

California Regional Water Quality Control Board
Santa Ana Region

July 20, 2009

STAFF REPORT

ITEM: *9

SUBJECT: Amendment of Order No. R8-2007-0041, NPDES No. CAG918002, general discharge permit for discharges to surface waters of groundwater resulting from groundwater dewatering operations and/or groundwater cleanup activities at sites within the San Diego Creek/Newport Bay Watershed polluted by petroleum hydrocarbons, solvents, metals and/or salts - Order No. R8-2009-0045

DISCUSSION:

On November 30, 2007, the Regional Water Board adopted Order No. R8-2007-0041, NPDES No. CAG918002, prescribing general waste discharge requirements for discharges to surface waters of groundwater resulting from groundwater dewatering operations and/or groundwater cleanup activities at sites within the San Diego Creek/Newport Bay watershed polluted by petroleum hydrocarbons, solvents, metals and/or salts.

Order No. R8-2007-0041 consolidated the requirements of two general permits for discharges within the San Diego Creek/Newport Bay watershed: Order No. R8-2007-0008, NPDES No. CAG918001 (General Groundwater Cleanup Permit for Discharges to Surface Waters of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Petroleum Hydrocarbons, Solvents, Metals and/or Salts), and Order No. R8-2004-0021, NPDES No. CAG998001 (General Waste Discharge Requirements for Short-term Groundwater-Related Discharges and De Minimus Wastewater Discharges to Surface Waters within the San Diego Creek/Newport Bay Watershed). Specifically, Order No. 2007-0041 includes requirements to regulate groundwater-related discharges that may contain selenium, nutrients, volatile organic compounds, solvents or metals. The intent of this Order was to expedite the processing of applications and permitting for projects for which authorization under both Order No. 2007-0008 and Order No. R8-2004-0021 would otherwise have been necessary.

Order No. R8-2004-0021, NPDES No. CAG998002, regulates short-term groundwater-related discharges that are expected to last one year or less, and discharges that pose an insignificant threat to water quality (*de minimus* discharges) within the San Diego Creek/ Newport Bay watershed. This Order was amended by Order No. R8-2006-0065 to allow the discharge of wastewater effluent associated with pilot testing of selenium and nitrogen treatment technologies and BMPs and to prohibit the discharge of brine, resins, sludge or other secondary concentrates from treatment systems to surface waters. In summary, Order No. R8-2004-0021, as amended by Order No. R8-2006-0065, regulates the following types of discharges in the watershed:

- a. Short-term (one year or less duration) discharges from activities involving groundwater extraction and discharge:
 - (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.

- b. Discharges that pose an insignificant threat to water quality:
 - (1) Construction dewatering wastes not involving groundwater (except storm water dewatering at construction sites)¹;
 - (2) Discharges resulting from hydrostatic testing of vessels, pipelines, tanks, etc.;
 - (3) Discharges resulting from the maintenance of potable water supply pipelines, tanks, reservoirs, etc.;
 - (4) Discharges resulting from the disinfection of potable water supply pipelines, tanks, reservoirs, etc.;
 - (5) Discharges from potable water supply systems resulting from system failures, pressure releases, etc.;
 - (6) Discharges from fire hydrant testing or flushing;
 - (7) Non-contact cooling water;
 - (8) Air conditioning condensate;
 - (9) Swimming pool drainage;
 - (10) Discharges resulting from diverted stream flows;
 - (11) Discharges from residential sump pumps; and
 - (12) Other similar types of wastes, which pose a *de minimus* threat to water quality, yet technically must be regulated under waste discharge requirements.

- c. Wastewater effluent associated with testing of selenium and nitrogen treatment technologies and BMPs.

In the process of consolidation of the requirements of Order No. R8-2004-0021, as amended by Order No. R8-2006-0065, into Order No. R8-2007-0041, certain types of discharges were inadvertently omitted. Specifically, Order No. R8-2007-0041 failed to include Items b. and c. of the above listing (i.e., *de minimus* types of discharges and wastewater associated with testing of selenium and nitrogen treatment technologies and BMPs). Order No. R8-2004-0021 is due to expire on December 20, 2009 and is not planned to be renewed since regulatory coverage can and will be provided under Order No. R8-2007-0041. However, it is necessary to amend Order No. R8-2007-0041 to include the discharges identified in items b. and c. above, as well as the discharge prohibition added by Order No. R8-2006-0065.

