

California Regional Water Quality Control Board
Santa Ana Region

Order No. R8-2006-0065

Amending Order No. R8-2004-0021, NPDES No. CAG998002
General Waste Discharge Requirements for Short-Term Groundwater-Related
Discharges to Surface Waters and De Minimus Wastewater Discharges to Surface
Waters within the San Diego Creek/Newport Bay Watershed

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Board), finds that:

1. On December 20, 2004, the Board adopted Order No. R8-2004-0021, NPDES No. CAG998002. Order No. R8-2004-0021 regulates short-term groundwater-related discharges that are expected to last one year or less, and *de minimus* discharges within the San Diego Creek/ Newport Bay watershed. The types of groundwater-related discharges regulated under Order No. R8-2004-0021 are as follows:
 - (1) Wastes associated with well installation, development, test pumping and purging;
 - (2) Aquifer testing wastes;
 - (3) Dewatering wastes from subterranean seepage; and
 - (4) Groundwater dewatering wastes at construction sites.
2. On April 17, 1998, the Regional Board adopted Resolution No. 98-9, amending the Basin Plan to incorporate a Nutrient Total Maximum Daily Load (TMDL) for the Newport Bay/San Diego Creek Watershed. The TMDL was amended by Resolution No. 98-100 on October 9, 1998 and thereafter approved by the State Water Resources Control Board, Office of Administrative Law and the US EPA. The nutrient TMDL was based upon the aesthetic and recreational nuisance created by algal blooms in Newport Bay, as well as the concern that these blooms may adversely affect wildlife.
3. On June 14, 2002, the U.S. EPA Region 9 established a total maximum daily load (TMDL) for selenium for San Diego Creek and Newport Bay. EPA also established TMDLs for other toxic pollutants in the watershed. The selenium TMDL is based on the selenium criterion specified in the CTR. Selenium is a naturally occurring element that persists in soils and aquatic sediments and readily bioaccumulates through the food chain to levels that can cause adverse effects on higher level aquatic life and wildlife, including fish and birds that prey on fish and invertebrates.

4. Order No. R8-2004-0021 implements relevant provisions of the CTR, EPA's technical TMDL for Selenium for San Diego Creek and Newport Bay, and the State Board's Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (the "SIP") by specifying interim performance-based and final numeric effluent limitations for selenium for short-term groundwater-related discharges. However, dischargers cannot be assured at the present time of achieving numeric effluent limitations for selenium through reasonable treatment, source control, or pollution prevention measures as such measures are not currently available for groundwater discharges containing selenium.
5. Certain dischargers subject to Order No. R8-2004-0021 have formed a Working Group and are funding and participating in a Work Plan. The purpose of the Work Plan is, in part, to develop a comprehensive understanding of and management plan for nitrate and selenium discharges to surface waters within the Newport Bay watershed that result from groundwater-related inflows.
6. The selenium-related components of the Work Plan committed to by the Working Group include the facilitation of demonstration testing of potential selenium treatment technologies and BMPs (see finding no. 32(f) of the Order). This demonstration testing, and any other demonstration or pilot testing of potential selenium treatment technologies, may include the need to utilize high selenium surface waters for testing in lieu of groundwater and may require the discharge of treated return flows to surface waters. However, this activity is not now regulated under Order No. R8-2004-0021. To authorize and facilitate the implementation of demonstration testing, and any other demonstration or pilot testing of potential selenium treatment technologies, it is necessary and appropriate to amend Order No. R8-2004-0021 to extend permit coverage to address the extraction of surface waters for the purpose of testing selenium treatment technologies and BMPs and to authorize the discharge of the treated return flows/effluent to surface waters.
7. In accordance with California Water Code Section 13389, the issuance of these waste discharge requirements is exempt from those provisions of the California Environmental Quality Act contained in Chapter 3 (Commencing with Section 21100), Division 13 of the Public Resources Code.
8. The Board has notified the dischargers and other interested agencies and persons of its intent to amend Order No. R8-2004-0021 and has provided them with an opportunity to submit their written views and recommendations.
9. The Regional Board, in a public meeting, heard and considered all comments pertaining to the amendment of general waste discharge requirements for de minimus discharges.

IT IS HEREBY ORDERED that Order No. R8-2004-0021 shall be amended as follows:

1. Order No. R8-2004-0021, page 2 of 31, modify Finding 6.a, as follows:
 - a. Short-term (one year or less duration) discharges from activities involving groundwater and/or surface water extraction and discharge:
2. Order No. R8-2004-0021, page 3 of 31, insert subparagraph 6.a.(5) as follows:
 - (5) Wastewater effluent associated with testing of selenium and nitrogen treatment technologies and BMPs.
3. Order No. R8-2004-0021, page 17 of 31, add Discharge Specifications A.7 as follows:
 7. Discharge of brine, resins, sludge or other secondary concentrates from treatment systems to surface waters is prohibited.
4. All other conditions and requirements of Order No. R8-2004-0021 shall remain unchanged.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on October 13, 2006.



