California Regional Water Quality Control Board
San Diego Region

Errata Sheet No. 1 for

Revised Tentative Order No. R9-2019-0003
and
Response to Comments Report

Waste Discharge Requirements
for the
Poseidon Resources (Channelside) LP,
Claude "Bud Lewis Carlsbad Desalination Plant,
Discharge to the Pacific Ocean

Revised Tentative Order
The following changes are proposed by San Diego Water Board to the Revised Tentative Order document included as Supporting Document No. 1 for Item No. 10 on the San Diego Water Board May 8, 2019 Board Meeting Agenda. Changes to the Revised Tentative Order are shown in underline/strikeout format to indicate added and removed language, respectively.

1. **Revised Tentative Order, section VI.C.2.a.ii, pages 18- 19 is modified as follows:**

   The MDA Work Plan shall provide for an analysis of the intake and mortality to all forms of marine life caused by brine discharged through theoretical multiport diffusers at the proposed location station N4 (described in the Tenera 2008 study) in the Pacific Ocean. Collection of data at multiple potential diffuser locations in the Pacific Ocean shall also be considered. The MDA Work Plan shall provide for using the approach contained in the scientific report *Brine Diffusers and Shear Mortality*, Philip J.W. Roberts, April 18, 2018, referenced as the Roberts Report in Finding 31 of Attachment H.1 of this Order. ~~The MDA Work Plan may also provide for conducting the analysis using an additional approach, in addition to using the Roberts Report approach~~.

2. **Revised Tentative Order, section VI.C.2.b.iii, page 21 is modified as follows:**

   Within six months of completing the Brine Discharge Technology Empirical Study in accordance with the Work Plan, the Discharger shall submit a Brine Discharge Technology Empirical Study Final Report (Final Report) to the San Diego Water Board for review in consultation with other State agencies involved in the permitting of the Facility including but not limited to the State Water Board, the California Coastal Commission, the California State Lands Commission, and the California Department of Fish and Wildlife. The Final Report shall include the results of the Multiport Diffuser Analysis of projected marine life impacts caused by brine discharged through theoretical multiport diffusers using the Roberts Report ~~and any other methodology described in the Work Plan~~. The Final Report shall include the results of the flow augmentation study. The Final Report shall also include an in-depth

discussion, evaluation, interpretation, and tabulation of the data supporting the interpretations and conclusions reached.

3. **Revised Tentative Order, section VI.C.2.d.i.(f), Marine Life Mitigation Plan is modified as follows:**

   A demonstration that the updated Marine Life Mitigation Plan provides for full mitigation for the interim operations of the intake pumps at a flowrate of 330 MGD from December 11, 2018 to ~~April~~ June 30, 2020, i.e. the period extending from the date that the Encina Power Station ceased power generating activities to the date that the new intake pumps are operational.

4. **Revised Tentative Order, section VI.C.7, Table 7, Page 25 is modified as follows:**

Table 7. Compliance Schedule for Design and Construction of the New Intake Structure

Task	Compliance Date
1. Submit to the San Diego Water Board a Construction Work Plan outlining in detail the steps and schedule with specific milestones to construct the new intake structure.	September 30, 2019
2. Complete construction and begin operation of the new dilution water intake pumps.	~~April~~ June 30, 2020
3. Complete 30% design of the new intake structure in conformance with the Water Code section 13142.5(b) determination in Attachment H of the Tentative Order and select contractor for construction of new intake structure.	June 30, 2022
4. Secure necessary permits to construct the new intake system. This may include but is not limited to: California Coastal Commission Coastal Development Permit Amendment, and Army Corps of Engineers CWA section 404 Permit, and San Diego Water Board CWA section 401 Water Quality Certification. Additional permits or approvals may be necessary that are not listed here.	December 31, 2022
5. Begin construction of the new intake structure.	January 15, 2023
6. Complete Construction and begin operation of the new intake structure.	September 1, 2023
7. Achieve full compliance with the Ocean Plan, Water Code section 13142.5(b) Determination for the Facility, and Intake Specifications in section IV.C of this Order.	December 11, 2023

5. **Revised Tentative Order, Attachment A, Part 2, Glossary of Common Terms is modified as follows:**

   Average Annual Effluent Limitation
   The highest allowable average of daily discharges over a calendar year, calculated as the sum of all daily discharges measured during a calendar year divided by the number of daily discharges measured during that ~~month~~ year.

