
San Diego Regional Water Quality Control Board

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Sent Via Email Only

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Subject: Comments on the Draft Supplement to the Precise Development Plan and Desalination Plant Project Final Environmental Impact Report (EIR 03-05), City of Carlsbad, California, SCH Nos. 2004041081 and 2015091060

Mr. Tegio:

The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) and the State Water Resources Control Board (State Water Board) have reviewed the *Draft Supplement to the Precise Development Plan and Desalination Plant Project Final Environmental Impact Report* (Draft SEIR) dated April 2016. The Draft SEIR evaluates potential environmental impacts due to proposed modifications at the Claude "Bud" Lewis Carlsbad Desalination Plant (CDP) owned by Poseidon Resources (Channelside) LP (Discharger). The proposed modifications include the planned transition from co-located and temporary stand-alone operations with the Encina Power Station (EPS) to permanent stand-alone operations with a potential for increased water production.

The San Diego Water Board is the agency responsible for issuing the National Pollutant Discharge Elimination System (NPDES) permit for the discharge of brine and other wastes from the CDP to the Pacific Ocean and for making a determination regarding the factors set forth in California Water Code (CWC) section 13142.5, subdivision (b) (CWC section 13142.5(b))¹, for the CDP. The NPDES permit will implement the provisions of the *Water Quality Control Plan for Ocean Waters of California*, including the *Amendment to the Water Quality Control Plan for Ocean Waters of California Addressing Desalination Facility Intakes, Brine Discharges, and the Incorporation of Other Nonsubstantive Changes* (Desalination Amendment). In developing the CWC section 13142.5(b) determination and the NPDES permit for the CDP, the San Diego Water Board, in consultation with the State Water Board, will rely on documents that the Discharger submitted with the Report of Waste Discharge (ROWD), information contained in the Final EIR as supplemented, and other available information. The San Diego Water Board may request that the Discharger submit additional information that is necessary for the CWC section 13142.5(b) determination or for the NPDES permit issuance. Although issuance of an NPDES permit is exempt from California Environmental Quality Act (CEQA) compliance pursuant to CWC section 13389, a CWC section 13142.5(b) determination is a discretionary approval

¹ CWC section 13142.5(b) requires each new or expanded coastal powerplant or other industrial installation using seawater for cooling, heating, or industrial processing, to use the best available site, design, technology, and mitigation measures feasible to minimize the intake and mortality of all forms of marine life.

subject to CEQA compliance. The San Diego Water Board is a responsible agency for purposes of complying with CEQA for a CWC section 13142.5(b) determination requested by the Discharger.

The San Diego Water Board and the State Water Board offer the following comments on sections 1, 2, 3, 4.2, 4.4, 5.1, 5.2.2, and 5.2.4 of the Draft SEIR. The remaining sections were not reviewed.

Brine Mixing Zone and Flow Augmentation

1. In section 2.3, page 2.5, the Draft SEIR indicates that the outfall location is the effluent tunnel discharge point. This is inconsistent with the ROWD, as amended in September 2015, which indicates that the outfall location is the EPS surface discharge channel. The Draft SEIR should be amended to clarify the outfall location.
2. The Draft SEIR presumes (e.g. see Page 4.4-6) that the brine mixing zone (BMZ) for the CDP will be approximately 200 meters from the discharge point. However, the Desalination Amendment definition of the BMZ provides that a standard BMZ shall not exceed 100 meters laterally from each discharge point and throughout the water column. For the owner or operator of a facility that has received a conditional CWC section 13142.5(b) determination, was over 80 percent constructed by January 28, 2016, and proposes flow augmentation (additional intake of water for brine dilution) using a surface water intake, the Desalination Amendment provides the option for the Discharger to submit a proposal to the San Diego Water Board for approval of an alternative BMZ. The alternative BMZ shall not exceed 200 meters laterally from the discharge point and throughout the water column. This option is contingent upon the Discharger demonstrating and the San Diego Water Board approving in an NPDES permit, that the combination of the alternative BMZ and flow augmentation provides a level of intake and mortality of all forms of marine life that is comparable to the combination of the standard BMZ and wastewater dilution, if wastewater is available, or multiport diffusers, if wastewater is unavailable. The Desalination Amendment specifies that in no case may the discharge result in hypoxic conditions outside of the alternative BMZ.

