state's networks of MPAs. Tenera Environmental issued a report which concludes that 91% of larvae estimated to be entrained by the Project are from fish that are not associated with the kelp and rocky reef habitat inside the Southern California coastal MPA reserve network. (Tenera Environmental, Assessment of Entrainment Effects Due to the Proposed Huntington Beach Desalination Facility on State Marine Protected Areas (May 2015) p. ES-3.) Of the remaining 9% associated with kelp and rocky reef habitats, the report's ocean currents model concludes that the probability is, at most, 1.0% of the larvae from inside one of these MPAs could be transported into the vicinity of the Project and be subject to entrainment (or 0.09% of the total larvae potentially at risk of entrainment). (*Id.*, p. ES-5.) The results of the ocean current modeling suggest that the more likely source of the larvae from fishes associated with kelp and rocky reef habitat in the vicinity of the Project's intake and discharge is from the rocky habitat formed by Los Angeles/Long Beach Harbor Complex, which is not a protected area and is closer to the proposed Project's intake than any of the kelp and rocky reef coastal MPAs. (*Ibid.*) Therefore, there is little or no likelihood the Project's potential entrainment impacts could negatively affect a coastal MPA.[46] (*Id.*, p. ES-6.)

    - At the request of Regional Board staff, in 2016, Poseidon augmented the 2015 Tenera Environmental report with a species-specific marine life biological assessment. The report was prepared, in part, to address concerns about potential impacts to Bolsa Chica and non-open-ocean, rocky-reef MPA species and whether moving the

[45] State Marine Conservation Areas and State Marine Reserves are types of MPAs that are classified based upon the activities that are permitted within the designated area. State Marine Reserves are MPAs prohibiting damage or take of all marine resources, including recreational and commercial take. (California Department of Fish and Wildlife, California Ocean Protection Council, Marine Protected Area Monitoring Action Plan (2018), p. 8.) State Marine Conservation Areas are MPAs that either may allow certain recreational or commercial take of marine resources or areas that prohibit the take of living geological, and cultural marine resources, but allow certain permitted activities such as dredging and maintenance to continue. (*Ibid.*)

[46] This analysis conservatively did not include any consideration of the entrainment minimizing effects of the 1-mm wedgewire screens.

proposed screened intake location farther offshore would reduce marine life effects. The HDR/MBC report concluded:

- Only four of the twenty most abundant taxa occurring in plankton samples taken offshore of Huntington Beach are documented to occur in the Bolsa Chica Ecological Reserve; and

- The current intake location entrained the fewest fish taxa and lowest density of those taxa that the California South Coast Region MPA Network was designed to protect and enhance. (MBC, Huntington Beach Desalination Facility: Intake Location Entrainment Analysis (Feb. 6, 2017) pp. 14, 31-32.)

  - In 2017, also at the request of the Regional Board, Poseidon commissioned a report from Moffatt & Nichol, with support from HDR, that included a hydrodynamic model to assess how and to what extent the source water body for the proposed surface intake overlaps with the proposed Bolsa Chica (the closest estuarine MPA) mitigation project's production area. (Moffatt & Nichol, Response to RWQCB Comments RCF 61 & 21 (July 10, 2017).) Model results indicate that 0.35% of larvae released from Bolsa Chica could potentially be entrained by the Project's intake. (*Id.*, p. 12.) Almost all passive particles flow past the intake location toward the Newport Coast. (*Id.*, pp. 14, 20.)

  - Based on these studies, the 2017 SEIR includes a full analysis of MPA impacts and identifies MPAs near the Project site. The nearest MPA is the Bolsa Chica State Marine Conservation Area, approximately 4.3 miles northwest of the Project site, and the nearest Area of Special Biological Significance[47] is located more than 9 miles southeast and down current of the Project site. (2017 Final SEIR, p. 11-33; Desalination Amendment, p. 20.) Due to the distance, the Project would not affect these areas. (Dudek, Information on Special Status Species and ADF (Oct. 16, 2017).)

  - In addition, "[m]ost of the larvae anticipated to be within the . . . Project impact area are primarily from open ocean or soft-bottom habitats, and not fish species associated with the kelp and rocky reef habitat inside the Southern California coastal MPA reserve network." (2017 Final SEIR, p. 4-24.) Indeed, as discussed above, the likelihood of larvae traveling from the nearest MPA to the Project is less than 1%.

- CCPN argues that wedgewire screens are ineffective at reducing marine life impacts. (CCPN Letter, p. 42.)

  - As explained in Section I.E.1, *supra*, wedgewire screens are required by the Ocean Plan, and the State Water Board has determined that such screens effectively reduce

[47] Areas of Special Biological Significance are ocean areas supporting and unusual variety of aquatic life that are monitored and maintained for water quality by the State Water Resources Control Board.

or eliminate impacts on many types of marine life. (2017 SEIR, p. J-162; 2015 SWRCB Final Staff Report, pp. 59-61.)

- CCPN raises concerns about the maintenance and performance of wedgewire screens in response to reports of difficulties at the Carlsbad facility. (CCPN Letter, p. 42.)

    - The Carlsbad Desalination Plant's seawater intake system is not analogous to the proposed Huntington Beach Desalination Project's seawater intake system due to the differences in where the intakes are located and their respective intake pipeline diameters.[48]

    - With respect to intake screens at the Carlsbad Desalination Plant, in 2020 Poseidon installed a pilot plant in the lagoon to evaluate the effectiveness of wedgewire screens operating in a lagoon environment. The pilot study evaluated static wedgewire screens and active (rotating) screens that incorporated brushes to clean the surface of the wedgewire screens. The pilot trials determined that in the nutrient-rich environment in the lagoon, the static screens were prone to blinding from marine growth and could not be adequately cleaned with air-burst cleaning. The active (rotating) screens, however, were able to maintain adequate flow.

    - The Project will use active (rotating brush-cleaned) wedgewire screens, as analyzed in the SLC's 2017 SEIR and specified in the 2021 Regional Board Order. Based on the pilot testing conducted in Carlsbad, Poseidon does not anticipate any special maintenance procedures for the intake screens other than what was described in the 2017 SEIR and the 2021 Regional Board Order – i.e., regularly scheduled diver inspections, maintenance, and debris removal along with boat-based air burst cleaning, if needed. (See, e.g., 2021 Regional Board Order, Att. F, p. F-6 ["The wedgewire screens must be rotating brush-cleaned, stainless steel wedgewire screens; the Discharger may use a boat-based air burst system or deploy divers to remove debris that accumulates on the screens."]; see also 2017 SEIR, p. 2-31 [describing wedgewire screen cleaning methods].)

- CCPN argues that linear brine diffusers cause marine life mortality through shear, which must be analyzed and mitigated. (CCPN Letter, p. 43.)

    - As discussed in Section I.E.2, *supra*, brine diffusers are the Ocean Plan's preferred brine disposal technology when commingling with wastewater is unavailable, and the impacts associated with the construction and operations of the Project's brine diffuser, including shear mortality, have been fully analyzed and mitigated by the State Lands Commission and the Regional Board.

[48] The April 12, 2022 Biofouling Response was submitted to the Commission and Commission staff on May 10, 2022.

- CCPN argues that alternatives, such as conservation, a smaller facility, or the use of the Carson Project would avoid or eliminate sources of entrainment or brine/diffuser shear and should be adopted. (CCPN Letter, p. 43.)

    - As discussed in Section I.F, *supra*, CCPN's proffered alternatives are not feasible alternatives to this Project and are outside of the purview of the Coastal Commission.

VIII. VISUAL RESOURCES

- CCPN argues that the Project violates Coastal Act section 30251 and related LCP policies because it would not restore or enhance the Project site's visual qualities. (CCPN Letter, pp. 52-53.)

    - CCPN alleges that the Project would "alter landforms by building up the site's foundation and place an industrial facility in the midst of a coastal wetland and dune complex" and thereby "become yet another dominant industrial feature to a coastal corridor." (CCPN Letter, p 53.) However, placing an industrial facility along a coastal corridor does not *ipso facto* violate the Coastal Act's visual resources protection policies. There are numerous industrial facilities located along the California coast, including the AES HBEP adjacent to the Project site, which is both taller and denser than the proposed Project. Notably, the Coastal Commission's 30413(d) Report for the HBEP did not raise any concerns about the HBEP's effects on aesthetic values.[49]

    - By avoiding undeveloped areas within the coastal zone and instead locating the Project on an existing industrial site, the Project is "sited and designed to protect views to and along the ocean and scenic coastal areas" and "to minimize the alteration of natural land forms." (Pub. Resources Code § 30251.) The City of Huntington Beach found that the Project "would generally improve visual conditions on the project site and would not substantially degrade the existing visual character or quality of the site and its surroundings." (City of Huntington Beach CEQA Findings, p. 50.) As discussed in the 2010 SEIR and an updated 2021 analysis prepared by Dudek, the Project facilities would not have a significant effect on the scenic vista because the site is currently industrial in nature, containing large-scale industrial tank facilities. (2010 SEIR, pp. 4-7 through 4.7-10; 2021 Dudek CEQA Equivalence Review, pp. 14-16.) These analyses concluded that the Project would not have a significant effect on visual resources or historical natural resources as the site currently contains industrial facilities, and no scenic resources, trees, rock outcroppings, or historic building are currently located on the site. (*Ibid.*) Potential impacts as a result of increased shade or shadow are not anticipated as Project

[49] See Letter from Charles Lester, Executive Director, California Coastal Commission, to Andrew McAllister, Commissioner and Presiding Member, California Energy Commission, re: Coastal Commission's 30413(d) Report for the Proposed AES Southland, LLC Huntington Beach Energy Project – Application for Certification #12-AFC-02 (July 14, 2014).

components would be similar in height and massing as the existing structures they replace. (*Ibid.*)

- Moreover, the Project would "restore and enhance visual quality in [a] visually degraded area[]" by re-developing the abandoned industrial site in a clean and attractive manner. The 2010 SEIR and 2021 Dudek analysis found that the proposed facilities are *less* visibly obtrusive than the large industrial fuel storage tanks that currently occupy the site and that the Project would generally improve visual conditions on the site. (See, e.g., 2010 SEIR, p. 4.7-10; City of Huntington Beach CEQA Findings, p. 50.) In addition, there are no scenic resources, trees, rock outcroppings or historic buildings currently located on the Project site that would be impacted due to Project implementation. (*Ibid*.)

- Although impacts to visual resources are less than significant, design standards would be implemented through the City's design review process, and Mitigation Measure ALG-1 requires Poseidon to incorporate visual screening and architectural treatments, further reducing this less-than-significant impact. (2010 SEIR, p. 4.7-10.)