6. **Revised Tentative Order, Attachment E, section III.B. note 4 for Table E-3, page E-8 is modified as follows:**

   During interim operations while using the existing pumps, the flowrate for flow augmentation dilution water shall be calculated based on the rated flow of pumps in service. Flowrates at M-001 shall be separately monitored and reported for the reverse osmosis concentrate, and for the calculated flows of media filtration backwash, and total flow.

7. **Revised Tentative Order, Attachment F, section VI.G., Compliance Schedule for Design and Construction of the Stand-Alone Intake Structure, page F-46 is modified as follows:**

   …….During the compliance period until the new intake structure is constructed and operational, the Facility must implement interim measures to continue operating and supplying drinking water. The Discharger will continue using the existing pumps, screens and intake structure that are currently in place at the Encina Power Station. As soon as possible but not later than ~~April~~ June 30, 2020, the Discharger will install new low turbulence, pumps on-shore which should not require extensive permitting or amendments due to their on-shore location. In addition, the Discharger is required to implement measures that will minimize mortality of all forms of marine life until the new intake structure is constructed and operational. During interim operations, when the new pumps are operating and until the new screens for the permanent intake structure are constructed, the Facility will continue using the Encina Power Station's fish screens. The following measures are incorporated in section IV.C.7.c of this Order and are required to be implemented until the new intake structure is constructed and operational:…….

Response to Comments Report

The following changes are proposed by San Diego Water Board to the Response to Comments Report included as Supporting Document No. 4 for Item No. 10 on the San Diego Water Board May 8, 2019 Board Meeting Agenda. Changes to the Response to Comments Report are shown in underline/strikeout format to indicate added and removed language, respectively.

1. **Response to Comments Report, Response to Comment No. 1, page 5 is modified as follows with respect to Revised Tentative Order, Attachment A, Part 2, Glossary of Common Terms:**

   Average Annual Effluent Limitation

   The highest allowable average of daily discharges over a calendar year, calculated as the sum of all daily discharges measured during a calendar year divided by the number of daily discharges measured during that ~~month~~ year.

2. **Response to Comments Report, Response to Comment No. 2, page 7 is modified as follows:**

   Poseidon comments (1) that additional data collection for the ETM/~~AFP~~ APF analysis for a multiport diffuser is unnecessary and that adequate data already exist in the record to establish the intake and mortality of marine life levels for a theoretical multiport diffuser and (2) the Tentative Determination should establish the existing estimates as the basis, or

benchmark, for comparison to the results of the post-construction flow augmentation empirical study portion of the Brine Discharge Technology Empirical Study. Poseidon objects to "revisiting" multiport diffuser intake and marine life mortality levels after the Tentative Determination is adopted. Poseidon cites substantial financial risk if the benchmark levels of intake and marine life mortality from a theoretical multiport diffuser are not established finally in the Tentative Determination.

3. **Response to Comments Report, Response to Comment No. 2, page 13 is modified as follows:**

....However, the SAP were requested by the San Diego Water Board to review the ETM/APF calculations for flow augmentation and not the multiport diffuser calculations provided in Appendix K or Appendix GGG. The SAP did not review the multiport diffuser calculations provided in Appendix GGG. However, on March 5, 2019, Dr. Raimondi, who is a member of the SAP for the Facility, provided to the Santa Ana Water Board in connection with the proposed Huntington Beach Desalination Facility a memorandum titled: Approaches for the Assessment of Potential Intake Locations with Respect to Entrainment, Proposed Huntington Beach Desalination Plant.[10] In that assessment ~~(see Attachment 1 to this Response to Comments Document),~~ Dr. Raimondi stated that to assess impact potential using ETM/APF, "site specific measurements of concentration of larvae entrained" is needed…….

[10] The memorandum, Approaches for the Assessment of Potential Intake Locations with Respect to Entrainment, Proposed Huntington Beach Desalination Plant, Professor Pete Raimondi, University of Santa Cruz, March 5, 2019 is available on the San Diego Water Board website at: https://www.waterboards.ca.gov/sandiego/water_issues/programs/regulatory/carlsbad_desalination.html (as of May 3, 2019)

4. **Response to Comments Report, Response to Comment No. 2, pages 18 -19 are modified as follows with respect to Revised Tentative Order section VI.C.2.a.ii:**

