State of California
Regional Water Quality Control Board
San Diego Region

EXECUTIVE OFFICER SUMMARY REPORT
June 21, 2017

ITEM:	11
SUBJECT:	NPDES Permit Reissuance: Waste Discharge Requirements for the Sweetwater Authority, Richard A. Reynolds Desalination Facility Discharge to the Lower Sweetwater Basin (Tentative Order No. R9-2017-0020, NPDES Permit No. CA0108952) (*Vicente Rodriguez*)
PURPOSE:	To receive public testimony and consider adoption of Tentative Order No. R9-2017-0020 (Tentative Order).
RECOMMENDATION:	Adoption of the Tentative Order (**Supporting Document No. 1**) is recommended.
KEY ISSUES:	1. The Tentative Order requires use of the Test of Significant Toxicity (TST) statistical approach to determine whether or not a discharge is toxic. 2. The Tentative Order requires the development and implementation of a sediment and receiving water monitoring program, consistent with the State Water Board's *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality* (Sediment Quality Plan). 3. The Tentative Order provides for participation with other parties in regional monitoring activities as directed by the San Diego Water Board to determine the status and trends of conditions in the San Diego Bay watershed, including downstream San Diego Bay waters, with regard to beneficial uses.
PRACTICAL VISION:	Consistent with the mission of the *Strategy for Healthy Waters* chapter of the Practical Vision, the Tentative Order integrates applicable technology-based requirements, water quality-based effluent limitations, and receiving water quality standards to optimize protection of water quality and beneficial uses in the Lower Sweetwater Basin. Additionally, the Tentative Order has provisions for participation in regional monitoring and assessment programs in keeping with San Diego Water Board Resolution No. R9-2012-0069, *Resolution in Support of a Regional Monitoring Framework*.

The Tentative Order also advances the goals of the *Strategy for a Sustainable Local Water Supply* chapter of the Practical Vision. The Tentative Order, if adopted, allows continued operation of a groundwater desalination facility to produce drinking water from low-quality brackish groundwater sources for distribution within the Sweetwater Authority service area.

DISCUSSION:

The Richard A. Reynolds Desalination Facility (Facility) is owned and operated by the Sweetwater Authority (Discharger). The Facility is located in Chula Vista within the floodplain of the Sweetwater River. (See Location Map, **Supporting Document No. 2**.) The Facility uses reverse osmosis treatment to desalinate up to 10 million gallons of brackish groundwater from 11 groundwater supply wells, providing potable water for 35,000 service connections in the Cities of Chula Vista and National City. The Tentative Order regulates the resulting concentrated brine discharge from the Facility of up to 2,500,000 gallons per day to the Lower Sweetwater River within the tidal prism of San Diego Bay. If adopted, the Tentative Order will replace Order No. R9-2010-0012, as amended by Order No. R9-2014-0109. Order No. R9-2014-0109 expired on July 1, 2015. The terms and conditions of R9-2010-0012, as amended by Order No. R9-2014-0109, have been automatically continued and remain in effect until the Tentative Order is adopted.

The Tentative Order was noticed and released for formal public review and comment on March 30, 2017. Written comments were due by May 1, 2017. Comments were received from the Sweetwater Authority (**Supporting Document No. 3**). The San Diego Water Board's Response to Comments document is provided as **Supporting Document No. 4**. Below is a summary of the most significant comments and the responses to these comments.

1. *The Discharger has requested that the effluent limitations and the performance goals for copper, selenium, cyanide, and several other constituents be retained from the current Order (Order R9-2010-0012).*

   The San Diego Water Board has verified that all effluent limitations and performance goals in the Tentative Order have been properly calculated in accordance with applicable regulations and policies. Except as discussed below, the San Diego Water Board has retained the effluent limitations and performance goals as originally

proposed in the Tentative Order.

With regard to several synthetic organic compounds, the San Diego Water Board has replaced effluent limitations with performance goals, based on the Discharger's request to eliminate specific data from the current dataset.

The San Diego Water Board has also removed the effluent limitations and performance goals for discharges from the groundwater wells, as those discharges are regulated separately by the statewide Order WQ 2014-0194-DWQ, *Statewide National Pollutant Discharge Elimination System (NPDES) Permit for Drinking Water System Discharges to Waters of the United States* (Drinking Water Permit).

2. *The Discharger has requested that the Pollutant Minimization Program (PMP) requirements be removed from the Tentative Order.*

   The Tentative Order appropriately includes requirements for the Discharge to conduct a PMP consistent with the *Policy for Implementation of Toxics Standards for Inland Surface Waters, and Enclosed Bays, and Estuaries of California* (SIP).