IX. ENVIRONMENTAL JUSTICE

- CCPN claims that desalinated water is "notoriously expensive," and, thus, the Commission should deny the Project. (CCPN Letter, p. 53.) CCPN disregards the critical fact that Poseidon does not provide water to ratepayers or set the rate for water paid by those customers. Rather, it is water agencies that provide water to their customers, and any rate increases are subject to review and approval by the elected board of directors at a public hearing.

  - At the present time, it remains uncertain how much the water will cost, how water agencies will use water produced by the Project, and to what extent water agencies would pass costs onto ratepayers after purchasing desalinated water. Thus, at this juncture, the Project's impact on water rates is wholly speculative. To the extent OCWD decides to deliver the desalinated water to its customers, OCWD projected an initial rate increase of $3-6 per month in residential customer water bills, but "at some point in the future the cost of desalinated water will be *cheaper* than imported water, thus affording a cost savings for customers in the future." (2021 Regional Board Order, Att. F, pp. F-18 to F.19 [emphasis added].)[50] Poseidon does not expect this estimate to change materially in response to Project modifications to comply with Risk Category IV building standards. Further, the public will have additional opportunities to review and comment on the cost of water while Poseidon and OCWD negotiate a Water Purchase Agreement as proposed in Special Condition 28.

[50] See also San Diego County Water Authority, *Looking Out for Water Ratepayers in San Diego County* (Mar. 25, 2022) (explaining that the cost of imported water is expected to increase dramatically to the point where "MWD's water is expected to be more expensive than [SDCWA's] supplies within the next decade").

- In addition, the Project will reduce Orange County's need to import water from the State Water Project and other sources. (See 2010 SEIR, p. 3-80; 2017 SEIR, p. 2-3.) Orange County's reduced need for imported water supplies in turn assists economically disadvantaged communities in other parts of the State that rely on the more affordable water supplies and who are not geographically or economically positioned to implement a new desalinated water supply.

- CCPN also argues that the Project will disproportionately affect disadvantaged or overburdened communities through the high cost of project water, intensive energy use, and environmental impacts. (CCPN Letter, p. 63.)[51] However, CCPN does not identify what communities these may be. Indeed, as the SLC previously explained in the 2017 SEIR, the communities in the immediate Project vicinity are not environmental justice communities. (See 2017 SEIR, pp. 8.3 to 8.6.)

  - For example, when considering the Oxnard peaker plant, the Commission looked to the *immediate area* surrounding the project site when assessing environmental justice impacts. (See Staff Report No. A-4-OXN-07-096 (Apr. 9, 2009), p. 77 ["[A]lthough nearly 80% of the population within the greater City if Oxnard is made up of minority groups . . . , it is more appropriate to consider the specific composition of the communities and populations within the immediate project area"].)

    - The closest residential area to the Oxnard project had a population that was at least 80% white, and the nearest residential areas with a minority population greater than 40% were over 1.5 miles southeast of the project site. (*Ibid*.) The Commission concluded that "although the proposed project would not result in adverse impacts to human health or the environment, even under a worst case scenario in which the closest residential community to the project site were to experience some adverse impact, this impact would not be disproportionately felt by a minority community." (*Ibid*.)

    - Further, the Commission found that there are substantially fewer residential areas within a 3-mile radius of the Oxnard plant site that were below the poverty level than there were in Ventura County or the State generally. (*Ibid*.) Less than 6.5% of the population in the Oxnard Shores community was below the poverty level, which was also lower than the average for Ventura County (9.2%) and the State (14.2%) at the time. (*Ibid*.)

[51] CCPN cites *Friends of Buckingham v. State Air Pollution Control Board* (4th Cir. 2020) 947 F.3d 86, for the proposition that the National Environmental Policy Act ("NEPA") "requires an agency to conduct its own environmental justice analysis." (CCPN Letter, p. 63.) *Friends of Buckingham* is inapposite. Not only is *Friends of Buckingham* a NEPA case—not a CEQA or Coastal Act case—but there, the agency did not consider environmental justice in direct contravention of Virginia law. Here, although CEQA does not require consideration of environmental justice impacts, the SLC evaluated the Project's potential impacts under the SLC's environmental justice policy, the Regional Board evaluated the Project under its own Human Right to Water Policy, and the Commission will also evaluate the Project's potential environmental justice impacts pursuant to the Commission's own policy.

- Thus, "[o]verall, the Commission finds that the proposed project would not adversely affect human health or environmental resources within the project area and local community, that the residential area and community within the immediate vicinity of the proposed project is not comprised of a predominantly minority and/or low income population, and that these populations would not be disproportionately impacted." (*Id*., pp. 77-78.)

  - Here, similar to the Commission's consideration of the Oxnard peaker plant CDP, the immediate area surrounding the Project site is not a disadvantaged or overburdened community. As the SLC explained when it evaluated the Project's potential environmental justice impacts in 2016, "[n]one of the census tracts closest to the [Project] contain a percentage of minority population that is greater than that of either the City or Orange County as a whole." (2017 SEIR, p. 8-5.) "[T]he percentage of minority population living within the census tracts is significantly less than that of Orange County as a whole." (*Ibid*.) In addition, "none of the four census tracts nearest the [Project] contains a greater percentage of low-income population than that within either the City or Orange County as a whole." (*Id.*, p. 8-6.) Therefore, the SLC concluded that none of the communities surrounding the Project contains minority or low-income populations of concern with respect to environmental justice. (*Id.*, pp. 8.5 to 8.6; see also SLC Staff Report (Oct. 19, 2017), p. 23.)

- CCPN claims that the Commission should consider viable alternatives to the Project to avoid impacts to disadvantaged and overburdened communities. (CCPN Letter, p. 64.)

  - As explained above in Section I.F, *supra*, CCPN's proffered alternatives are not feasible. Further, as previously described, the Project would reduce Orange County's need to import water supplies from other regions of the State, thereby freeing up more water supplies for diverse and lower-income inland communities that need water. As the SLC determined, the Project would not result in significant impacts to disadvantaged or overburdened communities. (See 2017 SEIR, pp. 8.5 to 8.6.)

- CCPN argues that the Project must comply with AB 52 regarding tribal consultation requirements. (CCPN Letter, p. 64.) CCPN completely ignores that both the City and SLC conducted tribal outreach and that tribes participated in the Regional Board's process.

  - Although the City's review of the Project pre-dated AB 52 (2014), the City nonetheless conducted a cultural resources assessment to determine potential impacts to tribal cultural resources. (See 2010 SEIR, Appx. J.) The City reviewed the Native American Heritage Commission's ("NAHC") Sacred Lands File for Native American cultural resources in the immediate Project area. (2017 SEIR, p. 4-110.) "Each individual on [NAHC's] list was sent an informational letter with a description of the project and the known cultural resources on the property. Each was asked to contact [the historic resources consultant] should they have additional knowledge or concerns

relative to the cultural resources on the property. No responses [were] received."[52] (2010 SEIR, Appx. J, p. 14.)

- As part of its review of the Project in 2017 – following AB 52 – the SLC sent outreach letters to thirteen tribal members identified by the NAHC. "The letters included a description of the [] Project and known cultural resources on the HBGS/proposed HB Desalination Plant property . . . . No responses were received." (See 2017 SEIR, p. 4-1110.) In other words, SLC "staff contacted the Tribal Chairpersons identified by the NAHC to ensure the Tribes had an opportunity to provide meaningful input on the potential for Tribal cultural resources to be found in the area, and what steps should be taken to ensure adverse impacts to Tribal cultural resources are avoided." (*Ibid*.)

- Similarly, Regional Board staff "sen[t] out letters in 2019 to the tribes, inviting them to comment and participate in the process. At that time we did not receive any responses." (Regional Board April 23, 2021, Hearing Transcript, p. 49.) When Regional Board staff did receive correspondence from tribes in December 2020 and early 2021, staff conducted outreach to the tribal representatives. (*Ibid*.)

X. ENERGY CONSUMPTION AND CLIMATE CHANGE

- CCPN and the Coalition assert that the Project would increase greenhouse gas ("GHG") emissions and does not do enough to reduce energy consumption. (CCPN Letter, p. 55; Letter from Environmental Coalition (Jan. 21, 2022) ("Jan. 21, 2022 EC Letter"), p. 1.)

  - Poseidon has long acknowledged that the consumption of energy from the electrical grid to produce desalinated water results in indirect GHG emissions, which generally contribute to global climate change. Poseidon takes climate change issues seriously and, for that reason, has proposed to offset all of the Project's direct and indirect construction and operational GHG emissions. (See 2017 SEIR, p. 4-127 [describing Applicant Proposed Measure 7].) This commitment would "bring to zero" the total amount of direct and indirect GHG emissions from the Project.

  - During the SLC's deliberations concerning the Project's 2017 lease amendment, the SLC requested that Poseidon further explore the potential to procure renewable power. (SLC Oct. 19, 2017 Transcript, pp. 321- 326.) This requirement has been made a condition of Poseidon's amended lease. (See Amendment #2 of Lease No. PRC 1980.1, ¶ 9.)

    - In furtherance of its commitment and the SLC's request, on February 23, 2022 Poseidon entered into a memorandum of understanding ("MOU") with the Orange County Power Authority ("OCPA") that outlines how Poseidon will work together with OCPA to purchase 100% renewable energy to power the Project.

[52] In addition, the cultural resources assessment "yielded no positive results for Native American cultural resources in the immediate 2010 Project area." (2017 SEIR, p. 4-110.)

(Poseidon-OCPA MOU (Feb. 23, 2022)). If Poseidon is able to power the facility with 100% renewable energy in a commercially viable manner, the Project will avoid indirect emissions associated with its electricity use, which are the Project's only main source of quantifiable GHG emissions.[53] (See Energy Minimization and GHG Reduction Plan ["GHG Plan"] (February 24, 2017), p. 6.) In the event that Poseidon cannot procure 100% renewable energy for the Project, Poseidon will maximize its purchase of renewable energy to the extent feasible and purchase Renewable Energy Credits to fully offset any remaining indirect GHG emissions. (*Id.*, pp. 4, 14.) Poseidon is committed to constructing and operating a 100% carbon-neutral Project with zero GHG impacts.[54]

- As implemented through Poseidon's GHG Plan, the Project's energy-efficient design will incorporate state-of-the-art features to minimize the plant's energy consumption. These features include a pressure exchanger-based energy recovery system that allows recovery and reuse of 32.1 percent of the energy associated with the reverse osmosis process (GHG Plan, p. 8), premium efficiency motors and variable frequency drivers on desalination plant pumps (*Id.*, p. 9), and green building design features (e.g., natural lighting, high performance fluorescent lamps, high-efficiency HVAC and compressors, etc.) (*Id.*, p. 11.)

