

EXECUTIVE OFFICER SUMMARY REPORT  
June 14, 2006

- ITEM: 11
- SUBJECT: **PUBLIC HEARING:** Waste Discharge Requirements for the Poseidon Resource Corporation, Carlsbad Desalination Project, Discharge to the Pacific Ocean via the Encina Power Station Discharge Channel, (Tentative Order No. R9-2006-0065; NPDES Permit No. Ca0109223) (*Charles Cheng*)
- PURPOSE: To issue requirements (Order No. R9-2006-0065) to Poseidon Resource Corporation (Poseidon) to discharge concentrated saline waste seawater and filter backwash wastewater from the Carlsbad Desalination Project (Project) into the Pacific Ocean via the Encina Power Station's (Encina) cooling water discharge channel.
- PUBLIC NOTICE: A newspaper notice regarding tentative Order No. R9-2006-0065 was published in the San Diego Union-Tribune, and the Register of Orange County on May 8, 2006. A copy of the tentative Order No. R9-2006-0065 was e-mailed and sent to the Poseidon (via certified mail) and all interested parties on May 8, 2006. The tentative Order including a monitoring and reporting program and fact sheet were posted on the Regional Board's website (<http://www.waterboards.ca.gov/sandiego/>) and made available at the Regional Board office for review thereafter (Attachment 2).
- DISCUSSION: Poseidon Resources Corporation proposes to construct and operate the Carlsbad Seawater Desalination Project on a four-acre parcel within the site of the Encina. The Project will use a portion (approximately 100 million gallons per day (MGD)) of Encina's returning cooling seawater to produce up to 50 MGD of potable water. The industrial processes for the Project will consist of pretreatment, reverse osmosis (RO) desalination, and disinfection and product water stabilization.
- The Project would discharge up to either 54 million gallon per day (MGD) average daily flow if a granular media filtration pretreatment technology is used, or 57 MGD average daily flow if a membrane filtration pretreatment technology is used. In either case, the discharge would consist of a combination of concentrated saline waste seawater and filter backwash wastewater. Under the granular media filtration option, however, ferric chloride or ferric sulfate will be added to the influent to enhance removal of particulate matter. These added chemicals would be backwashed, collected in a sedimentation basin (clarifier), removed as waste sludge, and disposed of at a landfill. Under the membrane filtration

option on the other hand, chemicals would be used during membrane cleaning. The membrane backwash cleaning solutions would be collected in a separate tank, neutralized for pH value, and discharged to the sanitary sewer system.

The RO process would generate membrane backwash cleaning solutions, which would be collected in a separate tank, neutralized for pH value, and discharged to the sanitary sewer system. Spent cartridges filters from the RO process train that contain removed particulates would be disposed of at a landfill. Under all proposed process options, no net chemicals would be introduced into the effluent. Consequently, the discharge should consist solely of the dissolved solids originally contained in the seawater intake, but at higher concentrations.

Poseidon has constructed and operated an on-site pilot plant using the above two described pretreatment technologies to characterize effluent quality. Effluent data from the pilot plant has not exceeded the technology and water quality based effluent limitations established in the California Ocean Plan.

Tentative Order No. R9-2006-0065 establishes technology-based effluent limitations based on Table A of the Ocean Plan. To establish water quality-based effluent limitations, a Reasonable Potential Analysis (RPA) was performed. RPA based on the pilot plant data shows that the data are not statistically sufficient to support establishment of water quality-based effluent limits at this time, but that monitoring of the discharge for the Table B constituents of the Ocean Plan is required.

Adoption of an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC, except for new sources as defined in the Federal Water Pollution Control Act. Section 306 of CWA (40 CFR 122.2) defines a new source as being commenced after promulgation of standards of performance which are applicable to such source. No performance standards have been published under Section 306 of CWA that are applicable to seawater desalination. As such, the Project is not considered a new source, and is exempt from CEQA requirements.

As of June 9, 2006, comment letters were received from the following individuals and entities in the order of receipt: Ms Norma J. Wolk, Sierra Club, Poseidon Resources, San Diego Regional Chamber of Commerce, Mr. Robert Simmons, Hubbs-SeaWorld Research Institution, Assembly Members George A. Pleascia and Mark Wyland, San Diego County Building & Construction Trades Council, Industrial Environmental Association, Valley Center Municipal Water District, Carlsbad Chamber of Commerce, San Diego Regional Economic Development corporation, Mr. William

Carroll, Stanford Legal Clinics, Senator Bill Morrow, Rincon Del Diablo Municipal Water District, Agua Hedionda Lagoon Foundation, San Diego North Economic Development Council (Attachment 3). Staff is prepared to discuss at today's hearing the comments submitted and to suggest changes to the tentative Order in response to several of the comments.

**KEY ISSUES:**

1. Adoption of Tentative Order No. R9-2006-0065 is independent from the renewal of Encina Power Station's NPDES permit.
2. Clean Water Act Section 316(b) is not applicable to desalination plant.
3. Brine discharges may cause salinity-related toxicity, even in Ocean waters.
4. Tentative Order No. R9-2006-0065 must establish requirements necessary to meet Ocean Plan water quality objectives.

**LEGAL CONCERNS:**

None.

**SUPPORTING DOCS:**

1. Map showing the locations of Project.
2. Tentative Order No. R9-2006-0065, with transmittal letter.
3. Comment letters received as of June 9, 2006.
4. Response to Comments

**SIGNIFICANT CHANGES:**

None.

**RECOMMENDATION:**

Consider comments received prior to and at today's hearing, close the public comment period, and postpone decision until the August 9, 2006 meeting.