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July 27, 2022

TO: Commissioners and Interested Parties

FROM: John Ainsworth, Executive Director
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Alexis Barrera, Environmental Scientist

SUBJECT: Review of and Possible Commission Action on 2022-2023 One-Year Work Program and Budget for the Poseidon Carlsbad Desalination Mitigation Independent Monitoring Program

SUMMARY OF STAFF RECOMMENDATION

The staff is recommending Commission approval of a one-year work program and \$625,978 one-year budget paid by Poseidon Resources (Channelside) LP (hereafter "Poseidon") for the independent monitoring and technical oversight of Poseidon's Carlsbad desalination facility mitigation project. The mitigation project and the permittee funded independent monitoring are required under Poseidon's coastal development permit (No. E-06-013).

The original permit for the construction and operation of a desalination facility in Carlsbad was approved by the Commission in 2007. Special Condition 8 of the permit required Poseidon to submit a Marine Life Mitigation Plan (MLMP) to the Commission to address adverse impacts from the desalination facility's use of estuarine water and resulting entrainment of marine organisms. The MLMP was approved in 2008 and included minimum standards and objectives needed to ensure adequate mitigation for marine life impacts. The MLMP specifically called for the restoration of 66.4 acres of estuarine wetland habitat within the Southern California Bight as mitigation for these impacts. To ensure a successful and adequate mitigation, the MLMP also set out performance standards, timing restrictions, monitoring requirements, and contingency measures should any of the mitigation sites not meet performance standards. The MLMP requires Poseidon to provide the funds necessary for technical oversight and independent monitoring of the mitigation project, to be carried out by independent contract scientists under the direction of the Executive Director. The wetland performance and independent monitoring requirements included in the MLMP were modeled after requirements included in the CDP authorizing construction and operation of the San Onofre Nuclear Generating Station (SONGS) (CDP 6-81-330-A (formerly 183-73). Thus, the independent monitoring for the proposed project will also be modeled after the SONGS Mitigation Monitoring Plan for the San Dieguito Wetland

Restoration Project. Implementation of the mitigation project is the responsibility of Poseidon, whereas the Commission is responsible for overseeing the independent monitoring and technical oversight. The independent monitoring and oversight also include periodic public review of the performance of the mitigation projects.

In 2019, the Commission approved Poseidon's coastal development permit (No. 9-14-0731) for the creation and restoration of coastal wetlands on two noncontiguous sites (Otay River floodplain and Pond 15) within the San Diego National Wildlife Refuge in South San Diego Bay ([Exhibit 1](#)). In 2021, the Commission issued coastal development permit No. 9-14-0731. The permit included Special Condition 7 which requires independent monitoring be performed during and immediately after each stage of construction and independent monitoring of the post-restoration wetland to be implemented in accordance with a monitoring plan that will be prepared by Commission and a science advisory panel in consultation with Poseidon. The independent field monitoring program will be carried out by biologists under contract who will collect monitoring data under the direction of an independent scientist who will serve as the project manager for the monitoring effort. Poseidon also provides funds for a science advisory panel to provide independent scientific expertise to the Commission and to the independent scientist.

Work Plan and Budget for 2022-2023

The Commission approved the CDP for the wetland restoration project, formally called the Otay River Estuary Restoration Project (ORERP) on May 9, 2019 (CDP #9-14-0731). This proposed Workplan ([Exhibit 2](#)) will cover the first year of work to be conducted under the independent mitigation monitoring program as required by CDP #9-14-0731. The proposed budget will cover the independent monitoring and technical oversight program costs for the independent contract scientists, science advisory panel, consultants, administrative support, and operating expenses for August 2022 – July 2023. The proposed staff is the minimum needed to meet the goals specified by the permit under Special Condition 7 and to complete the tasks identified in the MLMP for the first year. The proposed funding totals \$625,978 for one year.

Poseidon has indicated its satisfaction with the proposed Commission oversight and independent monitoring work plan and budget for the wetland mitigation for 2022- 2023. Staff recommends that the Commission approve the 2022-2023 Workplan and Budget for the independent monitoring and technical oversight of the Poseidon Carlsbad Desalination mitigation project.