¹ Storm water discharges are covered under separate permit.

Furthermore, based on input from some of the Dischargers, it is necessary to clarify in Order No. R8-2007-0041, that for certain metals (including lead, cadmium, copper, chromium (II), nickel, silver, and zinc), the toxicity of which is hardness-dependent, the fifth percentile hardness value to be used in calculating the applicable criteria/effluent limits cannot exceed 400 mg/L, unless a site specific water effect ratio (WER) is developed and approved by the Regional Water Board. The California Toxic Rule, which specifies numeric criteria for these metals using equations in which hardness is a variable, explains that if the hardness is over 400 mg/L, two options are available to calculate the freshwater metals criteria: (1) Calculate the criterion using a default WER of 1.0 and using a hardness of 400 mg/L in the hardness equation; or (2) calculate the criterion using a WER and the actual ambient hardness of the surface water in the equation.

The following are the recommended changes to Order No. R8-2007-0041. Deleted text is struck out and added text is bold and highlighted.

1. Order No. R8-2007-0041, page 4, modify last paragraph of Section I. Discharge Information as follows:

This general permit will regulate **de minimus discharges and wastewater effluent associated with testing of selenium and nitrogen treatment technologies and BMPs, and** discharges of treated wastewater from groundwater dewatering and/or groundwater remediation activities at sites polluted by petroleum hydrocarbons, solvents, metals and/or salts within the San Diego Creek/Newport Bay watershed.

2. Order No. R8-2007-0041, page 6, modify paragraph 5., as follows:

5. The Discharger shall submit for approval by the Executive Officer of the Regional Water Board a fixed hardness value based on the 5th percentile of effluent hardness measurements or the average ambient receiving water hardness measurements for those sites polluted with metals (lead, cadmium, copper, chromium (III), nickel, silver, and zinc). **For purposes of calculating the applicable fresh water aquatic life criteria and effluent limitations for metals, the required fifth percentile hardness value has an upper limit of 400 mg/L as calcium carbonate, unless a site specific water effect ratio (WER) is developed and approved by the Regional Water Board. The California Toxic Rule explains that if the hardness is over 400 mg/L, two options are available to calculate the freshwater metals criteria (which are used as the basis for setting effluent limitations): (1) Calculate the criterion using a default WER of 1.0 and using a hardness of 400 mg/L in the hardness equation; or (2) calculate the criterion using a WER and the actual ambient hardness of the surface water in the equation.**

3. Order No. R8-2007-0041, page 8, modify paragraph II.B.3., as follows:

3. For freshwater discharges, within forty five (45) days of the effective date of this Order, Dischargers from those sites polluted with leaded gasoline or metals shall submit for approval by the Regional Water Board Executive Officer the proposed hardness value based on 5th percentile of effluent hardness measurements or the average ambient freshwater receiving water hardness measurements. Once approved by the Executive Officer, this hardness value shall be the basis for determining the lead/metals effluent limits for the discharge from Attachment "BJ" of this Order.

4. Order No. R8-2007-0041, page 10, modify last paragraph of Finding B., as follows:

In summary, this general permit will regulate discharges from activities involving groundwater dewatering, **discharges that pose an insignificant threat to water quality, wastewater effluent associated with testing of selenium and nitrogen treatment technologies and BMPs** and groundwater remediation in areas where contamination from petroleum hydrocarbons, solvents, metals and/or salts may be present. These activities include the following:

1. Wastes associated with well installation, development, test pumping and purging;
2. Aquifer testing wastes;
3. Dewatering wastes from subterranean seepage;
4. Groundwater dewatering wastes at construction sites; ~~and~~
5. Groundwater remediation.
6. **Discharges resulting from hydrostatic testing of vessels, pipelines, tanks, etc.;**
7. **Discharges resulting from the maintenance of potable water supply pipelines, tanks, reservoirs, etc.;**
8. **Discharges resulting from the disinfection of potable water supply pipelines, tanks, reservoirs, etc.;**
9. **Discharges from potable water supply systems resulting from initial system startup, routine startup, sampling of influent flow, system failures, pressure releases, etc.;**
10. **Discharges from fire hydrant testing or flushing;**
11. **Air conditioning condensate;**
12. **Swimming pool discharge;**
13. **Discharges resulting from diverted stream flows;**
14. **Decanted filter backwash wastewater and/or sludge dewatering filtrate water from water treatment facilities;**
15. **Discharges of wastewater effluent associated with testing of selenium and nitrogen treatment technologies and BMPs into surface water; and**
16. **Other similar types of wastes as determined by the Regional Water Board Executive Officer, which pose a de minimus threat to water quality yet must be regulated under waste discharge requirements.**

5. Order No. R8-2007-0041, page 17, add new paragraph G. in Section IV., as follows:

G. The discharge of brine, resins, sludge or other secondary concentrates from treatment systems to surface waters is prohibited.