- As discussed in the 2010 SEIR, 2017 SEIR, and 2020 Regional Board Addendum, the Project would not result in significant impacts related to GHG emissions and would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. (See Regional Board Addendum, pp. 22-23; 2017 SEIR, p. 4-128; 2010 SEIR, pp. 4.4-23 to 4.4-24.)

- The commitments above ensure that the Project is consistent with Coastal Act section 30253(d), which provides that new development "shall minimize energy consumption," and "be consistent with requirements imposed by an air pollution control district or the State Air Resources Board."

- CCPN contends that less-energy intensive alternatives, such as a smaller desalination facility or the Carson wastewater treatment plant project, are available to minimize the Project's energy use and GHG impacts. Thus, CPCN argues that the Commission must deny the Project. (Jan. 21, 2022 EC Letter, p. 1; CCPN Letter, p. 56.)

---

[53] The Project's sum total of operational passenger vehicle and delivery truck emissions over the 50 year life of the Project are *de minimis* and would make-up less than 5% of the Project's annual carbon footprint. (GHG Plan, p. 5.) Poseidon will purchase carbon offsets or RECs to zero-out these emissions on a one-time basis by the time Poseidon submits the first Annual GHG Report required in Part III of this Plan. (*Ibid.*)

[54] Poseidon's MOU with OCPA also demonstrates the inaccuracy of CCPN's claim that "offset credits are [Poseidon's] only proposal for reducing greenhouse gas emissions." (CCPN Letter, p. 56.) Poseidon is prioritizing the purchase of renewable power and has incorporated energy-efficiency Project design features, such as energy recovery devices, to reduce the Project's overall energy consumption.

- As discussed in Section I, *supra*, updated planning documents and correspondence based on current supply and demand forecasts from OCWD and MWDOC confirm there is an ongoing need for the Project's water. Further, CCPN's proposed reduced-capacity alternatives cannot meet the region's water supply needs, would not significantly reduce environmental impacts as compared to the current Project design, are not feasible, and fall outside the Commission's scope of review.

- CCPN argues that the Project fails to incorporate on-site renewable energy generation to reduce or eliminate GHG impacts. (CCPN Letter, p. 56.)

  - As reflected in the GHG Plan, Poseidon is exploring the installation of a rooftop photovoltaic ("PV") system for solar power generation as one element of its green building design. Poseidon will use commercially reasonable efforts to implement an on-site solar power project if it is reasonably expected to provide a return on the capital investment over the life of the Project. (GHG Plan, p. 11.) If a solar PV system is not commercially feasible, then Poseidon still commits to purchasing renewable power or otherwise offsetting the indirect GHG emissions associated with the Project's energy use.

- CCPN and the Coalition assert that purchasing GHG offsets to achieve carbon neutrality for the Project will not address the Project's local grid reliability impacts of adding a near continuous 30-megawatt load in the Los Angeles Basin, and that the Commission should condition the Project to require 30 MW of battery storage in Huntington Beach. (CCPN Letter, pp. 58-59; Jan. 21, 2022 EC Letter, p. 2;)

  - The Project will not adversely affect local grid reliability. Southern California Edison ("SCE") has repeatedly the Project's electricity consumption multiple times and confirmed that there will be a reliable electrical supply to serve the Facility. (See October 10, 2017 SCE letter to the SLC; September 27, 2013 SCE letter to the CCC.)

    - The Project will use an average of 25-30 MW of electricity, which is about the same amount of electricity required to pump water (on a volumetric basis) from the Bay Delta through the State Water Project to San Diego. Further, CCPN ignores that the Project would displace 56,000 acre-feet per year of imported water, eliminating the GHG emissions associated with pumping, treating, and distributing that imported water to customers in Orange County. (See 2010 SEIR, p. 4.12-30; App. W, p. W-28.)

  - Additionally, Poseidon has worked with SCE to identify ways that the Project can be a leader in sustainable energy-related practices, such as integrated demand-side management and conservation. Indeed, during the 2017 SLC lease amendment proceedings, SCE commended Poseidon for its willingness "to rapidly reduce load to minimal levels during system emergencies, and to explore green power alternatives, either directly with SCE or through other providers." (SLC Oct. 19, 2017 Transcript, pp. 232-233.)

- Finally, CCPN's requested condition is outside the Commission's authority to impose. Coastal Act section 30253(d) requires that new development take measures to "minimize energy consumption and vehicle miles traveled." This provision does not grant the Commission authority to dictate where the energy to be used by a project must be generated. In any event, the Project complies with the Coastal Act's requirement to "minimize energy consumption" by incorporating energy-efficient Project design features to reduce the Project's overall energy consumption, and through Poseidon's commitment to a 100% carbon-neutral Project.

- CCPN claims that the cost of carbon credits is likely to be substantially higher than the $10 metric ton price that is assumed by Poseidon as an economically reasonable offset cost ceiling point. By way of comparison, CCPN points out that the California Air Resources Board's ("CARB") cap-and-trade allowance cost ceiling for 2022 is $72.29 per metric ton. (CCPN Letter, p. 56-57; Jan. 21, 2022 EC Letter, p. 2.)

  - The Coalition's cost estimates mistakenly conflate the price of voluntary credits, compliance credits, and allowances. Poseidon may purchase voluntary credits to offset the Project's emissions. Voluntary credits are significantly less expensive than compliance credits and allowances.[55] Based on the price of offsets in the voluntary market, Poseidon reasonably estimates that it would pay approximately $10 per metric ton for each ton of carbon that the Project does not already avoid or offset.

  - Further, contrary to CCPN's assertions, the singular reference to $10 per metric ton in the GHG Plan's contingency plan does not create a cap on the price of credits that Poseidon might choose to purchase. Rather, the GHG Plan provides that only if the ***City of Huntington Beach*** determines that (i) offset credits in an amount necessary to mitigate the Project's indirect GHG emissions are not reasonably available; (ii) the "market price" for carbon offsets or RECs is not reasonably discernable; (iii) the market for offsets/RECs is suffering from significant market disruptions or instability; or (iv) the market price has escalated to a level that renders the purchase of offsets/RECs economically infeasible to the Project, then Poseidon would pay into an escrow account funds in the amount equal to $10 per metric ton for each ton of GHGs that Poseidon has not previously offset (adjusted for inflation from 2015), to be used to fund GHG offset programs as they become available. (GHG Plan, pp. 17-18.)

  - Nevertheless, as proposed in Special Condition 22, Poseidon will remove this contingency from its GHG Plan. This will fully resolve concerns that the GHG Plan includes a "price cap."

[55] See, e.g., Ecosystem Marketplace, Voluntary Carbon Markets Top $1 Billion in 2021 with Newly Reported Trades (Nov. 10, 2021), available at https://www.ecosystemmarketplace.com/articles/voluntary-carbon-markets-top-1-billion-in-2021-with-newly-reported-trades-special-ecosystem-marketplace-cop26-bulletin/ (reporting average credit prices for voluntary credits of less than $10 per tonne).

- CCPN contends that the legitimacy of carbon offsets has been questioned due to the difficulty in corroborating that offsets represent real, permanent GHG reductions. (CCPN Letter, p. 57-58; Jan. 21, 2022 EC Letter.)

    - Poseidon is committed to acquiring offsets that meet rigorous standards, as detailed in the Project's GHG Plan.

    - ***First***, Poseidon must acquire offsets through/from Climate Action Reserve ("CAR"), CARB, California Air Pollution Control District ("ACPD") or Air Quality Management District ("AQMD") approved projects, or if sufficient offsets are not available from such projects, from a Third-Party Provider approved by the City Planning Director upon Poseidon's showing that the Third-Party Provider adheres to substantially similar principles and evaluation criteria. (GHG Plan, pp. 15-17.)

    - ***Second***, Poseidon must submit an annual GHG Report providing an accounting summary and documentation verifying that offsets obtained for the Project have been independently verified and reviewed by CAR, CARB, a California ACPD/AQMD or a Third-Party Provider. (*Id.*, p. 17.)

    - ***Third***, in the event that the Annual GHG Report indicates that Poseidon has a positive balance of net GHG emissions for a particular year, Poseidon must purchase offsets or RECs to cover the balance and provide the City, the Coastal Commission, and the SLC with documentation substantiating any such purchases. (*Ibid.*)

    - Together, these measures guarantee that any credits purchased to offset Project emissions would represent true, actual, and permanent carbon reductions.

- The Coalition contends that during the SLC hearing for the Project's 2017 Lease Amendment, Controller Yee and then-Lieutenant Governor Gavin Newsom expressed concerns with the Project's GHG Plan. The Coalition claims that "[i]nstead of revising the plan as Yee instructed, Poseidon submitted the same plan to the Santa Ana Regional Water Quality Control Board in 2019 and to the Coastal Commission in July of 2021." The Coalition alleges that the only things that changed in the GHG Plan "is the title which Poseidon is now calling the Climate Change Action Plan." Similarly, CCPN claims that Poseidon has not modified its energy use and GHG reduction plans since the SLC hearing in 2017. (CCPN, p. 59.)

    - Poseidon addressed Controller Yee and Lt. Governor Newsom's concerns during the hearing and is complying with Controller Yee's instructions as incorporated in Special Condition 9 of the Project's amended lease, which requires Poseidon to submit an updated plan 90 days prior to the start of construction. As reflected in the SLC hearing transcript, many of the conditions and obligations that the Commissioners requested Poseidon to implement were already included in the GHG Plan that Poseidon submitted with its SLC lease amendment application. After clarification from Poseidon on that point, the Commission developed a motion "in the

spirit of what Poseidon [was already] committing to." (SLC Oct. 19, 2017 Transcript, p. 325.)

- Poseidon has been working to progress Special Conditions 9's requirements. As noted above, Poseidon recently reached an MOU with OCPA that requires the two entities to meet at least monthly to work toward a 100% renewable power purchase agreement for the Project. (See Poseidon-OCPA MOU (Feb. 23, 2022).)

- Further, CCPN conflates the Project's GHG Plan (which describes the measures that Poseidon will take to reach net-zero GHG emissions for the Project) and the Climate Change Action Plan ("CCAP") required by the Regional Board. The Climate Change Action Plan ("CCAP") will identify, among other things, the steps being taken or planned to address the Project's GHG emissions. The CCAP is separate from and in addition to the GHG Plan and the written update that Poseidon must submit to the SLC 90 days prior to the Project's construction. (See 2021 Regional Board Order, pp. 26-27.)