Staff notes that a Coastal Act violation exists concerning Poseidon's failure to comply with the terms and conditions of CDP No. 9-14-0731. That permit requires Poseidon to commence, by October 30, 2021, the creation/restoration of coastal wetlands authorized by the permit; Poseidon has not yet commenced this work but is on track to do so by Fall of 2022. The Commission's Enforcement division has opened an investigation of that violation, sent a Notice of Violation ("NOV") letter on February 11, 2022, notifying Poseidon of the violation, and is pursuing enforcement of that violation as a separate matter. Approval of the proposed Work Plan and Budget will not resolve the outstanding violation.

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EXHIBITS

EXHIBIT 1: Wetland Restoration Project Location

EXHIBIT 2: Workplan Document

EXHIBIT 3: Letter of Support from Poseidon

EXHIBIT 4: Detailed Budget

I. MOTION AND RESOLUTION

Commission approval of the 2022-2023 one-year Workplan and Budget requires the following motion:

I hereby move that the Commission approve the 2022-2023 one-year Poseidon Carlsbad Desalination Mitigation Monitoring Workplan and Budget as recommended by the staff.

The staff recommends a “**YES**” vote on the foregoing motion, which will result in the adoption by the Commission of the following resolution:

The Commission hereby determines that the 2022-2023 one-year Poseidon Carlsbad Desalination Mitigation Monitoring Workplan and Budget that is recommended by staff carries out the intent of Special Condition 7 of Permit #9-14-0731 and Condition B, 2.0 of the Marine Life Mitigation Plan by requiring the permittee to provide reasonable and necessary funding for the Commission contract scientists’ technical oversight and independent monitoring responsibilities pursuant to the mitigation and lost resource compensation conditions.

II. FINDINGS AND DECLARATIONS

A. POSEIDON CARLSBAD DESALINATION PERMIT BACKGROUND

On November 15, 2007, the Commission approved CDP No. E-06-013 for Poseidon’s proposal to construct and operate a desalination facility in Carlsbad, San Diego County, subject to Poseidon meeting a number of conditions prior to issuance of the permit. As part of this approval, the Commission required Poseidon, through Special Condition 8, to submit for additional Commission review and approval a Marine Life Mitigation Plan (MLMP) addressing the impacts caused by the facility’s use of estuarine water and entrainment of marine organisms. The MLMP, developed jointly by staff and Poseidon, was approved by the Commission on August 8, 2008. On November 3, 2009, after a determination by staff that the prior to issuance conditions had been met, CDP E-06-013 was issued.

The approved MLMP establishes minimum standards and objectives needed to ensure adequate mitigation for marine life impacts caused by the Carlsbad desalination facility. Specifically, it requires restoration of 66.4 acres of estuarine wetland habitat within the Southern California Bight. The MLMP also includes performance standards, timing restrictions, monitoring requirements, and other elements needed to ensure successful and adequate mitigation. In addition, the approved MLMP required Poseidon to submit, for Commission review and approval, its proposed site(s) and preliminary wetland restoration plan within 10 months of issuance of the CDP for the desalination facility. The wetland performance and independent monitoring requirements included in the MLMP were modeled after requirements included in the CDP authorizing construction and operation of the San Onofre Nuclear Generating Station (SONGS) (CDP 6-81-330-A (formerly 183-73). Thus, the independent monitoring for the proposed project will also be modeled after the SONGS Mitigation Monitoring Plan for the San Dieguito Wetland Restoration Project.

On May 9, 2019, the Commission approved Poseidon’s Coastal Development Permit #9-14-0731 for development consisting of creation and restoration of coastal wetlands on two noncontiguous sites within the San Diego National Wildlife Refuge in South San Diego Bay. The wetland restoration project, formally called the Otay River Estuary Restoration Project (ORERP) includes work on the 34.6-acre Otay River Floodplain site and the 90.9-acre Pond 15 site. The Commission’s approval of this coastal development permit was subject to all applicable

conditions of Coastal Development Permit No. E-06-013, and especially Special Condition 8 and the Commission-approved Marine Life Mitigation Plan that was required, developed, and approved by the Commission pursuant to that Special Condition. Prior to issuance of Coastal Development Permit #9-14-0731, the Commission gave provisional approval of the Final Wetland Restoration Plan (FRP) for the Otay and Pond 15 sites, including mitigation for all wetland impacts associated with the proposed project. The final version of the FRP would need to be submitted again for final review and approval prior to construction. The FRP also included a draft Monitoring Plan, prepared by the SAP, which is subject to review and potential revisions. On April 30, 2021, the Commission issued Coastal Development Permit 9-14-0731.