RECOMMENDATION:

Adopt Order No. R8-2009-0045 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 – David Rice

State Department of Water Resources, Glendale

State Department of Fish and Game, San Diego – Dolores Duarte

California Department of Public Health, Santa Ana - Oliver Pacifico

Orange County Water District - Nira Yamachika/Greg Woodside

Orange County Public Works - Chris Crompton

Orange County Public Works, Flood Control – Andy Ngo

Orange County Health Care Agency – Larry Honeybourne

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. Jack Skinner

Defend the Bay - Robert J. Caustin

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 – Tina Bachelder

City of Lake Forest - Robert L. Woodings

City of Laguna Hills – Kenneth Rosenfield

Golden State Water Company – Brandy O'Gorman, bogorman@gswater.com

City of Newport Beach - John Kappeler

City of Santa Ana Public Works Agency - James Ross

City of Irvine - Steve Ollo

City of Costa Mesa – Fariba Fazeli

Foothill Engineering & Dewatering - Wendell Bradford

California Regional Water Quality Control Board
Santa Ana Region

Order No. R8-2009-0045

Amending Order No. R8-2007-0041, NPDES No. CAG918002
General Discharge Permit For Discharges To Surface Waters Of Groundwater
Resulting From Groundwater Dewatering Operations And/Or Groundwater Cleanup
Activities At Sites Within The San Diego Creek/Newport Bay Watershed Polluted By
Petroleum Hydrocarbons, Solvents, Metals And/Or Salts

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

1. On November 30, 2007, the Regional Water Board adopted Order No. R8-2007-0041, NPDES No. CAG918002, prescribing general waste discharge requirements for discharges to surface waters of groundwater resulting from groundwater dewatering operations and/or groundwater cleanup activities at sites within the San Diego Creek/Newport Bay watershed polluted by petroleum hydrocarbons, solvents, metals and/or salts.
2. Order No. R8-2007-0041 consolidated the requirements of two general permits for discharges within the San Diego Creek/Newport Bay watershed; Order No. R8-2007-0008, NPDES No. CAG918001, and Order No. R8-2004-0021, NPDES No. CAG998001. Specifically, Order No. R8-2007-0041 includes requirements to regulate groundwater-related discharges that may contain selenium, nutrients, volatile organic compounds, solvents or metals.
3. Order No. R8-2004-0021, NPDES No. CAG998002, regulates the short-term groundwater-related discharges that are expected to last one year or less, and discharges that pose an insignificant threat to water quality (de minimus discharges) within the San Diego Creek/Newport Bay watershed. This Order was amended by Order No. R8-2006-0065 to authorize discharges of wastewater effluent associated with testing of selenium and nitrogen treatment technologies and BMPs and to prohibit the discharge of brine, resins, sludge or other secondary concentrates from treatment systems to surface waters.
4. In the process of consolidation of permit requirements in Order No. R8-2007-0041, certain discharges regulated under Order No. R8-2004-0021, as amended, were omitted. Specifically, Order No. R8-2007-0041 failed to include de minimus discharges and wastewater effluent associated with testing of selenium and nitrogen treatment technologies and BMPs. Further, Order No. R8-2007-0041 failed to include the prohibition regarding the discharge of brine, resins, sludge or other secondary concentrates from treatment systems to surface waters. Order No. R8-2004-0021 is due to expire on December 20, 2009 and is not planned to

be renewed since regulatory coverage can and should be provided under Order No. R8-2007-0041. However, it is necessary to amend Order No. R8-2007-0041 to include the previously omitted de minimus discharges, discharges resulting from the testing of nitrogen and selenium treatment technologies and BMPs, and to include the prohibition specified in Order No. R8-2006-0065.