- Nonetheless, as proposed in Special Condition 22, Poseidon will remove the contingency plan from its GHG Plan. Special Condition 22 would require that, prior to commencement of construction, Poseidon must submit a revised GHG Plan to the Executive Director for review and approval that removes the existing contingency plan. In accordance with Special Condition 9 of Poseidon's amended lease from the SLC, Poseidon will notify the SLC of the modification in writing no more than thirty days after such modification is imposed.

XI. GROUNDWATER QUALITY

- CCPN argues that if OCWD uses desalinated water to recharge the groundwater basin, there could be adverse impacts to groundwater quality. (CCPN Letter, pp. 25, 59.) CCPN relies on a prior study commissioned by the Irvine Ranch Water District ("IRWD"), which IRWD submitted to the Regional Board. (See March 13, 2020 Regional Board Staff Report, Item 9, p. 5.) The study purportedly demonstrated that injecting desalinated water into the groundwater basin could result in degradation of groundwater due to the accumulation of boron and, thus, requires "second pass reverse osmosis" treatment before injection. The Regional Board considered and rejected these claims.

  - As an initial matter, OCWD has not yet decided how it will use the desalinated water from the Project. As the Regional Board explained, "[i]f OCWD decides to use the water to recharge the groundwater basin, OCWD will need to obtain a permit from the Santa Ana Water Board for the injection." (Regional Board Responses to Comments (July 21, 2020), p. 27.) At that time, the Regional Board would assess the potential impacts to groundwater quality of the water injection. (*Ibid.*; see also Transcript of July 30, 2020, Regional Board Hearing, p. 34.)

- Further, even if OCWD decides to inject desalinated water into the groundwater basin and boron treatment is determined to be necessary, OCWD has multiple feasible options to treat the water further. For example, OCWD could blend desalinated water with other water sources before injection to dilute boron concentrations further.[56] OCWD could also treat the water at some point before groundwater injection. There is no requirement that Poseidon perform a second pass reverse osmosis to reduce boron concentrations on the Project site. Therefore, how and where OCWD designs and locates any treatment system is speculative.

- Moreover, claims regarding the existence of boron in desalinated water and potential impacts to groundwater are not new. The City analyzed the issue back in 2010 and explained that the Project will be designed to reduce boron concentrations to levels that comply with regional groundwater protective levels. (2010 SEIR, p. 12-694.) Indeed, the Project "will achieve removal levels significantly higher than regulatory requirements and other types of water treatment facilities." (*Ibid*.) "The treatment plant design will produce a high-quality finished water with respect to boron, TDS, and hardness concentrations that is expected to have no significant impact that differs in ways that are materially different from current water supplies." (*Id.,* p. 12-694.) As such, the City has already considered and rejected CCPN's contention that introducing desalinated water to groundwater could adversely affect groundwater quality.

- Further, the City explained that "[a]fter the [reverse osmosis] treatment process, the desalted water boron level is approximately 0.6-1.0 mg/l, which is ***below the [California Department of Public Health] action level. Impacts to the product water quality are less than significant***." (*Id*., p. 63.) The Regional Board confirmed that any product water will be required to meet safe drinking water standards regulated by the California Division of Drinking Water. (Transcript of July 30, 2020, Regional Board Hearing, p. 33.) Thus, both the City and Regional Board determined that boron levels in the resulting product water would be very low.

- In sum, there is no basis for CCPN's claims that the Project would require "a second pass reverse osmosis treatment" to avoid impairing groundwater quality in the basin.

XII. RECREATION AND COASTAL ACCESS

- CCPN argues that the Project's construction could impede beach access through traffic and parking, or through the transport of toxic soils. (CCPN Letter, pp. 53-55.)

---

[56] The blending of desalinated water with other supplies, such as recycled water will not result in significant impacts to water quality related to boron. As the City explained in 2010, "[t]he use of desalinated seawater will not significantly change the impacts to recycled water irrigation that is currently experienced without using desalinated supplies." (City of Huntington Beach Findings of Fact (2010), p. 68 [addressing concern that desalinated water has slightly higher concentrations of boron than recycled water].) In fact, "[i]t is expected that the current use of [water] softener will decrease with the introduction of desalinated water and that resulting water quality and economic benefits of softer water will accrue to the region." (*Ibid*.)

- The Project is significantly setback from the active shoreline (approximately 2,000 feet, and inland from Pacific Coast Highway), so the Project will not impede operation, use, or access to the shoreline.

- As described in the 2010 SEIR, construction of the Project may cause short-term traffic impacts. (2010 SEIR, p. 4.9-44.) In accordance with the City's standard Conditions of Approval,, and Poseidon's proposed Special Condition 23, a Traffic Management Plan, subject to specific performance criteria set forth in the 2010 SEIR, will be prepared to reduce any short-term traffic impacts to less than significant levels. (*Id*., pp. 7-1 to 7-2.) The Project will not result in any significant long-term traffic impacts. (*Id*., p. 7.2.) Accordingly, the Project will not interfere with the public's right to access the shoreline.

- The modifications to the intake and outfall that have been proposed since 2010 do not change these conclusions. Construction of the intake and outfall modifications would occur approximately 1,500 – 1,650 feet offshore, using barges launched from the Port of Long Beach. Onshore traffic would not change. (See 2017 SEIR, pp. 4-159 to 4-164; 2021 Regional Board Order, p. G.1-76.) Similarly, the proposed site grading refinements described in the 2021 CDP application and as further refined in 2022 also would not result in additional haul truck or worker trips on a daily basis when compared to the 2010 SEIR. (Dudek 2021 CEQA Equivalence Review, pp. 44-45; Dudek Memo, pp. 15-18.)

    - Regarding the transport of soils, the 2010 SEIR explained that approximately 3,000 cubic yards of contaminated soil will need to be hauled to a disposal site. (2010 SEIR, p. 4.9-5.) Any contaminated soil removal activities would comply with the site-specific Remedial Action Plan and applicable federal, state, and local regulations. (Dudek 2021 CEQA Equivalence Review, p. 30.) Further, the majority of contamination in the vicinity of the Project site is petroleum-based, which is not considered "toxic" or acutely hazardous. Therefore, CCPN's concerns regarding the transport of "toxic soils" are unfounded.

    - Nevertheless, Poseidon proposes Special Condition 8 requiring Poseidon to provide the Commission with documentation that a Remedial Action Plan has been approved by the Department of Toxic Substance Control ("DTSC") for the site consistent with all relevant conditions of the 2010 and 2017 SEIRs. Since DTSC is an agency with primary jurisdiction and expertise over remediation of contamination, its approval of the Remedial Action Plan, as documented in the approval submitted to the Commission, will ensure that the Project is consistent with Coastal Act and LCP policies regarding public access.

- CCPN argues that the Project's brine discharge will alter salinity and harm swimmers, surfers, and Junior Lifeguards. (CCPN Letter, pp. 53-55.)

    - CCPN presents no scientific support for its health-related claims. In general, elevated ocean salinity levels do not pose a risk to human health or safety, even if a swimmer

were directly above the discharge diffuser. Humans can safely swim in the Dead Sea which has a significantly higher salinity level than the (undiluted) brine that the Project will discharge.

- The California Ocean Plan identifies water contact recreation as a beneficial use of the Pacific Ocean. The Ocean Plan also establishes a receiving water limitation of a daily maximum of 2.0 parts per thousand above natural salinity at the edge of the "brine mixing zone" ("BMZ"), which is not to exceed 328 feet from the discharge point for desalination plant brine discharge. (Desalination Amendment, Ch. III.M.3.b(2).) Here, the Project's zone of initial dilution ("ZID") is 63.2 feet—substantially less than permitted by the Ocean Plan. (2020 Regional Board Addendum, p. 22.) Notably, the Project's brine diffuser is located 1,500 feet offshore and 28 feet deep—far away from most typical ocean recreation activities. Therefore, the Project is not likely to have any impacts on swimmers, surfers, or Junior Lifeguards.

- CCPN alleges that the Project will impact recreational fishing, including halibut, if fish populations decline due to Project-related impacts. (CCPN Letter, p. 54.)

  - There is no evidence to support CCPN's assertion that recreational fishing would be impacted by the Project. As described in the 2017 SEIR, with the addition of wedgewire screens—identified as the best available technology under the California Ocean Plan to reduce entrainment or impingement of fish—no impingement of marine life will occur. (2017 SEIR, p. 4-58.) Further, as described in Section II.A. above, the Project's operations will only impact a fraction of the larvae in the water column and will not substantially reduce populations of affected species or affect the ability of such species to sustain their populations. (2017 Draft SEIR, pp. 4-55 to 4-63; 2017 Final SEIR, pp. 11-34 to 11-36.) Therefore, no significant impacts to fishing opportunities would occur.

  - Specifically with respect to halibut, as described in Poseidon's November 11, 2013, response to the Commission's 2013 Staff Report, prior to the Project modifications to install the wedgewire screens, the Project's annual entrainment estimate for California halibut was 1.26 million larvae, which represents less than the total annual output from a single female halibut. (Poseidon Nov. 11, 2013 Response to Staff Report, pp. 117-118.) This number will be further reduced with the intake modifications that add 1.0-mm wedgewire screens, ensuring that entrainment effects due to the Project's intake would not result in an impact to this species or any impacts to recreational fishing. Further, the Project's approved marine life mitigation projects will restore and create new fish habitat, helping sustain fish populations.

ATTACHMENT B:
RESPONSE TO MARCH 4, 2022, CALIFORNIA COASTAL PROTECTION NETWORK LETTER

This Attachment B responds to a March 4, 2022, letter, entitled "Transparency and Inequity Issues Concerning the Proposed Brookfield-Poseidon Permit Process," submitted by California Coastal Protection Network, Surfrider Foundation, Azul, Environmental Justice Coalition for Water, Oak View Comunidad, Sunrise Movement OC, Sierra Club, Orange County Environmental Justice, Residence for Responsible Desalination, Café Coop, Society of Native Nations, and Idle No More SoCal (collectively, "CCPN") (the "March 4 CCPN Letter").

I. COMMISSION EX PARTE DISCLOSURE PROCESS

- CCPN requests that "all Brookfield-Poseidon communications and document exchanges by any representative, agent, or lobbyist of theirs in furtherance of the application before the Commission be disclosed to the public as part of the process for determining whether to grant the permits it seeks." (March 4 CCPN Letter, p. 2.) However, CCPN's request is wholly unnecessary because the Commission's regulations on ex parte communications already require such disclosure.