The Discharger has submitted a request to the San Diego Water Board for approval of flow augmentation using a surface water intake and an alternative BMZ of 200 meters from the discharge point. The San Diego Water Board, in consultation with the State Water Board, is reviewing this request as part of the CWC section 13142.5(b) determination. As such, the Draft SEIR should be amended to evaluate whether the discharge would result in hypoxic conditions outside of the requested alternative BMZ. Additionally, the Draft SEIR should be amended to evaluate alternatives to flow augmentation and a BMZ greater than 100 meters that may have reduced environmental impacts. These alternatives should include withdrawing less seawater for flow augmentation, a BMZ less than 200 meters from the discharge point, diluting brine using multiport diffusers, and commingling brine with municipal wastewater prior to discharge.

3. In section 4.2, page 4.2-12, the Draft SEIR states that the proposed CDP modifications satisfy the Desalination Amendment's requirements for brine discharge using flow augmentation. In a meeting on April 12, 2016, San Diego Water Board staff verbally requested that the Discharger consult with the Encina Wastewater Authority about the possibility of diverting some of the effluent from the CDP to the Encina Ocean Outfall. The Draft SEIR should be amended to evaluate this alternative discharge option of commingling CDP's brine with wastewater.

Fish Return System

4. In section 3.4, page 3-15, the Draft SEIR states that the fish return pipe will have two cleanouts to facilitate cleaning and inspection. The Draft SEIR should be amended to describe the methods that will be used to clean the fish return pipe and the discharge pipe following the permanent cessation of operations at the EPS. Depending on the cleaning methods or agents selected, pollutants may be added to the CDP discharge, possibly resulting in additional environmental impacts. The Draft SEIR should be amended to evaluate the possible environmental impacts associated with discharge to surface waters of cleaning-in-place liquids, solvents, antiscalants, debris from cleaning, and biofouling and antifouling agents.

Construction Schedule

5. In section 3.4, page 3-30, the Draft SEIR identifies a schedule of approximately 18 months for the construction of intake and discharge modifications. Because this schedule will extend beyond the planned permanent cessation of operations at the EPS, which is currently scheduled for December 31, 2017, the Draft SEIR should be amended to describe CDP operations during the interim period when EPS is permanently shut down and prior to the new intake structure being constructed and operated.

Intake Structure Modifications

6. In section 4.2, page 4.2-5, there is a description of the proposed CDP modifications to the EPS intake structure, which consist of center-flow traveling water screens with 1 mm mesh, axial flow pumps, and a fish return system. Entrapment of marine life may occur in the intake tunnel, if organisms pass through the trash racks at the onset of the tunnel but cannot swim back through them. The Draft SEIR should be amended to evaluate alternative options, such as wedgewire screens, installation of traveling screens at the onset of intake, and an offshore intake structure, that were considered for modifications to the EPS intake structure and that may result in fewer impacts on marine life.

Alternative Receiving Water Limitation

7. In section 4.2, page 4.2-12, the Draft SEIR states that the chronic toxicity test results suggest that the CDP qualifies for a facility-specific alternative receiving water salinity limitation as provided in section III.M.3.c. of the Desalination Amendment. As part of the ROWD and the request for a CWC section 13142.5(b) determination for stand-alone operations of the CDP, the Discharger has requested guidance from the San Diego Water Board to identify future research, studies, and monitoring required to evaluate and identify a facility-specific alternative receiving water salinity limitation. The San Diego Water Board, in consultation with the State Water Board, is in the process of reviewing the Discharger's request and has yet to make a decision about whether an alternative receiving water salinity limitation for the CDP is appropriate. The Draft SEIR should be amended to more accurately describe the current status of the alternative receiving water limitation request and must also evaluate the scenario under which the San Diego Water Board does not approve an alternative receiving water salinity limitation.