Gerard J. Thibeault
Executive Officer

California Regional Water Quality Control Board
Santa Ana Region

October 13, 2006

STAFF REPORT

ITEM:

SUBJECT: Amendment of Order No. R8-2004-0021, NPDES No. CAG998002, General Waste Discharge Requirements for Short-Term Groundwater-Related Discharges to Surface Waters and De Minimus Wastewater Discharges to Surface Waters within the San Diego Creek/Newport Bay Watershed – Order No. R8-2006-0065

DISCUSSION:

On December 20, 2004, the Board adopted Order No. R8-2004-0021, NPDES No. CAG998002, a general permit that regulates short-term groundwater-related discharges that are expected to last one year or less, and *de minimus* discharges within the San Diego Creek/ Newport Bay watershed. The Board recognized that because of the presence of nitrates and selenium, and potentially other pollutants of TMDL concern, groundwater-related wastewater discharges (i.e., those associated with well installation, development, test pumping and purging, aquifer testing wastes, construction dewatering and wastes from subterranean seepage) within the watershed have the potential to adversely affect surface waters within the watershed and would likely not comply with established TMDLs. The Board found that it was inappropriate to regulate these groundwater-related discharges as *de minimus* discharges under Order No. R8-2003-0061, General Waste Discharge Requirements for Discharges to Surface Waters That Pose An Insignificant (De Minimus) Threat to Water Quality within the Santa Ana Region.

Shallow groundwater in the San Diego Creek/Newport Bay watershed contains concentrations of selenium, nitrates and total dissolved solids that exceed relevant water quality standards, including numeric and narrative objectives in the Water Quality Control Plan (Basin Plan) and the California Toxics Rule (CTR). On April 17, 1998, the Regional Board adopted Resolution No. 98-9, amending the Basin Plan to incorporate a Nutrient Total Maximum Daily Load (TMDL) for the Newport Bay/San Diego Creek Watershed. The TMDL was amended by Resolution No. 98-100 on October 9, 1998 and thereafter approved by the State Water Resources Control Board, Office of Administrative Law and the US EPA. The nutrient TMDL was based upon the aesthetic and recreational nuisance created by algal blooms in Newport Bay, as well as the concern that these blooms may adversely affect wildlife.

On June 14, 2002, the U.S. EPA Region 9 established a total maximum daily load (TMDL) for selenium for San Diego Creek and Newport Bay. EPA also established TMDLs for other toxic pollutants in the watershed. The selenium TMDL is based on the selenium criterion specified in the CTR. Selenium is a naturally occurring element that

persists in soils and aquatic sediments and readily bioaccumulates through the food chain to levels that can cause adverse effects on higher level aquatic life and wildlife including fish and birds that prey on fish and invertebrates. Selenium can become mobilized and concentrated by weathering and evaporation in the process of soil formation and alluvial fan deposition in arid and semiarid climates and may be leached from sediments as a result of irrigation practices, elevation of the groundwater table, or other modifications in the natural hydrologic regime.

Order No. R8-2004-0021 implements relevant provisions of the CTR, EPA's technical TMDL for Selenium for San Diego Creek and Newport Bay, and the State Board's Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (the "Policy", or "SIP" by specifying interim performance-based and final numeric effluent limitations for selenium for short-term groundwater-related discharges. For nutrients, the removal of nitrogen accomplished by IRWD's operation of the San Joaquin Marsh natural treatment system ponds constitutes an offset for the total nitrogen loads resulting from the short-term groundwater-related discharges regulated under Order No. R8-2004-0021, provided that on an annual basis, monitoring of nitrogen contributions by these dischargers and of nitrogen removal in the pond treatment system by IRWD demonstrates that there is no net loading of nitrogen to the Newport Bay watershed.

For selenium, dischargers cannot be assured at the present time of achieving numeric effluent limitations through reasonable treatment, source control, or pollution prevention measures as such measures are not currently available for groundwater discharges containing selenium. Given the uncertainties with regard to the availability and efficacy of treatment technologies, the need to investigate those technologies and discharge volume reduction measures, and the lack of available data necessary to identify baseline loadings resulting from groundwater inflows in the watershed, etc., certain dischargers subject to Order No. R8-2004-0021 have formed a Working Group and are funding and participating in a Work Plan. The purpose of the Work Plan is, in part, to develop a comprehensive understanding of and management plan for nitrate and selenium discharges to surface waters within the Newport Bay watershed that result from groundwater-related inflows. This Work Plan is now being executed, with the active participation of Regional Board staff.

