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Santa Ana Regional Water Quality Control Board

August 7, 2018

Mr. Scott Maloni, Vice President
Poseidon Water
5780 Fleet Street, Suite 140
Carlsbad, CA 92008

smaloni@poseidonwater.com

Request for Information Regarding the Treatment Process for Seawater Desalination at the Proposed Huntington Beach Desalination Project

Dear Mr. Maloni:

During our July 11, 2018 telephone call with Poseidon Water and its consultants, we determined that additional information is necessary for the Santa Ana Regional Water Quality Control Board (Regional Board) staff to evaluate potential effluent toxicity from the proposed Huntington Beach Desalination Project (HBDP) during permanent stand-alone operations. This letter summarizes some key points from our perspective and requests submittal of the additional information discussed during the meeting.

Background- Poseidon's June 30, 2016 Report of Waste Discharge (ROWD) identified potential effluent characteristics from the HBDP facility. Water quality results for seawater from the AES Huntington Beach effluent channel, collected on February 12, 2003 and treated at a 40,000 gallon per day Carlsbad pilot plant desalination facility were used to characterize the potential effluent from the HBDP. The ROWD stated that effluent monitoring conducted at the pilot plant using Huntington Beach seawater as influent is projected to be characteristic of the effluent quality of the full-scale HBDP because the pilot plant used the same treatment processes proposed for HBDP. The ROWD further indicated that water production operations at the full-scale Carlsbad Desalination Project (CDP) are now in effect and updated water quality monitoring data from the full-scale CDP are being analyzed and are available upon request.

Discussion- Poseidon Water prepared a Toxicity Reduction Evaluation/Toxicity Identification Evaluation (TRE/TIE) final report for the CDP. The TRE/TIE indicates that there are acute (ATOX) and chronic toxicity (CTOX) effluent exceedances at the CDP. Staff reviewed the TRE/TIE and is presently evaluating the potential for similar exceedances at the HBDP because Poseidon Water is proposing the same treatment processes as indicated in the ROWD.

On July 11, 2018, staff had a conference call with Poseidon Water to discuss the TRE/TIE and its implications for the HBDP. Staff raised several points during the call:

1. The TRE/TIE report has eliminated source water as a cause of effluent CTOX at the CDP.
2. The TRE/TIE report determined that the CTOX effluent exceedances were associated with pollutants that are treatment process related and not salinity[1].
3. Due to the predilution of effluent samples from CDP to 40 ppth before ATOX testing, the ATOX test result from CDP could not be compared with the preliminary ATOX effluent limit for the proposed HBDP. Predilution of effluent samples before ATOX testing will not be allowed for the HBDP (no flow augmentation allowed).

In response to staff's concerns, Poseidon Water explained that the treatment processes that will be used at the HBDP are not the same as the processes currently used at the CDP.

Information Requested- To further evaluate effluent toxicity for the HBDP, staff requests that Poseidon Water submit the following information:

1. A detailed description of the treatment process that will be used at the HBDP. The description should contain specific details of the individual treatment processes and waste streams (flows included) and a comparison of the processes used at the CDP that highlight the treatment features that differ from the full-scale CDP and that address toxicity issues.

2 ATOX test results from three sampling events using 100% final effluent from CDP (no predilution of the final effluent sample to 40 ppth before ATOX testing).

Please submit the information requested so we may continue to evaluate the potential for effluent toxicity exceedances at the HBDP. Should you have any questions, please contact Julio Lara at (951)782-4901 or at Julio.Lara@waterboards.ca.gov or Milasol Gaslan at (951) 782-4419 or at Milasol.Gaslan@waterboards.ca.gov.

Sincerely,

Jayne Joy
Assistant Executive Officer

cc: Teresita Sablan, Teresita.Sablan@waterboards.ca.gov

CIWQS Place Id: 219628

[1] Poseidon staff stated that chronic toxicity was not evident when abalone was used as the test species. Abalone was reported to be more sensitive to salinity than purple sea urchin.