The MDA Work Plan shall provide for an analysis of the intake and mortality to all forms of marine life caused by brine discharged through theoretical multiport diffusers at the proposed location station N4 (described in the Tenera 2008 study) in the Pacific Ocean. Collection of data at multiple potential diffuser locations in the Pacific Ocean shall also be considered. The MDA Work Plan shall provide for using the approach contained in the scientific report Brine Diffusers and Shear Mortality, Philip J.W. Roberts April 18, 2018, referenced as the Roberts Report in Finding 31 of Attachment H.1 of this Order. ~~The MDA Work Plan may also provide for conducting the analysis using an additional approach, in addition to using the Roberts Report approach..~~

5. **Response to Comments Report, Responses to Comment No. 2, page 21, Comment No. 3, page 39, and Comment No. 14, page 50 are modified as follows with respect to Revised Tentative Order section VI.C.2.b.iii:**

Within six months of completing the Brine Discharge Technology Empirical Study in accordance with the Work Plan, the Discharger shall submit a Brine Discharge Technology Empirical Study Final Report (Final Report) to the San Diego Water Board for review in consultation with other State agencies involved in the permitting of the Facility including but

not limited to the ~~the~~ State Water Board, the California Coastal Commission, the California State Lands Commission, and the California Department of Fish and Wildlife. The Final Report shall include the results of the Multiport Diffuser A~~a~~nalysis of projected marine life impacts caused by brine discharged through multiport diffusers using the Roberts Report ~~and any other methodology described in the Work Plan~~. The Final Report shall include the results of the flow augmentation study. The Final Report shall also include an in-depth discussion, evaluation, interpretation, and tabulation of the data supporting the interpretations and conclusions reached.

8. **Response to Comments Report, Response to Comment No. 15, page 50 is modified as follows:**

   Until Poseidon constructs and operates new pumps, Poseidon relies on the existing EPS pumps that have a minimum flowrate capacity of 330 MGD. Poseidon is expected to rely on the existing pumps for up to ~~506~~ 567 days from the day that the EPS ceased power generating operations during the period December 11, 2018 through ~~April~~ June 30, 2020. The additional 31 MGD was not contemplated in the mitigation calculation provided in Attachment H-1, Finding 42.

9. **Response to Comments Report, Response to Comment No. 15, page 51 is modified as follows with respect to Revised Tentative Order section VI.C.2.d.i.(f):**

   A demonstration that the updated Marine Life Mitigation Plan provides for full mitigation for the interim operations of the intake pumps at a flowrate of 330 MGD from December 11, 2018 to ~~April~~ June 30, 2020, i.e. the period extending from the date that the Encina Power Station ceased power generating activities to the date that the new intake pumps are operational.

10. **Response to Comments Report, Response to Comment No. S9, page 79 is modified as follows with respect to Tentative Order section VI.C.2.d.i.(f):**

    ~~If the Tentative Order proceedings extend beyond the May 8, 2019 Board meeting, the~~ The San Diego Water Board will ~~consider~~ ~~extending~~ extend the April 30, 2020 compliance date by two months to June 30, 2020 to complete construction and begin operation of the new dilution water intake pumps. This extension will allow for scheduling contingencies in securing approvals from other governmental agencies. The extension request does not impact other interim compliance dates in the schedule and will not result in a change to the final compliance date of December 11, 2023 for completing design, construction, and commencing operation of the new source water intake structure and achieving full Ocean Plan compliance.

    Revised Tentative Order, section VI.C.7, Table 7, Page 25 is modified as follows:

Table 7. Compliance Schedule for Design and Construction of the New Intake Structure

Task	Compliance Date
1. Submit to the San Diego Water Board a Construction Work Plan outlining in detail the steps and schedule with specific milestones to construct the new intake structure.	September 30, 2019
2. Complete construction and begin operation of the new dilution water	~~April~~ June 30, 2020

Task	Compliance Date
intake pumps.	
3. Complete 30% design of the new intake structure in conformance with the Water Code section 13142.5(b) determination in Attachment H of the Tentative Order and select contractor for construction of new intake structure.	June 30, 2022
4. Secure necessary permits to construct the new intake system. This may include but is not limited to: California Coastal Commission Coastal Development Permit Amendment, and Army Corps of Engineers CWA section 404 Permit, and San Diego Water Board CWA section 401 Water Quality Certification. Additional permits or approvals may be necessary that are not listed here.	December 31, 2022
5. Begin construction of the new intake structure.	January 15, 2023
6. Complete Construction and begin operation of the new intake structure.	September 1, 2023
7. Achieve full compliance with the Ocean Plan, Water Code section 13142.5(b) Determination for the Facility, and Intake Specifications in section IV.C of this Order.	December 11, 2023