This permit includes Special Condition 7 which requires independent monitoring be performed during and immediately after each stage of construction. Once construction of the restoration wetland is finished, independent monitoring shall be implemented in accordance with a monitoring plan that will be prepared by Commission staff and the SAP in consultation with Poseidon. Independent monitoring of the Poseidon Carlsbad Desalination Mitigation Project will be a long-term undertaking. Condition A, 5.0 (Wetland Monitoring, Management and Remediation) of the Poseidon MLMP requires: “Monitoring, management (including maintenance), and remediation shall be conducted over the “full operating life” of Poseidon’s desalination facility, which shall be 30 years from the date “as-built” plans are submitted pursuant to subsection 4.1(1).” To ensure full compensation for the loss of coastal resources, monitoring, management (including maintenance) and remediation of the wetland restoration will be conducted for 30 years after construction. This could result in a monitoring period longer than 30 years if the restoration does not meet the performance standards in some years.

B. COMMISSION OVERSIGHT AND INDEPENDENT MONITORING

Condition B of the MLMP establishes the administrative structure for operation and funding of the independent monitoring and technical oversight of the mitigation projects. It specifically: (1) enables the Commission to retain contract scientists and technical staff to assist the Commission in carrying out its oversight and monitoring functions, (2) provides for a scientific advisory panel to advise the Commission on the design, implementation, monitoring, and remediation of the mitigation projects, (3) assigns financial responsibility for the Commission’s oversight and monitoring functions to the Permittee (Poseidon) and sets forth associated administrative guidelines, (4) provides for periodic public review of the performance of the mitigation projects, and (5) requires that all scientific data collected as part of the project be available to the public through a publicly-accessible database.

Coastal Development Permit #9-14-0731 and the MLMP require Poseidon to fund the Commission’s oversight of the mitigation and independent monitoring functions identified in and required by Conditions A through C. The permittee is required to provide “reasonable and necessary costs” for the Commission to retain personnel with appropriate scientific or technical training and skills needed to assist the Commission and the Executive Director in carrying out the mitigation and lost resource compensation conditions. In addition, reasonable funding will be included in this budget for necessary support personnel, equipment, overhead, consultants, the retention of contractors needed to conduct identified studies, and to defray the costs of members of any scientific advisory panel(s) convened by the Executive Director for the purpose of implementing these conditions.

The funds for the oversight and monitoring program are managed by an independent accounting firm. The independent accounting firm will also support Commission staff with managing administrative tasks. The Commission currently retains a science advisory panel under contract to provide scientific expertise

to the Commission and will contract a staff scientist to manage and operate the monitoring program in its first year. As work for the monitoring program ramps up in future years, additional full or part-time staff may be necessary. In addition, independent consultants and contractors will be called upon when specific expertise or assistance is needed for specific tasks. The Commission's permanent staff also spends a portion of their time on this program, so the time spent administering the Workplan and costs associated with travel are also included in the proposed budget.

Monitoring Plan

Condition A of the MLMP requires that monitoring, management (including maintenance), and remediation shall be conducted over the "full operating life" of Poseidon's desalination facility, which shall be 30 years from the date "as-built" plans are submitted pursuant to the Commission. This monitoring is done to measure the success of the wetland restoration in achieving stated restoration goals (as specified in the restoration plan(s)) and in achieving the project's performance standards. In accordance with Condition B (Administrative Structure) of the MLMP, Commission contract scientists developed a draft Monitoring Plan which focused on Post-Restoration Monitoring to assess project compliance using the performance standards stated in the MLMP. The draft Monitoring Plan notes that the MLMP requires pre-restoration site monitoring be conducted to collect baseline data on the wetland attributes to be monitored. This information will be incorporated into and may result in modification to the overall monitoring plan. Construction monitoring will be conducted during and immediately after each stage of construction of the wetland restoration project to ensure that the work is conducted according to plans.