3. *The Discharger has requested that the receiving water and sediment monitoring requirements be removed from the Tentative Order.*

   Receiving water and sediment monitoring have been retained in the Tentative Order. Receiving water monitoring is an important part of NPDES permits because it evaluates the impacts of the discharge on the water body receiving the discharge. Additionally, the statewide *Water Quality Control Plan for the Enclosed Bays and Estuaries – Part 1 Sediment Quality* (Sediment Quality Plan) provides that if the San Diego Water Board determines that discharge of a toxic pollutant to bay or estuarine waters has the reasonable potential to cause or contribute to an exceedance of the sediment quality objectives, the Board shall apply the objectives as receiving water limits. The San Diego Water Board has concluded that the brine discharge has a reasonable potential to exceed the sediment quality objectives and has therefore listed the objectives as receiving water limitations in sections V.F.3 and 4 of the Tentative Order. The primary purpose of the sediment monitoring requirements is to measure compliance with these

receiving water limitations.

Section V of the Fact Sheet (Attachment F) has been modified to point out that the San Diego Water Board's reasonable potential finding is based not only on the Clean Water Act section 303(d) listed impairments for San Diego Bay but also on the effluent discharge toxicity data collected from the Facility. The Sediment Quality Plan requires that sediment monitoring for discharges classified as "Minor," such as the Facility brine discharge, be performed not more often than twice per permit cycle or less than once per permit cycle. The Tentative Order requires sediment monitoring only one time during the permit term.

4. *The Discharger has requested that the toxicity testing methods be aligned with federally promulgated methods, and that the TST method for analyzing the results of the toxicity monitoring be replaced with the no effects concentration (NOEC) method.*

   Both the TST and the NOEC statistical methods are used for evaluating toxicity data obtained from the same U.S. Environmental Protection Agency (USEPA) approved toxicity test methods. The TST method is a USEPA approved statistical approach to assessing toxicity test data used for NPDES permit reasonable potential and effluent limitation compliance determinations, and is preferred by both USEPA the San Diego Water Board. The TST approach does not replace, or result in any changes to USEPA approved toxicity test methods listed in 40 CFR part 136.3 or other USEPA reference documents.

   As noted in section C.6 of the Tentative Order Fact Sheet, USEPA examined the results of a "test drive" comparing results obtained using the TST with results obtained using the NOEC method and determined that while the TST and NOEC statistical approaches perform similarly most of the time, the TST performs better in identifying toxic and non-toxic samples. This is a desirable characteristic for chronic toxicity testing conducted under the Tentative Order for reasonable potential and effluent limitation compliance determinations.

   For these reasons, the San Diego Water Board has not modified the Tentative Order in response to the Discharger's comment.

5. *The Discharger has requested that a reopener provision be included in the Tentative Order to allow the Discharger to pursue an SIP section 5.3 Case-by-Case Exception for specific parameters.*

   The Facility does not meet the criteria specified in section 5.3 of the SIP, and the San Diego Water Board has not modified the Tentative Order to include a reopener pursuant to section 5.3 of the SIP.

LEGAL CONCERNS: None

SUPPORTING DOCUMENTS:
1. Revised Tentative Order No. R9-2017-0020
2. Location Map
3. Comment Letter from the Discharger dated May 1, 2017
4. Responses to Comments Report

COMPLIANCE RECORD: Review of the Discharger's self-monitoring reports reveals two noncompliance incidents during the term of Order No. R9-2010-0012 as amended by Order No. R9-2014-0014. The two noncompliance incidents are as follows:

1. An exceedance on September 11, 2012 of the effluent limitations for nitrogen (as N) at Discharge Point No. 001. The effluent limitation for this monitoring location is 1.0 mg/L and the reported concentration was 1.1 milligram per liter (mg/L).
2. An exceedance on February 3, 2016 of the effluent limitations for phosphorous (as P) at Discharge Point No. 001b. The effluent limitation for this monitoring location is 0.1 mg/L and the reported concentration was 0.2 mg/L.

PUBLIC NOTICE: The Tentative Order was noticed and released for formal public review on March 30, 2017. On March 30, 2017 a public notice was published in the San Diego Union Tribune newspaper. Notice was also provided in the meeting notice and agenda for the June 21, 2017 Board meeting, which is posted on the San Diego Water Board's website. The release for public review and comment was also included in a March 30, 2017 email sent to all known interested parties and posted on the San Diego Water Board's website.