    - The Coastal Act requires that any Commissioner who conducts an ex parte communication "fully disclose[] and make[] public the ex parte communication by providing a full report of the communication to the executive director within seven days after the communication or, if the communication occurs within seven days of the next commission hearing, to the commission on the record of the proceeding at that hearing." (Pub. Resources Code, § 30324, subd. (a).) The disclosure includes "a complete set of all text and graphic material that was part of the communication." (*Id*., subd. (b)(1)(C).) These disclosures then are placed into the public record. (*Id*., subd. (b)(2).) Further, as the Commission's ex parte procedures provide, any written materials given to Commissioners must be provided to staff at the same time.[57] Thus, any materials Poseidon provides to Commissioners would also be simultaneously provided to staff and thereafter disclosed to the public.

- CCPN also claims, without any support, that Poseidon is playing "insider baseball" and trying to "pressure Sacramento" while Commission staff is evaluating the Project and preparing the Staff Report. (March 4 CCPN Letter, p. 2.) Poseidon does not appreciate CCPN's insinuation that it is trying to "buy votes" for the Project. As Commission staff can attest, Poseidon has been using this time to work with staff in a good-faith effort to

[57] See Coastal Commission webpage on ex parte procedures, available at: https://www.coastal.ca.gov/roster.html#exparte; see also Coastal Commission, Commission Staff Procedures for Handling Ex Parte Communication Disclosures (Apr. 19, 2018), available at: https://documents.coastal.ca.gov/assets/roster/Ex-Parte-Staff-Procedures-4-9-18.pdf.

address and respond to staff's outstanding concerns related to the Project, including in important areas such as marine life mitigation and coastal hazards.

II. ENVIRONMENTAL IMPACTS

- CCPN purports to identify four "facts" about the Project that implicate environmental justice concerns. (March 4 CCPN Letter, p. 2.) As described below and in Attachment A, these "facts" misconstrue or ignore the record.

    - ***First***, CCPN claims that "the desalinated water . . . is not needed." (March 4 CCPN Letter, p. 2.) As discussed at length in Attachment A, Section I, numerous state and local agencies have repeatedly confirmed the need for the water to provide a climate resilient water supply for Orange County. (See Att. A, § I.)

    - ***Second***, CCPN claims that the Project "would raise water rates across North Orange County and erode the human right to water." (March 4 CCPN Letter, p. 2.) As explained in Attachment A, Section IX, Poseidon does not sell water to ratepayers, and it is unknown how water agencies will decide to use Project water or to what extent water agencies would pass costs onto ratepayers after purchasing desalinated water. To the extent OCWD purchases the desalinated water, it has projected an initial rate increase of $3-6 per month for households within its service territory, but "at some point in the future the cost of desalinated water will be cheaper than imported water, thus affording a cost savings for customers in the future."[58] (2021 Regional Board Order, pp. F-18 to F.19.)

        - Further, the Regional Board thoroughly evaluated similar claims regarding the human right to water and determined that the Project ***promotes*** the human right to water. (See 2021 Regional Board Order, pp. 6-7.) "In adopting the Order, the Santa Ana Water Board has considered [its] human right to water policy. ***The Order is consistent with and promotes the human right to water policy*** in that it establishes requirements for the intake of seawater and discharge of brine for a potential source of drinking water that could improve the reliability of water supply in Orange County." (See *id.*, p. F-18.)

    - ***Third***, CCPN argues that "development of the project implicates significant legacy pollution increasing the potential for toxic releases." (March 4 CCPN Letter, p. 2.) To the extent CCPN is referring to soil on the Project site that is potentially contaminated, this is not new information. The City thoroughly evaluated impacts associated with potential site contamination, including soil contamination, in the 2010 SEIR and determined that impacts would be less than significant with mitigation. (2010 SEIR, pp. 4.9-42, 4.9-56 to 4.9-58 [identifying fifteen mitigation measures].) For instance, Poseidon is required to comply with

[58] Poseidon does not anticipate that this estimate will materially change as a result of Project modifications to comply with Risk Category IV standards.

a soil management plan to address any contaminated soil it encounters during Project construction, as well as comply with the City's Soil Clean-Up Standard. (*Id.*, pp. 4.9-42, 4.9-57.)

- Further, in 2010, the SLC adopted findings associated with hazards and hazardous materials when authorizing a previous lease amendment. (See 2017 SEIR, p. 4-125.) In those findings, the SLC explained that the Project may have "adverse short-term construction related impacts in regards to hazards or hazardous materials." (*Ibid*.) However, with the incorporation of the mitigation measures identified in the City's 2010 SEIR, impacts would be less than significant. (*Ibid*.)

- ***Fourth***¸ CCPN asserts that the Project "would likely be at least partially underwater well before it is decommissioned due to sea-level rise," and, thus, should not be approved. (March 4 CCPN Letter, p. 2.) As explained above in Attachment A, Section IV, the Project has been designed to be resilient under all likely sea level rise scenarios through the end of its design life. Moreover, Poseidon has proposed plans to adapt to more extreme sea level scenarios should they materialize in the future. (See proposed Special Conditions 7 and 21; Risk Category IV Memo, p. 6.) Therefore, the Project has been appropriately evaluated and conditioned to comply with the Coastal Commission's coastal hazard policies.

EXHIBIT 1

moffatt & nichol

555 Anton Blvd., Suite 400
Costa Mesa, CA 92626

(657) 261-2699
www.moffattnichol.com

MEMORANDUM

To:	Scott Maloni and James Golden, Poseidon Water
From:	Weixia Jin, PhD, PE, D.CE, Moffatt & Nichol
Date:	April 22, 2022
Subject:	SLR Vulnerability Assessment for Bolsa Chica Mitigation Plan Elements of Poseidon
M&N Job No.:	9364-07

Poseidon is proposing to implement a wetlands restoration project at the Bolsa Chica Wetlands to fulfill mitigation requirements for the proposed Huntington Beach Desalination Project (the Project). As described in Santa Ana Regional Water Quality Control Board Order No. R8-2021-0011 (Regional Board Order), the specific details regarding the restoration project and activities will be developed by Poseidon and interested parties, including the Bolsa Chica Steering Committee (BCSC), and must include development of an adaptive management plan to address potential impacts from sea level rise (SLR).

The Bolsa Chica Wetlands complex includes a Full Tidal Basin (FTB) that is connected to the Pacific Ocean with a tidal inlet, a Muted Tide Basin (MTB) that is connected to the FTB with three tidal control structures, a Future Full Tide Basin (FFTB), and Seasonal Ponds that are connected to the FTB with a tidal control structure (Figure 1).[1] The mitigation elements shown in Figure 2 include the restoration of the Intertidal Shelf in the FTB; restoration of the Fieldstone site, oil pads, roadways, and berms as well as Water Circulation Improvements in the MTB; and Inlet Maintenance. Moffatt & Nichol has reviewed the Sustainable Alternatives Study for the Bolsa Chica Lowlands Restoration project prepared by Anchor QEA in December 2021. This memo discusses the potential SLR vulnerability of the proposed mitigation elements over the Project's design life. As discussed herein, with modest adaptation measures, the Bolsa Chica Wetlands restoration plan can feasibly be implemented over the Project's design life.

The ocean inlet maintenance element will not be directly impacted by SLR, although the maintenance volume will be impacted by the potentially increased tidal prism and changes in sediment supply due to SLR. Both an increase in tidal prism and reduction in longshore sediment supply will benefit the inlet stability[2].

[1] Elevations listed in this memo are referenced to the North American Vertical Datum of 1988 (NAVD88).
[2] With SLR, the tidal inundation in the FTB will shift upward. The wetland area is larger at a higher elevation; hence, the tidal prism (production of surface area and tidal range) will increase. An increase in the tidal prism will increase velocity and sediment transport through the inlet, which would benefit the inlet stability. The sediment being transported into the FTB forming the flood shoal comes from the longshore sediment transport. SLR may lead to reduction in sediment supply and longshore sediment transport rate; hence, it may reduce the flood shoal volume or the maintenance volume.

Figure 1: Bolsa Chica Wetlands

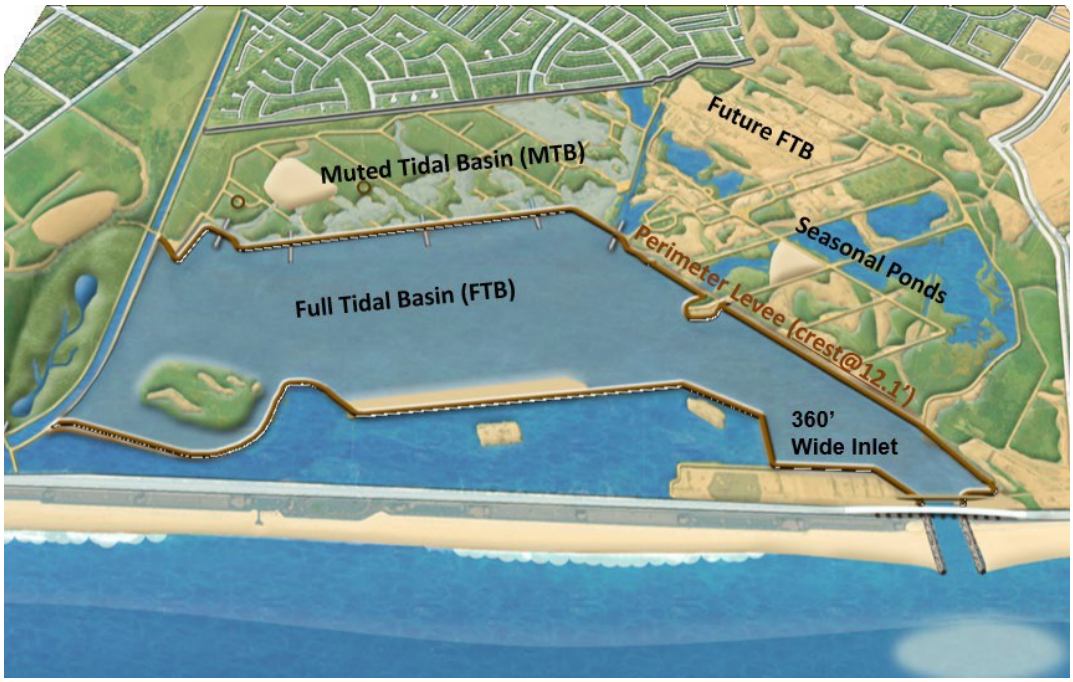


Figure 2: Bolsa Chica Mitigation Plan Elements

Tides

The nearest, long-term sea level record in the study area is the Los Angeles tidal station operated by the National Oceanic and Atmospheric Administration (NOAA). The buoy has been operational for over 90 years. Tidal datums relative to NAVD88 are provided in Table 1. The tides in Huntington Beach are mixed semidiurnal, with two high tides and two low tides of differing magnitude occurring each day. Typical daily tides range from mean lower low water (MLLW) to mean higher high water (MHHW), a tidal range of about 5.5 feet. The average spring high tide and low tide elevations are 6.55 feet and -1.47 feet, respectively, resulting in an average spring tide range of 8.02 feet based on data recorded in Station 9410660 from 1994 to 2013. The king tide elevation (annual high tide) is 7.0 feet NAVD88.