The performance standards that will be used to measure the success of the wetland restoration project fall into two broad categories: (1) Long-term physical standards that shall be maintained over the full operative life of the desalination facility and (2) Biological Performance Standards which shall be used to determine whether the restoration project is successful. The long-term physical standards pertain to topography, water quality, tidal prism integrity, and habitat areas. These absolute standards are evaluated for the mitigation site only. The biological performance standards pertain to biological communities (i.e., fish, macroinvertebrates, and birds), vegetation, *Spartina* canopy architecture, reproductive success of certain plants, food chain support functions, and exotic species control. Successful achievement of these relative performance standards will be measured relative to approximately four reference sites. Potential reference sites, described in the MLMP as relatively undisturbed, natural tidal wetlands within the Southern California Bight, are currently being evaluated and will be selected by the Executive Director in consultation with the SAP, Poseidon, and the contract independent scientist over the next year. The standard of comparison, i.e., the measure of similarity to be used (e.g., within the range, or within the 95% confidence interval) will be specified in the Final Monitoring Plan.

C. WORKPLAN: 2022-2023

The MLMP requires the permittee to fund scientific and support staff retained by the Commission to oversee the site assessments, project design and implementation, and monitoring activities for the mitigation project. The MLMP states that the work program and budget are to be prepared for a two-year period. However, at this pre-construction and construction stage of Poseidon's projects, there are many uncertainties regarding the planning process and construction schedule for the wetland projects. It is difficult to provide realistic cost projections or anticipate the studies and tasks that may be required in 2023 for independent mitigation monitoring

program. Therefore, the work program and budget presented in this report provide detailed tasks and cost estimates for August 2022 – July 2023. If additional staff or funds are necessary to carry out the identified tasks, Commission staff will work with Poseidon on an addendum to this Workplan and budget. Commission staff intends to develop a detailed Workplan and budget for August 2023 – July 2025, pending the outcome of the monitoring program during this Work Program, and return to the Commission with the proposed 2023-2025 work program and budget before the end of the current Workplan.

Implementation Structure

Scientific expertise will be provided to the Commission by an independent scientist under contract, who will lead the implementation of the Mitigation Monitoring Program. In addition, a science advisory panel advises the Commission on the design, implementation, monitoring, and remediation of the mitigation projects. Current science advisory panel members include Dr. Richard Ambrose, Research Professor in the Department of Environmental Health Sciences, University of California Los Angeles; Dr. Peter Raimondi, Professor in the Department of Ecology and Evolutionary Biology, University of California, Santa Cruz; and Dr. Brett Sanders, Professor of Civil and Environmental Engineering, Urban Planning and Public Policy, University of California, Irvine.

To meet the goals specified in the MLMP and to complete the tasks identified in the 2022-2023 Workplan, the independent scientist may be aided by contract staff biologists or temporary help. Continuous interaction between the independent scientist and contract staff biologists will be crucial to fulfilling the monitoring tasks for the wetland restoration. Staffing levels for wetland monitoring tasks will likely be largely developed during pre-restoration monitoring at the restoration sites and reference sites and during pre-construction and construction monitoring.

Consultation with Permittee

Pursuant to the permit conditions, the staff has consulted with Poseidon on the proposed work program and budget for 2022-2023. Following consultation on the work tasks, Poseidon indicated its satisfaction with the proposed Commission oversight and independent monitoring work plan and budget for the wetland mitigation for 2022-2023. Poseidon's letter of support is attached as [Exhibit 3](#).

2022-2023 Workplan Tasks

The MLMP and coastal development permit #9-14-0731 require independent monitoring by Commission contract scientists to determine whether the physical and biological performance standards are met. To accomplish this, the independent scientist will coordinate closely with Commission staff, the SAP, Poseidon, and others involved with implementation of the Final Plan.