Mitigation

8. In section 4.2, page 4.2-15, the Draft SEIR states that the San Diego Water Board found that the proposed measures for the CDP in the March 27, 2009 *Flow, Entrainment, and Impingement Minimization Plan* (Minimization Plan) are the best available CWC section

13142.5(b) mitigation feasible for the CDP. The Draft SEIR presumes that the San Diego Water Board will accept out-of-kind mitigation and a mitigation ratio of one to ten² for purposes of the requested CWC section 13142.5(b) determination. The Draft SEIR also states that no additional marine biological resources mitigation measures beyond those required by the Final Environmental Impact Report are necessary. For clarification, in Order No. R9-2009-0038, the San Diego Water Board found that the Minimization Plan will ensure that the CDP is in compliance with CWC section 13142.5(b) under *co-located and temporary shutdown* operations of EPS (emphasis added) only and that it will be necessary to evaluate compliance with CWC section 13142.5(b) for stand-alone operations if the EPS permanently ceases operations. The San Diego Water Board, in consultation with the State Water Board, is in the process of reviewing the Discharger's request for a CWC section 13142.5(b) determination for stand-alone operations of CDP, including evaluating compliance with the mitigation requirements contained in the Desalination Amendment. The San Diego Water Board has yet to make a decision regarding whether the proposed measures in the Minimization Plan constitute the best available mitigation for stand-alone operations of the CDP. The Draft SEIR should be amended to more accurately discuss the current situation with regards to mitigation.

9. In section 4.2, page 4.2-15, the Draft SEIR re-states section III.M.2.e(7) of the Desalination Amendment, which provides the San Diego Water Board with the discretion, when making a new CWC section 13142.5(b) determination, to account for previously-approved mitigation projects and to require additional mitigation for any additional mortality of marine life. The Draft SEIR should be amended to more accurately discuss the current situation with regards to mitigation considering 1) that the San Diego Water Board has yet to make a decision regarding these provisions and 2) that section III.M.2.e(7) of the Desalination Amendment does not obviate compliance with other mitigation requirements within section III.M.2.e of the Desalination Amendment. The San Diego Water Board will determine the appropriate mitigation requirements to compensate for the intake and mortality of all forms of marine life associated with the construction and operation of the long-term stand-alone facility when it makes the CWC section 13142.5(b) determination. As part of this process, the San Diego Water Board will assess whether to account for previously-approved mitigation as part of the mitigation for stand-alone operations of CDP. The Draft SEIR should be amended to address the possibility that previously approved mitigation will not be credited toward stand-alone operations of CDP.

Groundwater Dewatering

10. In section 4.4.3, page 4.4-3, the Draft SEIR states that the construction of the proposed modifications will require groundwater extracted through dewatering to be discharged to the brine discharge structure. The Draft SEIR should be amended to explain and evaluate the impacts of the decision to discharge the groundwater to the brine discharge structure rather than to the intake system to supplement the CDP's process water requirements. The Draft SEIR should also be amended to examine whether the groundwater dewatering wells for construction may be put into permanent use after completion of construction to provide supplemental water for the CDP's process water requirements.

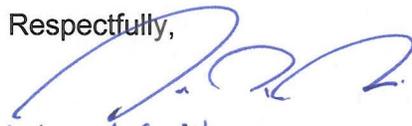
² Section III.M.2.e.(3)(b)vi. of the Desalination Amendment requires a mitigation ratio of no less than one acre of mitigation habitat for every ten acres of impacted open water or soft-bottom habitat.

Low Impact Development

11. The Draft SEIR should be amended to address Low Impact Development (LID) requirements, as required by 1) section II.E.3 of San Diego Water Board Order No. R9-2013-0001, *National Pollutant Discharge Elimination System Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems Draining the Watersheds within the San Diego Region* (Order No. R9-2013-0001), as amended; and 2) the City of Carlsbad's *BMP Design Manual*. Where conflict exists between the two referenced documents the most stringent requirements shall apply. The proposed modifications to the CDP provide an opportunity to examine retrofitting or otherwise implement LID principles that would minimize storm water pollution impacts to the receiving waters. Section II.E.3.a(3) of Order No. R9-2013-0001, as amended, contains minimum LID measures that all development projects must implement.

For questions or concerns, please contact Ben Neill with the San Diego Water Board at (619) 521-3376, Ben.Neill@waterboards.ca.gov, or Kim Tenggardjaja with the State Water Board at (916) 341-5473, Kimberly.Tenggardjaja@Waterboards.ca.gov. In the subject line of any response, please include the reference "640063: bneill".

Respectfully,



for James G. Smith, AEO
David Gibson
Executive Officer

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cc by email:

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Tech Staff Info & Use	
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