Table 1: Tidal Datums (Los Angeles Station 9410660, 1983-2001 Tidal Epoch)

Description	Tidal Datum	Elevation (feet, NAVD 88)
Highest Observed Water Level	HOWL	7.7
Highest Astronomical Tide	HAT	7.1
Mean Higher-High Water	MHHW	5.3
Mean High Water	MHW	4.6
Mean Sea Level	MSL	2.6
Mean Low Water	MLW	0.7
North American Vertical Datum of 1988	NAVD88	0.0
Mean Lower-Low Water	MLLW	-0.2
Lowest Astronomical Tide	LAT	-2.0
Lowest Observed Water Level	LOWL	-2.7

Project Design Life and Sea Level Rise

The proposed Huntington Beach Desalination Project is expected to be constructed by the year 2030 with a design life of 50 years. The planning time horizon of 2080 is considered in this SLR assessment.

Based on the 2018 State of California Sea-Level Rise Guidance by the California Ocean Protection Council (OPC, 2018), the projected SLR scenarios for the Bolsa Chica Wetlands are shown in Table 2. The projected SLR under a conservative medium-high risk aversion scenario ranges from 3.6 to 4.3 feet in 2080 with a probability of 1:200 (0.5%).[3]

[3] The California State Lands Commission (which owns and manages the Bolsa Chica Wetlands), recommended the use of the medium-high risk aversion SLR projections for future planning purposes at Bolsa Chica in the Bolsa Chica Lowlands Restoration Project Sustainable Alternatives Study (Anchor QEA 2021). The H++ scenario in the OPC guidance is not addressed in this memo, as this extreme scenario of a global mean sea level (GMSL) increases by 2.5 m by 2100 is viewed as less plausible, as discussed in the IPCC AR6. This H++ scenario has been removed from the most recent Global and Regional Sea Level Rise Scenarios for the United States (NOAA, 2022).

Table 2: Projected Sea Level Rise (in feet) for Los Angeles (OPC, 2018)

		Probabilistic Projections (in feet) (based on Kopp et al. 2014)					H++ scenario (Sweet et al. 2017) *Single scenario
		MEDIAN	LIKELY RANGE		1-IN-20 CHANCE	1-IN-200 CHANCE	
		50% probability sea-level rise meets or exceeds...	66% probability sea-level rise is between...		5% probability sea-level rise meets or exceeds...	0.5% probability sea-level rise meets or exceeds...	
				Low Risk Aversion		Medium - High Risk Aversion	Extreme Risk Aversion
High emissions	2030	0.3	0.2 -	0.5	0.6	0.7	1.0
	2040	0.5	0.4 -	0.7	0.9	1.2	1.7
	2050	0.7	0.5 -	1.0	1.2	1.8	2.6
Low emissions	2060	0.8	0.5 -	1.1	1.4	2.2	
High emissions	2060	1.0	0.7 -	1.3	1.7	2.5	3.7
Low emissions	2070	0.9	0.6 -	1.3	1.8	2.9	
High emissions	2070	1.2	0.8 -	1.7	2.2	3.3	5.0
Low emissions	2080	1.0	0.6 -	1.6	2.1	3.6	
High emissions	2080	1.5	1.0 -	2.2	2.8	4.3	6.4

SLR Vulnerability Assessment

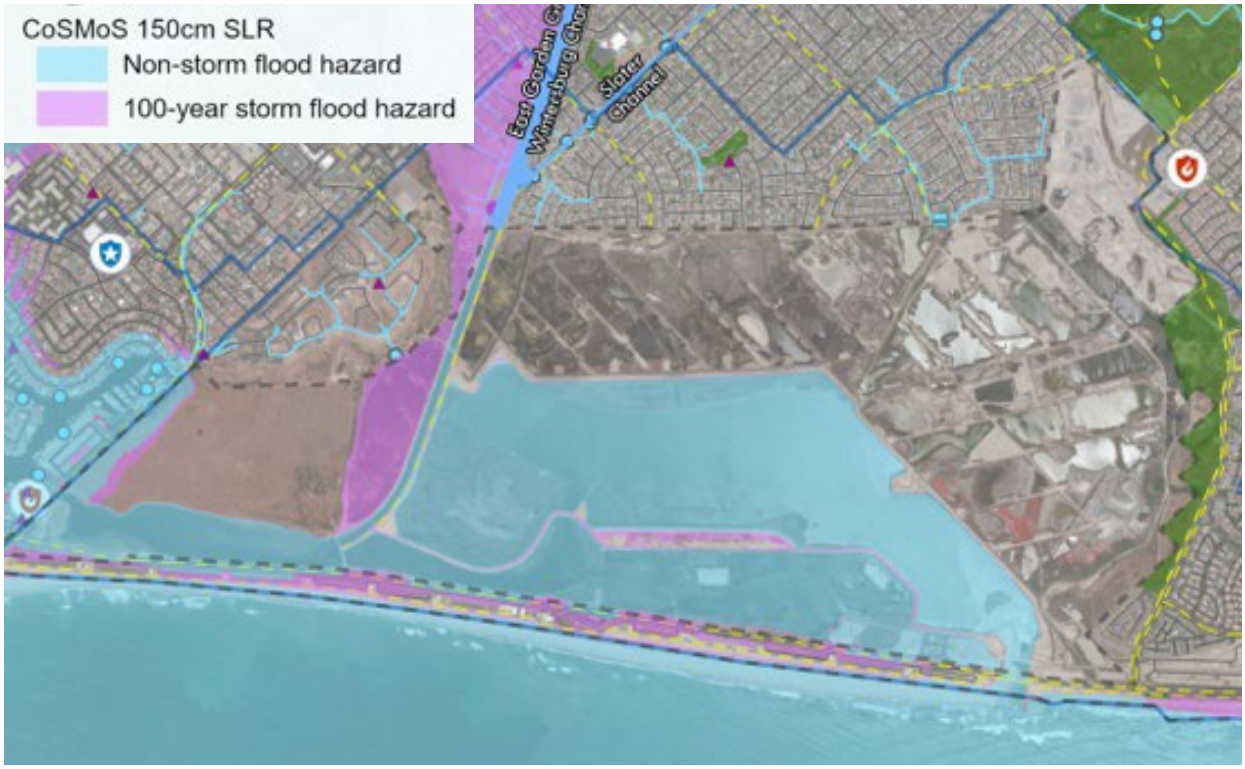
Perimeter Levee: As shown in Figure 1, the FTB is surrounded by an engineered perimeter levee with a crest elevation of 12.12 feet NAVD88. The levee provides flood protection to the currently active oil operations in the MTB, FFTB, and Seasonal Ponds. In addition, the levee provides protection for the residential neighborhoods north of the MTB, as the berm separating the MTB and residential neighborhoods is lower than the perimeter levee. One of the primary concerns related to SLR is if water levels were to reach an elevation where they could potentially overtop the perimeter levee on a regular basis. Even under a scenario where the perimeter levee were overtopped during king tides, it would still provide some measure of protection to the MTB and other protected areas.

Exposure to future rates of SLR for the area is determined using results from the CoSMoS 3.0 Phase 2.0 model.[4] The closest conservative CoSMoS projection is 4.9 feet (1.5m), which is 0.6 feet higher than the 4.3-foot projected upper end of the medium-high risk aversion SLR scenario in year 2080. Figure 3 shows the extent of potential flooding associated with 4.9 feet of SLR for both non-storm and 100-year return period coastal storm events (including spring high tide, storm surge, sea level anomaly, and river discharge). The CoSMoS results indicate that the perimeter levee will not be overtopped in year 2080, and there will be at least 0.6 feet of freeboard, even under 100-year storm with spring high tide conditions. Since the annual king tide is 7.0 feet NAVD 88, and the top of the levee is 12.12 feet NAVD 88, there would need to be more than 5.12 feet of SLR before annual overtopping would occur under non-storm conditions. This level of sea level rise is not expected to occur during the Project's design life.

[4] CoSMoS is a multi-agency effort led by the USGS to make detailed predictions (meter scale) of coastal flooding and erosion based on existing and future climate scenarios for southern California. CoSMoS results are available in 0.25-m increments.

The adaptive management plan, to be developed as part of the detailed restoration design work, should incorporate a future evaluation of the structural stability of the perimeter levee under higher levels of SLR. The levee could be strengthened as needed to maintain hydraulic separation between the FTB and the MTB and other protected areas, and to ensure that the levee can adequately withstand the potentially increased hydraulic pressure gradient associated with higher sea levels. The levee could be strengthened and reinforced as necessary to mitigate the impacts of SLR through at least the year 2080 without raising its current elevation.

Figure 3: 4.9 feet SLR Flood Hazards (CoSMoS)



Intertidal Shelf in the FTB: The Intertidal Shelf area was intended to establish and support Pacific cordgrass in the original restoration effort by the California State Lands Commission in 2006. However, the current ground elevation is too low to support Pacific cordgrass. As part of the proposed mitigation plan, Poseidon is proposing to raise the elevation of the Intertidal Shelf over time such that it will support Pacific cordgrass and other native coastal salt marsh vegetation, such as common pickleweed.

As shown in Figure 2, the Intertidal Shelf is located within the FTB. The FTB receives the full tidal exchange with the ocean; however, low tides are being truncated due to flood shoal development in the tidal inlet, which prevents the FTB from fully draining to the ocean's low tide water elevation. The low tide truncation turns vegetated marsh into subtidal marsh in the FTB and prevents the MTB from draining efficiently. The tidal monitoring data indicate that the high tide elevation in the FTB is very similar to that in the ocean.