The following tasks will be completed during the 2022-2023 work period. Task 1 will be carried out by CCC staff and the SAP. All other tasks will be carried out by the independent scientist hired under Task 1 under the direction of CCC staff and the SAP. CCC staff will consult with Poseidon on the elements of the Workplan and will keep it informed of progress.

Task 1¹: Hire an independent scientist who will lead the implementation of the Mitigation Monitoring Program.

- a. Determine required level of staffing, potential collaborative efforts (especially with respect to database support), and timing of staff hires.

1. Costs associated with the independent scientist based on a full year of salary, estimated to be approximately \$195,000 (\$150,000/yr salary + 25% benefits), corresponding to an hourly rate of \$94.

- b. Determine hiring entity (e.g., CMSF, University, NGO).
- c. Develop and distribute job descriptions/ads.
- d. Review applications, interview candidates, and hire scientist.

Task 2²: Construction Monitoring

- a. Develop a construction monitoring plan and sampling design to evaluate whether restoration work is conducted according to approved restoration plans. This plan should account for (and coordinate with) construction monitoring conducted by Poseidon as required under CDP 9-14-0731. Coordinate independent construction monitoring with other monitoring occurring on-site --and with Poseidon's construction manager.
- b. Implement construction monitoring plan.
- c. Enter, organize, manage, and analyze data collected during the monitoring and consulting with database consultants as needed; and
- d. Produce regular status reports on construction progress and a final report that evaluates any deviations of the wetland construction from the approved plans.
- e. Review monitoring reports associated with the restoration produced by other agencies or Poseidon.

Task 3³: Select reference sites.

- a. In consultation with Commission staff, SAP, and Poseidon, the scientist will use the following four-step process to identify and evaluate potential reference site(s) for the mitigation wetlands:
 - i. Review the draft Monitoring Plan and the three proposed reference sites.
 - ii. Collect and organize existing information on potential reference wetlands.
 - iii. Conduct field surveys and analyze all available data for each potential reference wetland.
 - iv. Develop, in consultation with Poseidon, and submit a memo outlining and supporting a recommendation for final selection of reference site(s).
- b. Develop a final recommendation to the Commission's Executive Director on a reference site or sites for the mitigation wetlands.

Task 4⁴: Determine approach for assessing similarity for evaluating relative performance standards.

- a. Review the draft Monitoring Plan, section 2.1 Determination of similarity.
- b. Produce a final white paper describing the approach for assessing similarity of the restored wetlands to the selected reference wetlands.

Task 5⁵: Develop a sampling design for post-construction monitoring.

- a. Review the draft Monitoring Plan
- b. Become familiar with permit requirements, existing data and modeling, and other relevant information.
- c. Select sampling sites within ORERP and reference wetlands for post-construction monitoring.

- 2. Costs associated with seasonal staff based on 2 people working for 3 full months at \$30/hour (calculated based on an annual salary+ benefits = \$62,500).
- 3. Costs associated with consultants/contractors include a consultant to assist with construction monitoring (estimated as 20 hours at \$200/hour) and a consultant to assist with database development (estimated as 540 hours at \$94/hour).
- 4. Costs associated with the SAP based on an hourly rate of \$216 (current SONGS SAP rate).
- 5. Operational expenses include office/lab space, equipment, supplies and expenses and administrative costs.

- d. If necessary, carry out field surveys with SAP to measure performance parameters listed in the permit to facilitate development of the monitoring plan.
- e. Analyze existing databases, including any supplemental data collected, to develop a sampling design for post-construction monitoring. Ensure that the sampling design (including sample size and sampling locations) is aligned with the desired performance assessment.
- f. Update monitoring plan with the details of the sampling design, including details for the mitigation wetlands and each reference wetland.

Task 6⁶: Develop a data management system.

- a. Review the draft Monitoring Plan
- b. Determine the database management approach to be used for the project. The approach selected will ensure accessibility (including to public), quality control, and security. The management approaches to be considered will include at least the following: (1) development of a database by the independent scientist, (2) development of a database by a separate independent contractor, (3) contractual partnership with SONGS project database.
- c. Develop protocols for interfacing with UCSB SONGS mitigation program database.
- d. Coordinate with Poseidon for transfer of pre-construction monitoring data (including existing physical, biological and other relevant data sets and modeling results) to Commission staff and the independent scientist for use in the design of the post-construction monitoring program.

