



## Los Angeles Regional Water Quality Control Board

March 18, 2014

Mr. Rich Nagel  
General Manager  
West Basin Municipal Water District  
17140 South Avalon Boulevard,  
Carson, CA 90746

Dear Mr. Nagel:

### **Approval of Six Month Extension of Ocean Water Desalination Demonstration Project NPDES Permit (CA0064581, Order No. R4-2010-0184)**

On July 16, 2009, the Regional Board adopted Order No. R4-2009-0086 for discharge of seawater and reconstituted seawater from the Temporary Ocean Water Desalination Demonstration Project (Project) located at Redondo Beach to Pacific Ocean. A dilution study was conducted by West Basin after the adoption of the permit using the Visual Plume model and the results were submitted to both the State Board and the Regional Board in June 2010. State Board staff reviewed the study and approved the calculated dilution ratio of 10:1. The adopted permit (Order No. R4-2009-0086) was amended (Order No. R4-2010-0184) to revise the effluent limitations based on the approved dilution credit. The amended NPDES permit expires on June 10, 2014.

The goal of West Basin's Project is to provide research data for the development of its ocean water desalination program. This Temporary Desalination Demonstration Facility (Temporary Facility) was installed at the Science, Education, & Adventure Lab (SEALab) located at 1201 North Harbor Drive, Redondo Beach.

The Facility utilizes approximately 580,000 gallons per day (gpd) (approximately 400 gpm) of ocean water, testing various pretreatment and post-treatment options, using full-scale size equipment. The Project evaluates two intake sources, a passive wedge wire screen system and bar-screened subsurface intake study. West Basin conducted related water quality and marine life studies on both intake sources. The actual desalination process using reverse osmosis utilizes approximately 100,000 gpd of the source water, producing approximately 50,000 gpd of ocean water concentrate (brine) and 50,000 gpd of product water. Eighty thousand (80,000) gpd of the intake water is used for the subsurface intake pilot study, screened by sand media, and returned to the ocean. The balance 400,000 gpd is untreated and recirculated for return to the ocean (this volume of water is used to test the efficiency of the wedge wire screen intake and is not used for desalination). The brine and product is combined and discharged through the existing outlet tunnel and then to Pacific Ocean through Discharge Outfall 001.

Your letter dated December 2, 2013, requested extension of the existing amended NPDES permit till the end of December 2014, to conduct a study for "Controlling Biofouling and Corrosion on Marine Protection Intake Screens and Pipes". Your letter stated that the study is critical for future operation of ocean desalination projects and will be partly funded by Metropolitan Water District of Southern California.

The six month extension of the existing NPDES permit is granted for completion of the planned study. West Basin shall comply with all the permit requirements during the six month extension period and submit monitoring reports as specified in the permit. A report summarizing the results of the entire Project including the planned study shall be submitted to the Los Angeles Regional Water Control Board by January 31, 2015, along with a request to terminate the permit upon completion of the study, as indicated in your December 2, 2013, letter. The permit will be terminated upon receipt of a request for termination that has been verified by a site inspection.

If you have any questions, please call Mazhar Ali at 213-576-6652.

Sincerely,



Samuel Unger, P.E.  
Executive Officer

cc: Environmental Protection Agency, Region 9, Permits Branch (WTR-5)  
U.S. Army Corps of Engineers  
NOAA, National Marine Fisheries Service  
Department of Interior, U.S. Fish and Wildlife Service  
Mr. William Paznokas, Department of Fish and Game, Region 5  
Department of Health Services, Sanitary Engineering Section  
California Coastal Commission, South Coast Region  
City of Redondo Beach, Department of Public Works  
AES Redondo Beach, LLC, Plant Manager  
Ms. Kirsten James, Heal the Bay  
Mr. Peter Shellenbarger, Heal the Bay  
Ms. Liz Crosson, Los Angeles Waterkeeper  
Ms. Anna Kheyfets, Natural Resources Defense Council