Wetland habitats respond to the hydrology of the average spring and neap tidal cycle conditions. The average spring high tide and king tide elevations under the current and future SLR scenarios are listed in Table 3. Both spring high tide and king tide will be lower than the perimeter levee crest elevation under the projected medium-high risk aversion SLR scenario in year 2080. Hence, it is feasible to establish the desired coastal salt marsh vegetation on the Intertidal Shelf throughout the design life of the Project by gradually raising the elevation of the Intertidal Shelf over time, such as through thin-layer sediment augmentation, to keep pace with sea level rise.

Table 3: Summary of Spring High Tide and King Tide Elevations Under the Medium-High Risk Aversion SLR Scenario

	Present Day	Low Emissions 2080	High Emissions 2080
SLR (ft)	0	3.6	4.3
Spring High Tide (ft, NAVD88)	6.55	10.15	10.85
King Tide (ft, NAVD88)	7.0	10.6	11.3
Perimeter Levee Crest Elevation (ft, NAVD88)	12.12		

MTB Mitigation Elements: The MTB area is targeted to establish coastal salt marsh habitats in the original restoration. The MTB is protected by the perimeter levee; however, a large portion of the area has been converted to open water as the site is not well drained due to the following reasons:

1. The ground elevations in the MTB are below mean sea level (MSL) due to land subsidence resulting from oil extraction.

2. The range of water levels in the MTB that can drain is limited due to low tide muting in the FTB. Hence, the water level management in the MTB is linked to the water level management in the FTB, which depends on the successful function of the Ocean Inlet and flood shoal management.

3. Circulation within the MTB is limited due to relatively flat topography and berms separating the site into multiple cells.

Although SLR has the potential to impact the function and performance of the MTB, remediation and adaptive management measures are available to restore the desired habitat and ensure its continued function over the Project's design life through the year 2080. The MTB is connected to the FTB with three tidal control structures. The range of water levels in the MTB can be controlled via properly configured tidal control structures, pumping, and ground elevation adjustments (e.g., thin layer sediment additions). The circulation in the MTB can be enhanced through grading (as proposed in the Project's mitigation design) and pumping. Hence, it is feasible to improve circulation of the MTB and restore habitats in the Fieldstone site, on inactive oil pads, and on roadway areas.

Conclusions

The existing Bolsa Chica Wetlands site conditions/performance and projected SLR over the 50-year project design life were reviewed. The review indicates that a majority of the proposed mitigation elements will be protected from SLR by the existing perimeter levee with a crest elevation of 12.12 feet NAVD88 (see Figures 1 and 2). Poseidon will have the ability to manage water levels and proper function of the mitigation activities located within the MTB area over the Project's design life through at least the year 2080, so long as the perimeter levee remains intact. Under a conservative medium-high risk aversion scenario, projected SLR ranges from 3.6 to 4.3 feet in 2080 with a probability of 1:200 (0.5%) (OPC, 2018)[5]. Based on USGS's CoSMoS modeling results, the projected 4.3-foot upper end of the medium-high risk aversion SLR scenario will not overtop the perimeter levee by 2080, even under King Tide and 100-year storm conditions. Furthermore, Poseidon may decide in coordination with the BCSC that it will implement elevation grading changes to the site over time to adapt to SLR. The detailed findings can be summarized as follows:

- Projected SLR ranges from 1.6 to 2.2 feet under the Low Risk Aversion scenario (likely range), and from 3.6 to 4.3 feet under the Medium-High Risk Aversion scenario (0.5% probability of occurrence).
- The perimeter levee, which separates the FTB from surrounding areas, will not be overtopped with 4.9 feet of SLR even during a 100-year coastal storm event. Specifically, the perimeter levee will have at least 0.6 feet of freeboard even if 4.3 feet of SLR were to occur during the upper end of the Medium-High Risk Aversion scenario in year 2080.
- The Intertidal Shelf can be restored to establish Pacific cordgrass and other native coastal salt marsh vegetation over the 50-year design life of the Project because the FTB levee will be able to contain tides, and habitat can be supported by raising the site over time to keep pace with SLR.
- The circulation in the MTB can be improved over the 50-year design life of the Project by improving drainage connections, modifying drainage patterns, and raising certain areas of the site. These improvements will also promote suitable and more productive habitat conditions.
- Habitat restoration in the Fieldstone site, oil pads, berms, and road areas is feasible over the 50-year design life of the Project when site drainage in the MTB is improved and the elevation of certain areas of the site are adjusted.

In summary, Poseidon will be able to implement and maintain the proposed mitigation activities at the Bolsa Chica Wetlands as contemplated by the Regional Board Order through at least 2080 with modest site adaptation necessary depending on ultimate SLR levels.

[5] OPC 2018 SLR guidance is very conservative and OPC anticipates updating the guidance soon. The 2022 NOAA SLR projections and IPCC AR6 demonstrate that the OPC 2018 guidance is overly conservative and should be revised to reflect the latest scientific understanding of climate change and sea-level rise in California.

References

NOAA. (2022). *Global and Regional Sea Level Rise Scenarios for the United States.* https://oceanservice.noaa.gov/hazards/sealevelrise/sealevelrise-tech-report.html.

OPC. (2018). *State of California Sea-Level Rise Guidance.*

EXHIBIT 2

DUDEK

MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 T 800.450.1818 F 760.632.0164

MEMORANDUM

To: Josie McKinley, Poseidon Resources (Surfside) LLC
From: Joe Monaco, Dudek
Subject: Updated Cumulative Environmental Impacts Assessment for the Proposed Huntington Beach Desalination Project
Date: November 9, 2015

1 INTRODUCTION

Poseidon Resources submitted a Coastal Development Permit (CDP) application to the California Coastal Commission on September 2, 2015 (No. 9-15-1731) for the Huntington Beach Desalination Plant project (HBDP or Project). This memo has been prepared in response to the Coastal Commission's Notice of Incomplete Application (NOIA) letter dated October 2, 2015. Specifically, this memo is being submitted in response to NOIA paragraph 11, which asks Poseidon to "submit a new cumulative impact analysis that addresses th[e] project's indirect and cumulative coastal resource effects taking into account recent timing changes proposed for the power plant project." In particular, the NOIA highlights a need to analyze the potential cumulative effects of construction for two immediately adjacent projects—the Huntington Beach Energy Project (HBEP), located at 217 Newland Street, and the Ascon Landfill Cleanup Project (Ascon Project), located at 26141 Magnolia Street. Therefore, this analysis focuses on the cumulative construction impacts of relevant cumulative projects, primarily the HBEP and Ascon Project.

The CDP application proposes intake and discharge modifications to the HBDP last considered by the Coastal Commission in November 2013. These modifications consist of the following technology enhancements: (1) modification of the intake forebay with 1 millimeter traveling screens with a through-screen velocity of less than 0.5 feet per second to reduce potential entrainment and impingement; (2) enhancement of the existing intake velocity cap in order to maintain fish avoidance velocity of 2.0 ft/s and provision of a fish return system allowing for egress of any marine life that has entered into the forebay and (3) enhancement of the ocean terminus of the existing seawater discharge pipe with a diffuser to satisfy the California State Water Resources Control Board's recently adopted Seawater Desalination Ocean Plan Amendment's ("Desalination Amendment's") salinity standards during the Project's long-term,

stand-alone operation when the average annual volume of HBDP Project supply of source water is 106 millions of gallons per day (MGD).

A cumulative analysis was recently prepared in connection with the Ascon Project, which consists of a Remedial Action Plan (RAP) and related cleanup of the Ascon Landfill Site. The California Department of Toxic Substances Control certified a Final Environmental Impact Report (EIR), pursuant to the California Environmental Quality Act (CEQA), for the Ascon Project on June 18, 2015. The Ascon Project's EIR evaluated the cumulative environmental impacts "associated with other past, present, and reasonably foreseeable future projects," including those related to construction and operation of the HBDP and HBEP, as well as other relevant cumulative projects (see Table 3-1 of the Draft Environmental Impact Report (DEIR), and Appendix D of the Recirculated Draft Environmental Impact Report (RDEIR and together with the DEIR and the Final EIR, collectively, the EIR)).[1] As such, and consistent with CEQA's streamlining provisions, this evaluation of Poseidon's cumulative impacts incorporates information and conclusions from the cumulative analysis conducted in the Ascon Project's EIR.

2 CUMULATIVE CONSTRUCTION IMPACTS ANALYSIS

2.1 Air Quality

Air quality is defined by geographic formations (i.e., a coastal plain surrounded by mountains) and bears little relationship to jurisdictional boundaries. The study area for this air quality cumulative impact analysis consists of the South Coast Air Basin (SCAB). The South Coast Air Quality Management District's (SCAQMD's) Air Quality Management Plan (AQMP) provides a cumulative estimate of the SCAB's air quality and can be used for assessing the cumulative air quality impacts in the SCAB. The CDP's proposed modifications would not alter the land use or growth assumptions of the AQMP. However, the HBDO and its proposed modifications as well as other projects in the area may result in temporary air quality impacts from construction-related activities and vehicle emissions. Such activities could result in substantial temporary emissions of particulate matter (PM_{10} and $PM_{2.5}$) and carbon monoxide (CO).

Construction air quality impacts tend to have a noticeable localized effect in addition to their contribution to the overall regional air basin. Therefore, projects in close proximity to the Poseidon Project site were evaluated for short-term, construction-related impacts. The pollutants

[1] The Ascon EIR is available at http://www.ascon-hb.com/ and is hereby incorporated by reference.

generated from construction of these projects could result in an impact on ambient air quality that would overlap with those of the Project if the construction work occurs in close proximity and at the same time.

Both the HBEP and the Ascon Project are within proximity to the HBDP. Construction of the proposed modifications would not exceed any adopted SCAQMD criteria pollutant thresholds except for nitrogen oxides (NO_x) and would result in maximum daily NO_x emissions of approximately 195.9 pounds per day. The rest of the HBDP construction would result in maximum daily NO_x emissions of approximately 106.13 pounds per day during months 5 through 7 of construction (City of Huntington Beach 2010). The HBEP would be less than the adopted SCAQMD CEQA thresholds for all criteria air pollutants except NO_x, and would have maximum daily NO_x emissions of approximately 110.75 pounds per day during month 19 of the HBEP construction schedule (AES 2013). The Ascon Project was evaluated as having maximum daily NO_x emissions of approximately 593 pounds per day during month 8 of the Ascon Project's construction. The Ascon EIR also concluded that there would be significant and unavoidable cumulative short-term impacts to air quality from NO_x emissions during construction of the Ascon Project and the other cumulative projects, including the HBDP and HBEP. Therefore, under the theoretical worst-case scenario where these cumulative projects, the HBDP, and the proposed modifications were being constructed simultaneously, there would be construction-related cumulative air quality impacts from NO_x emissions. As identified in the Project's Final Subsequent Environmental Impact Report (SEIR), as certified by the City of Huntington Beach in 2010, and the Ascon Project's EIR, this cumulative impact would be significant and unavoidable even with incorporation of mitigation, and the HBDP and its proposed modifications would have a cumulatively considerable contribution to this significant unavoidable cumulative impact.