5. In accordance with California Water Code Section 13389, amending the general waste discharge requirements for the types of discharges regulated under Order No. R8-2007-0041 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.
6. The Regional Water Board has notified the dischargers and other interested agencies and persons of its intent to amend Order No. R8-2007-0041 and has provided them with an opportunity to submit their written views and recommendations.
7. The Regional Water 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. R8-2007-0041 be amended as follows:

1. Order No. R8-2007-0041, page 4, modify last paragraph of Section I. Discharge Information as follows:

This general permit will regulate de minimus discharges and wastewater effluent associated with testing of selenium and nitrogen treatment technologies and BMPs, and discharges of treated wastewater from groundwater dewatering and/or groundwater remediation activities at sites polluted by petroleum hydrocarbons, solvents, metals and/or salts within the San Diego Creek/Newport Bay watershed.

2. Order No. R8-2007-0041, page 6, modify paragraph 5., as follows:
 5. The Discharger shall submit for approval by the Executive Officer of the Regional Water Board a fixed hardness value based on the 5th percentile of effluent hardness measurements or the average ambient receiving water hardness measurements for those sites polluted with metals (lead, cadmium, copper, chromium (III), nickel, silver, and zinc). For purposes of calculating the applicable fresh water aquatic life criteria and effluent limitations for metals, the required fifth percentile hardness value has an upper limit of 400 mg/L as calcium carbonate, unless a site specific water effect ratio (WER) is

developed and approved by the Regional Water Board. The California Toxic Rule explains that if the hardness is over 400 mg/L, two options are available to calculate the freshwater metals criteria (which are used as the basis for setting effluent limitations): (1) Calculate the criterion using a default WER of 1.0 and using a hardness of 400 mg/L in the hardness equation; or (2) calculate the criterion using a WER and the actual ambient hardness of the surface water in the equation.

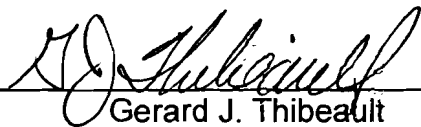
3. Order No. R8-2007-0041, page 8, modify paragraph II.B.3., as follows:
 3. For freshwater discharges, within forty five (45) days of the effective date of this Order, Dischargers from those sites polluted with leaded gasoline or metals shall submit for approval by the Regional Water Board Executive Officer the proposed hardness value based on 5th percentile of effluent hardness measurements or the average ambient freshwater receiving water hardness measurements. Once approved by the Executive Officer, this hardness value shall be the basis for determining the lead/metals effluent limits for the discharge from Attachment "B" of this Order.
4. Order No. R8-2007-0041, page 10, modify last paragraph of Finding B., as follows:

In summary, this general permit will regulate discharges from activities involving groundwater dewatering, discharges that pose an insignificant threat to water quality, wastewater effluent associated with testing of selenium and nitrogen treatment technologies and BMPs and groundwater remediation in areas where contamination from petroleum hydrocarbons, solvents, metals and/or salts may be present. These activities include the following:

1. Wastes associated with well installation, development, test pumping and purging;
2. Aquifer testing wastes;
3. Dewatering wastes from subterranean seepage;
4. Groundwater dewatering wastes at construction sites;
5. Groundwater remediation.
6. Discharges resulting from hydrostatic testing of vessels, pipelines, tanks, etc.;
7. Discharges resulting from the maintenance of potable water supply pipelines, tanks, reservoirs, etc.;
8. Discharges resulting from the disinfection of potable water supply pipelines, tanks, reservoirs, etc.;
9. Discharges from potable water supply systems resulting from initial system startup, routine startup, sampling of influent flow, system failures, pressure releases, etc.;
10. Discharges from fire hydrant testing or flushing;
11. Air conditioning condensate;
12. Swimming pool discharge;

13. Discharges resulting from diverted stream flows;
 14. Decanted filter backwash wastewater and/or sludge dewatering filtrate water from water treatment facilities;
 15. Discharges of wastewater effluent associated with testing of selenium and nitrogen treatment technologies and BMPs into surface water; and
 16. Other similar types of wastes as determined by the Regional Water Board Executive Officer, which pose a de minimus threat to water quality yet must be regulated under waste discharge requirements.
5. Order No. R8-2007-0041, page 17, add new paragraph G. in Section IV., as follows:
- G. The discharge of brine, resins, sludge or other secondary concentrates from treatment systems to surface waters is prohibited.
6. All other conditions and requirements of Order No. R8-2007-0041 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 July 20, 2009.


Gerard J. Thibeault
Executive Officer