Task 7⁷: Manage consultants and contracts, if any.

- a. Several of the wetland monitoring tasks may require work done by contractors (I.e., seasonal workers to assist with wetland monitoring and a contractor to assist with database development). The independent scientist will manage the work of these contractors and will assist with management of the necessary contracts and consultancy agreements.
- b. CCC staff will also work with CMSF to track the Workplan budget, ensure contracts are in place, and deal with other administrative needs.

D. BUDGET: 2022-2023

Coastal Development Permit #9-14-0731 and the MLMP require Poseidon to fund the Commission's oversight of the mitigation and independent monitoring functions identified in the MLMP. The permittee is required to provide "reasonable and necessary costs" for the Commission to retain personnel with appropriate scientific or technical training and skills, as well as reasonable funding for necessary support personnel, equipment, overhead, consultants, the retention of contractors needed to conduct identified studies, and to defray the costs of members of any scientific advisory panel convened by the Executive Director to provide advice on the design, implementation, monitoring and remediation of the mitigation projects. The funds for the oversight and monitoring program will be managed by an independent accounting firm.

The total budget to implement the work program is intended as a "not-to-exceed" amount. The permittee provides funds periodically throughout the budget period rather than as a lump sum to minimize the advance outlay of cash. Any funds not expended at the end of the budget period will be carried over into the next budget period or returned to the permittee.

6. Overhead calculated at 18% of the total direct cost based on prior contracts with the California Marine Sanctuary Foundation. If contracting and administration is awarded to another entity, the overhead cost is likely to increase.
7. The contingency costs are calculated as 10% of the total direct cost. Given the uncertainty associated with tasks and costs in the first year, including a contingency amount in the total budget will ensure adequate funding in the event that unexpected costs arise.

Proposed Budget for 2022 and 2023

The proposed budget for August 2022 through July 2023 covers costs for the first year of the Poseidon independent mitigation monitoring and oversight program, including costs for an independent contract scientist, seasonal monitoring staff, science advisory panel, consultants, contract administrative support, and operating expense during the one-year budget period. The California Marine Sanctuary Foundation (CMSF) has agreed to perform financial administration duties and thus, the overhead cost in the budget represents CMSF's current rates for providing this service.

The funding proposed to cover the monitoring and oversight program costs during the one-year budget period is \$625,978 as shown below. A more detailed budget is included as [Exhibit 4](#). This budget is based on the minimum scientific staff required to accomplish the goals of the Poseidon MLMP and permit and carry out the proposed tasks described above.

PROPOSED WORKPLAN BUDGET

Budget Element	Hours	Cost
Independent Scientist	2080	\$203,385
Seasonal Staff	1080	\$37,452
Consultants/Contractors	560	\$55,125
Commission Staff	211	\$16,863
SAP	735	\$137,220
Travel	N/A	\$22,385
Operational Expenses	N/A	\$39,000
Direct Costs		\$489,045
Overhead & Contingency		\$136,932
TOTAL COST		\$625,978

E. Violation

As noted above in the Summary, a violation of the Coastal Act exists with respect to Poseidon's failure to comply with the terms and conditions of CDP No. 9-14-0731, which authorized the creation and restoration of wetlands as mitigation for Poseidon's desalination facility that was approved by the Commission in 2007. That permit required that restoration work commence by October 30, 2021, but this has not yet occurred and is scheduled to commence in Fall of 2022. Staff notified Poseidon of the violation through a Notice of Violation letter sent on February 11, 2022, and is pursuing enforcement of that violation as a separate matter. Approval of the proposed Work Plan and Budget will not resolve the outstanding violation.

Although a violation of CDP No. 9-14-0731 exists, consideration of this Work Plan and Budget by the Commission has been based solely upon the requirements for a permittee-funded independent mitigation monitoring program outlined in CDPs E-06-013 and 9-14-0731.