2.2 Biological Resources

A cumulative impact to biological resources could occur if HBDP and the proposed modifications in combination with relevant cumulative projects, including the HBEP and Ascon Project, would impact either terrestrial or marine special-status species or sensitive habitats during construction. Construction of the proposed modifications, the HBDP, the HBEP, and the Ascon Project would not directly impact any special-status species or sensitive habitats, including the existing nearby wetland area to the southeast of the proposed sites. Although construction-related noise impacts have the potential to indirectly affect nearby sensitive habitat areas, mitigation measures identified in the Project's Final SEIR would reduce potential

cumulative impacts from construction noise to below a level of significance for construction of the HBDP and the proposed modifications.

The HBDP and its proposed modifications could result in potential marine water quality effects from disturbance of sediments on the seafloor and impacts on benthic marine communities as a result of construction and maintenance. However, removal of the invertebrates and algae during construction and maintenance of the discharge modifications would not have a significant impact on the local marine environment as these same assemblages are common on other hard substrate and structures in the vicinity of the intakes. The discharge and intake structures are also located in an expanse of soft, sandy bottom substrate and are not proximate to known rocky reef habitat where commercially valuable species, such as the spiny lobster, are found. Additionally, the relevant cumulative projects in proximity to the HBDP and its proposed modifications, including the HBEP and Ascon Project, would not substantially affect marine biological resources during construction because those construction areas would be primarily located on existing disturbed land. Furthermore, the Ascon EIR concluded that, with the implementation of required mitigation, the cumulative impacts on biological resources from the Ascon Project and all related projects would be less than significant. Therefore, the HBDP and its proposed modifications and the surrounding projects would not result in a cumulative impact to biological resources.

2.3 Greenhouse Gas Emissions

Global climate change is by definition a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases (GHGs). Thus, GHG impacts are recognized as exclusively cumulative impacts: there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008). The HBDP and its proposed modifications in combination with the cumulative projects, including the HBEP and the Ascon Project, would emit GHGs during construction. However, these GHG emissions would be temporary and the HBDP and its proposed modifications would not represent a cumulatively considerable contribution of GHG emissions. Additionally, the HBDP has committed to quantifying and offsetting 100% of the construction related GHG emissions through the HBDP Energy Minimization and Greenhouse Gas Reduction Plan (Poseidon Resources 2015), which is a design feature of the project approved by the City of Huntington Beach in 2010. Furthermore, the Ascon EIR concluded that the Ascon Project, in combination with other reasonably foreseeable, related projects would not result in significant cumulative impacts related to GHG emissions. Therefore, cumulatively considerable impacts from construction-related GHG emissions would be less than significant.

2.4 Hazards and Hazardous Materials

Construction of the HBDP and its proposed modifications, in combination with the other cumulative projects, including the HBEP and Ascon Project, would involve the use and transport of commonly used hazardous substances, such as gasoline, diesel fuel, lubricating oil, grease, and solvents. The accidental spill or use of these materials in excess quantities could be a potential hazard to the public or the environment. However, the HBDP and its proposed modifications and cumulative projects would be required to comply with applicable federal, state, and local laws regulating the management and use of hazardous materials. Additionally, the proposed modifications and HBDP would be required to implement the mitigation measures identified in the Final SEIR to reduce potential hazards during construction. Furthermore, the Ascon EIR concluded that the Ascon Project and related projects would not cumulatively cause significant short-term impacts with respect to hazards and hazardous materials, including airborne pollutants, accidental releases, or upset conditions. Therefore, construction of the HBDP and its proposed modifications, in combination with the other cumulative projects would not result in a cumulative impact from hazards and hazardous materials.

2.5 Hydrology and Water Quality

Construction impacts associated with the HBDP and its proposed modifications, in combination with other cumulative projects, including the HBEP and Ascon Project, on hydrology and water quality could potentially result in the release of sediment and contamination of stormwater runoff with typical chemicals used during construction, such as fuels, oils, lead solder, solvents, and glues. Conveyance of sediment and other pollutants from the onshore construction sites to receiving waters could occur by direct overland flow and/or via the storm drain system. Additionally, material stockpiles, fuels, lubricants, and waste would be stored within the construction area onshore. However, the proposed modifications and HBDP would be required to implement construction mitigation measures identified in the Final SEIR to reduce potential stormwater pollution and discharges during construction. Furthermore, the HBDP has obtained an NPDES permit No. CA8000403 and would be required obtain a new NPDES permit in February 1, 2017. The cumulative projects would also be required to comply with National Pollutant Discharge Elimination System (NPDES) permit regulations for construction activities that would reduce stormwater pollution and other potential impacts to water quality from construction activities. Furthermore, the Ascon EIR concluded that the Ascon Project and related projects would not cumulatively cause a significant impact on water quality due to the implementation of best management practices through regulatory programs required by the City

of Huntington Beach and the Santa Ana Regional Water Quality Control Board related to the protection of water quality for surface water and groundwater.

The offshore construction portion of the proposed modifications would have the potential to degrade water quality from disturbance of seafloor sediments or spills of hazardous materials. However, construction of the proposed modifications would not require dredging or other activities that would disturb seafloor sediments. The proposed modifications would also be required to implement water quality monitoring through the Regional Water Quality Control Board Clean Water Act permits. Additionally, nearby cumulative projects would not involve offshore construction, which limits the potential for a cumulative offshore water quality impact. Therefore, the proposed modifications and the cumulative projects would not result in a cumulative impact to hydrology or water quality.

2.6 Noise

The HBDP and its proposed modifications and cumulative projects in proximity to the HBDP, including the HBEP and Ascon Project, would produce noise from the use of heavy equipment during construction. High groundborne noise levels and other miscellaneous noise levels can be created by the operation of heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, compactors, graders, and other heavy-duty construction equipment. Construction of the HBDP and its proposed modifications and nearby cumulative projects would generate noise and would temporarily increase noise levels at nearby sensitive land uses. Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive receptors. Although the HBDP and its proposed modifications and cumulative projects would result in noise generation during construction, the City of Huntington Beach provides an exemption for noise associated with construction and grading in Municipal Code Section 8.40.090, Special Provisions, provided that activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday. Adherence to these noise restrictions would reduce potential cumulative impacts from noise on nearby sensitive receptors. Furthermore, the Ascon EIR concluded that the Ascon Project and related projects would not cause significant cumulative noise impacts. Additionally, construction of the proposed modifications would partially occur offshore and in locations away from sensitive noise land uses. Noise generation from construction of the proposed modifications would range from 57 to 61 A-weighted decibel (dBA) equivalent noise level (Leq), would be temporary and intermittent, and would be further minimized through implementation of construction mitigation measures identified in the Final

SEIR. Therefore, the HBDP and its proposed modifications, in combination with other cumulative projects would not result in a cumulative impact from construction noise.

2.7 Recreation

Construction of the HBDP and its proposed modifications, in combination with other cumulative projects, including the HBEP and Ascon Project, would not increase the use of or accelerate the deterioration of recreational facilities and would not require the construction or expansion of recreational facilities due to their location on existing industrial sites. The HBDP and its proposed modifications as well as other nearby cumulative projects would be built largely on a site already occupied by industrial uses and would not block the shoreline or prohibit coastal recreational uses causing an increase in the use of other recreational facilities. The offshore construction of the proposed modifications would include use of a derrick barge, but the barge would not interfere with recreational surfing as it would be located beyond the surf break and would not interfere with boating access to the area. Furthermore, the nearby cumulative projects would not include offshore construction, which would limit the potential for cumulative recreational access impacts.

Construction of cumulative projects in proximity to the HBDP and its proposed modifications could result in coastal access issues from reduced parking used by construction workers. However, the HBEP parking area as well as surrounding potential parking sites, including vacant private property along Pacific Coast Highway and surrounding the Huntington Beach Channel, would provide sufficient parking for construction workers and vehicles. As a result, the combined maximum construction parking for the HBDP and its proposed modifications as well as other cumulative projects would not inhibit the use of public parking or public coastal access. Therefore, the HBDP and its proposed modifications, in combination with other cumulative projects would not result in a cumulative impact to public access to the coast or recreation.

2.8 Traffic

Construction of the HBDP and its proposed modifications, in combination with the HBEP and Ascon Project, would generate temporary construction-related traffic that could occur on the same roadways simultaneously. This includes additional traffic that would occur on roadways within the coastal zone for simultaneous construction of the projects. Construction of the HBDP and its proposed modifications as well as other cumulative projects would only be temporary and would fluctuate during construction periods based on overlap of construction schedules and the type of construction phases. Additionally, traffic to and from each specific project and the HBDP would use different routes, reducing the potential impact of construction traffic impacts on any

particular roadway. Furthermore, the proposed modifications and HBDP would implement mitigation measures as set forth in the Final SEIR, requiring the preparation of a Traffic Management Plan, which would minimize potential impacts from construction-related traffic. The proposed modifications would be required to comply with the City's Standard Conditions of Approval, a truck and construction vehicle routing plan will be prepared for HBDP facility to reduce any short-term traffic impacts to less than significant levels. The Ascon Project EIR also has the preparation of a Construction Traffic Management/Haul Route Plan as a project design feature that would be implemented to reduce construction congestion. The HBEP also is required to prepare a Traffic Control Plan, Heavy Hauling Plan, and Parking/Staging Plan as a condition of approval of the project. Therefore, the HBDP and its proposed modifications and the cumulative projects would not result in a cumulative impact from construction-related traffic.

After implementation of the HBDP and its proposed modifications, mitigation measures, and Special Conditions no cumulative construction impacts beyond those previously identified in the 2010 Final SEIR would occur.

Sincerely,

Joe Monaco, Principal

3 REFERENCES

AES. 2013. Huntington Beach Energy Project, AES's Responses to CEC Staff's Workshop Queries and Related Air Quality Modeling Files March 14, 2013.

CAPCOA (California Air Pollution Control Officers Association). 2008. *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act.* January 2008.

City of Huntington Beach. 2010. Draft Subsequent Environmental Impact Report for the Seawater Desalination Project at Huntington Beach. SCH# 2001051092. May 2010.

Poseidon Resources. 2015. Energy Minimization and Greenhouse Gas Reduction Plan. 2015.