State of California
Regional Water Quality Control Board
San Diego Region

EXECUTIVE OFFICER SUMMARY REPORT
February 14, 2007

ITEM: 5

SUBJECT: New NPDES Permit: Waste Discharge Requirements for the San Diego State University Research Foundation, Coastal Waters Laboratory, Discharge to San Diego Bay. (Tentative Order No. R9-2007-0006, NPDES Permit No. CA0109231) *(Victor Vasquez)*

PURPOSE: To adopt waste discharge requirements and NPDES permit for the disposal to San Diego Bay of up to 0.288 million gallons per day (as a maximum for a calendar day or 24-hour period representing a calendar day) of untreated waste seawater from flow-through aquaria at the San Diego State University Research Foundation (SDSURF, Discharger) Coastal Waters Laboratory (CWL).

PUBLIC NOTICE: The NPDES permit hearing notice was published in The San Diego Union-Tribune newspaper on January 8, 2007 for the Regional Board meeting scheduled for February 14, 2007. Copies of the tentative Order were mailed on January 5, 2007 to SDSURF and to all known interested parties and agencies. The tentative Order was made available for public review at the Regional Board office and posted on the Regional Board website on January 5, 2007.

Tentative Order No. R9-2007-0006 is a revised version of tentative Order No. R9-2006-0088 which was originally issued for public comment on October 3, 2006 and scheduled for consideration of adoption at the November 14, 2006 Regional Board meeting. Tentative Order No. R9-2006-0088 was revised in response to public comments received as well as for other reasons initiated by the Regional Board.

DISCUSSION: SDSURF owns and operates the CWL, a non-commercial aquatic research facility. Academic research at CWL will focus on environmental and ecological problems caused by urbanization in the coastal environment at the land-water interface. The CWL will draw seawater from an extension of San Diego Bay commonly known as the

Navy Training Center (NTC) Boat Channel, a water of the United States, for use in maintaining flow-through aquaria used for research at CWL. In a flow-through aquarium, fresh intake water is continuously pumped into aquarium tanks and discharged from the tanks at similar flowrates.

The maximum daily flowrate of seawater through the CWL will be 0.288 MGD during a 24-hour period. Two six-inch diameter seawater intake pipelines will extend approximately 180 feet into the middle of the NTC Boat Channel from the east bank of the channel, adjacent to the CWL property. The CWL will discharge waste seawater without prior treatment to the NTC Boat Channel from the terminus of a 12-inch diameter pipe located on the east bank of the channel, adjacent to the CWL property. Waste seawater quality is expected to be similar to the intake water quality; however, uneaten food and animal wastes may contribute organic carbon, suspended solids, and nutrients to the NTC Boat Channel. The Discharger has stated that no additives or chemicals will be added to seawater used at the CWL.

The NTC Boat Channel is a tidally-influenced, modified natural channel that was historically one of the outlets of the San Diego River to San Diego Bay before the river was permanently routed to discharge only to Mission Bay and subsequently to the San Diego River flood control channel. The NTC channel is located at the boundary between Hydrologic Subareas (HSA) 908.1 and 908.2 and west of the San Diego International Airport (see Supporting Document 1). The NTC channel is approximately 1,600 feet long and 350-400 feet wide, approximately in a north-east direction. Available information indicates that circulation and tidal exchange in the channel is limited under certain conditions. The CWL waste seawater discharge point is approximately 500 feet from the channel mouth.

The waste discharge requirements (WDRs) contained in tentative Order No. R9-2007-0006 for the discharge of waste aquaria seawater are based on the 1994 *Water Quality Control Plan for the San Diego Basin*; the California Toxics Rule; the 2005 *Policy for Implementation of Toxics Standards for Inland Surface Water, Enclosed Bays, and Estuaries of California*; the 1972 *Water Quality Control Plan for Control of Temperature in the Coastal*

and Interstate Water and Enclosed Bays and Estuaries of California; and the *Water Quality Control Policy for Enclosed Bays and Estuaries of California*. The tentative Order includes technology-based effluent limitations for biochemical oxygen demand, total suspended solids and total nitrogen based on proper management, operation, and maintenance practices to control the discharge of solids. Water quality-based effluent limitations for pH, total phosphorus, and turbidity are included in the tentative Order based on the potential of the discharge to contribute to an exceedance of water quality objectives for these parameters. Because of limited circulation and tidal exchange in the NTC Boat Channel, no dilution credit has been granted in calculating the water quality-based effluent limitations.

The Monitoring and Reporting Program of the tentative Order includes requirements to monitor the intake seawater and waste seawater discharge for several parameters including biochemical oxygen demand, total suspended solids, and nutrients. Additionally, the discharge is required to be monitored for priority pollutants and chronic toxicity. Because of the locations of the intake and discharge points, the intake seawater monitoring requirements will constitute the receiving water monitoring requirements, and there are no additional receiving water monitoring requirements.

Comments on the original tentative Order (tentative Order No. R9-2006-0088) were received from the Discharger and the San Diego chapter of the Sierra Club. These comments have been responded to as indicated in the Response to Comments document for tentative Order No. R9-2006-0088 (Supporting Document #4). Some comments resulted in revisions which have been incorporated in tentative Order No. R9-2007-0006, as summarized in Supporting Document #2.

To date, no additional comments on tentative Order No. R9-2007-0006 have been received; however, the Discharger has indicated it will be submitting additional comments. All comments received will be considered, and responses to comments will be prepared and provided to the Regional Board members in the second agenda mailing and to the Discharger and other interested parties. If necessary, an errata sheet containing proposed

revisions to the tentative Order in response to comments received and for other reasons will be prepared and provided to the Regional Board members in the second agenda mailing and to the Discharger and other interested parties.

KEY ISSUES: There are several aquarium facilities in the San Diego Region which are regulated by the Regional Board to varying degrees. With the exception of the WDRs for the Scripps Institution of Oceanography's discharge to an Area of Special Biological Significance, the tentative Order for the CWL discharge contains more effluent limitations and monitoring requirements than for other aquarium discharges in the region. The tentative Order contains requirements that specifically consider the type and volume of the CWL discharge, the level of treatment prior to discharge, and the receiving water body.

SUPPORTING DOCS:
1. Site Map
2. Transmittal letter for tentative Order No. R9-2007-0006.
3. Tentative Order No. R9-2007-0006 including Attachments A-G.
4. Response to Comments document for tentative Order No. R9-2006-0088.

RECOMMENDATION: Adoption of Tentative Order No. R9-2007-0006, NPDES Permit No. CA0109231, is recommended.