The selenium-related components of the Work Plan committed to by the Working Group include the facilitation of demonstration testing of potential selenium treatment technologies and BMPs (see finding no. 32(f) of the Order). This demonstration testing, and any other demonstration or pilot testing of potential selenium treatment technologies, may include the need to utilize high selenium surface waters for testing in lieu of groundwater and may require the discharge of treated return flows to surface waters. However, this activity is not one of those activities regulated under Order No. R8-2004-0021. To authorize and facilitate the implementation of demonstration testing, and any other demonstration or pilot testing of potential selenium treatment technologies, it is necessary and appropriate to amend Order No. R8-2004-0021 to extend permit coverage to address the extraction of surface waters for the purpose of testing selenium treatment technologies and BMPs and to allow the discharge of the

treated return flows/effluent to surface waters. These discharges would be regulated pursuant to the terms and conditions of the Order, including the requirement to demonstrate that all reasonable steps have been implemented to avoid, reduce or eliminate the discharges to surface waters. Discharge of brine, resins or other secondary concentrates from treatment systems employed in the demonstration testing would be prohibited.

The following are the recommended changes to Order No. R8-2004-0021. (Deleted text is struck out and added text is bold and highlighted.)

1. Order No. R8-2004-0021, page 2 of 31, modify Finding 6.a, as follows:
 - a. Short-term (one year or less duration) discharges from activities involving groundwater **and/or surface water** extraction and discharge:
2. Order No. R8-2004-0021, page 3 of 31, insert subparagraph 6.a.(5) as follows:
 - (5) **Wastewater effluent associated with testing of selenium and nitrogen treatment technologies and BMPs.**
3. Order No. R8-2004-0021, page 17 of 31, add Discharge Specifications A.7 as follows:
 7. **Discharge of brine, resins, sludge or other secondary concentrates from treatment systems to surface waters is prohibited.**

II. WRITTEN COMMENTS

Interested persons are invited to submit written comments on the proposed discharge limits and the staff report. Comments should be submitted by September 25, 2006, either in person or by mail to:

Jun Martirez
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

III. INFORMATION AND COPYING

Persons wishing further information may write to the above address or call Jun Martirez of the Regional Board at (951) 782-3258. Copies of the application, proposed waste discharge requirements, Fact Sheet, and other documents (other than those which the Executive Officer maintains as confidential) are available at the Regional Board office for inspection and copying between the hours of 9:00 a.m. and 3:00 p.m., Monday through Friday (excluding holidays).

IV. REGISTER OF INTERESTED PERSONS:

Any person interested in a particular application or group of applications may leave his/her name, address, and phone number as part of the file for an application.

V. PUBLIC HEARING:

The Regional Board will hold a public hearing regarding the proposed waste discharge requirements as follows:

DATE: October 13, 2006
TIME: 9:00 a.m.
PLACE: Eastern Municipal Water District
2270 Trumble Road
Perris, California

RECOMMENDATION:

Adopt Order No. R8-2006-65, amending Order No. R8-2004-0021, NPDES No. CAG998002, as presented.

Comments were solicited from the following agencies:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) – Doug Eberhardt
U.S. Army District, Los Angeles, Corps of Engineers - Regulatory Branch
U.S. Fish and Wildlife Service, Carlsbad
State Water Resources Control Board, Office of the Chief Counsel
State Water Resources Control Board, Division of Water Quality
State Department of Water Resources, Glendale
State Department of Fish and Game, Ontario
California Department of Health Services, Santa Ana
Orange County Health Care Agency - Seth Daugherty

Orange County Resources and Development Management Department - Chris Crompton
Orange County Planning & Development Services Department
Orange County Water District - Nira Yamachika
South Coast Air Quality Management District - – Dr. Barry R. Wallerstein
Orange County Coastkeeper - Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper
Dr. John Skinner
Defend the Bay - Robert J. Caustin

Current R8-2004-0021 enrollees

Irvine Ranch Water District - Steve Malloy
California Department of Transportation, District 12 - Grace Pina-Garrett
City of Tustin - Dana R. Kasdan
Irvine Community Development Company - James J. Lorman, Jr.
City of Lake Forest - Robert L. Woodings
City of Newport Beach - John Kappeler
Nexus Construction Services - Stephen Scanlon
Southern California Water Company - James B. Gallagher
City of Santa Ana Public Works Agency - James Ross
City of Irvine - Steve Ollo
Maguire Properties - Robert Goodwin
County of Orange - Chris Crompton
City of Costa Mesa - Ernesto Munoz
Foothill Engineering & Dewatering - Wendell Bradford