California Regional Water Quality Control Board
Santa Ana Region

ORDER NO. R8-2003-0002
NPDES No. CAG648001

GENERAL WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES TO SURFACE WATERS OF PROCESS WASTEWATER ASSOCIATED WITH CERTAIN WELLHEAD TREATMENT SYSTEMS

for the
Santa Ana Region

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

1. On October 1, 1996, the Regional Board adopted Order No. 96-18, National Pollutant Discharge Elimination System (NPDES) Permit No. CAG918001. Order No. 96-18 specified waste discharge requirements for discharges into surface waters of extracted and treated groundwater resulting from the cleanup of groundwater polluted by petroleum hydrocarbons and/or solvents at service stations and similar sites. Order No. 96-18 expired on October 1, 2001. Order No. 96-18 was renewed by Order No. R8-2002-0007 on January 23, 2002.

2. Wellhead treatment systems (WTS) are also operated in the Region such that the product water is discharged to potable water distribution systems, rather than to surface waters. Seven such systems are now and have been operated for some years by the Cities of Riverside and San Bernardino to address groundwater contaminated by solvents and perchlorate. Other wellhead treatment systems will be installed to address other recently identified contamination problems (e.g., perchlorate), with the intent to return the product water to potable water distribution systems. These systems act to restore the quality of the groundwater subbasins and provide reliable water supply for domestic, industrial, and municipal uses. Generally, groundwater is extracted, treated, then delivered to the potable water supply systems. Wastes are generated in the treatment process. The most commonly used method of treatment of solvent-contaminated groundwater is granular activated carbon (GAC) adsorption. At some sites in the City of San Bernardino, air-stripping towers are used to treat a small portion of the extracted groundwater. Ion exchange/resins systems are used for treatment of perchlorate contaminated groundwater.

3. WTS generate three kinds of waste waters:

   a. Purged well water discharges. The purged water[1] is discharged at initial and routine startup of the wells and during sampling of influent flow. Discharges of well purge water are raw groundwater without GAC or ion exchange/resin system treatment;

   b. Discharges during carbon bed expansion, carbon change, backwashing or fluffing. The backwash water and filter rinse water or fluffing water is discharged at startup and routine operation of the GAC treatment system. Water used for backwashing or fluffing is treated groundwater; and

   c. Disinfection and rinse water discharges. Wastewaters from chlorine-disinfection of wells and GAC vessel(s) is discharged before startup of the GAC system. Water used for disinfection is potable water.

4. Discharges of process wastes from the seven WTS operated by the Cities of San Bernardino and Riverside have been regulated under Order No. 96-18. The dischargers reapplied for coverage under Order No. R8-2002-0007. After thoroughly evaluating the renewal applications, it was determined that discharges from the WTS do not qualify to be enrolled under Order No. R8-2002-0007. These WTS discharges differ from those covered under Order No. R8-2002-0007 in that they are typically intermittent and of limited magnitude and duration, include pollutants such as perchlorate, and often percolate into the same groundwater subbasin from which the contaminated groundwater was extracted. Given this, separate waste discharge requirements are appropriate. This Order regulates the discharge of process wastes from these and similar WTS to surface waters.

5. Discharges from the existing WTS sites are, for the most part, to storm drains or creeks that are typically dry. In these cases, the wastewater discharges percolate into the underlying groundwater subbasin from which the contaminated groundwater was drawn, without reaching a flowing surface water. Where volatile organic pollutants are concerned (e.g., PCE/TCE), the constituents volatilize upon discharge. Under these circumstances, the discharges do not cause or contribute to further degradation of the affected groundwater subbasin, nor do they result in aquatic life toxicity. (In any case, no aquatic life protection objectives for TCE, PCE or perchlorate have been established.) In some cases, the discharges are to streams that are flowing as the result of precipitation or perennial flow. Again, volatile organic compounds are expected to volatilize quickly. Where non-volatile pollutants are concerned, the discharges have the potential to affect use of the affected receiving waters for municipal supply and groundwater recharge.

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1 *Purge water discharges that do not percolate before commingling with surface receiving waters are limited in magnitude (typically less than 2000 gallons per minute) and duration (typically less than 5 minutes). Introduction of the purge water to the treatment systems could compromise the efficacy of the treatment systems due to biofouling.*

6. The adoption of this Order will expedite the processing of applications for waste discharge requirements for WTS discharges and thus the early implementation of groundwater cleanup programs. General NPDES Permits allow the Regional Board to better utilize limited staff resources.

7. Entity(ies)/individual(s) authorized to discharge wastewater from WTS under the terms and conditions of this Order are hereinafter referred to as "discharger".

8. For coverage under this general permit, a discharger is required to submit an application for the proposed discharge together with the certification report required by Section H.5: "REQUIRED REPORTS AND NOTICES," and to get approval from the Executive Officer. If the proposed discharge meets the requirements of this Order, the Executive Officer will provide the discharger with a written authorization to initiate the discharge. If not, an individual NPDES permit will be developed for consideration by the Regional Board.

9. It is appropriate to allow the Executive Officer to increase or reduce the number of constituents being monitored and the frequency of monitoring when the discharger meets the conditions specified in this Order.

10. This Order permits the discharge into surface waters from WTS that meet the requirements of this Order. It does not preempt or supersede the authority of municipalities, flood control agencies, or other local agencies to prohibit, restrict, or control discharges of waste to storm drain systems or other watercourses subject to their jurisdiction.

11. Code of Federal Regulations Section 40 Part 122.28 pertains to the issuance of general permits to regulate discharges of waste that meet the following criteria:

    a. Waste discharges involving the same or substantially similar types of operations;

    b. Discharges of the same types of wastes;

    c. Require the same effluent limitations or operating conditions;

    d. Require the same or similar monitoring; and

    e. Are more appropriately regulated under a general permit rather than individual permits.

12. The Regional Board recognizes the need to consider any unique factors relating to a discharger. In order to consider any unique factors applicable to a particular discharger or discharge, it will be necessary for the discharger to apply for an individual NPDES permit in accordance with Section 13376 of the California Water Code.

13. The Executive Officer of the Regional Board or the Regional Administrator of the EPA may require any person authorized to discharge waste by this general permit to subsequently apply for and obtain an individual NPDES permit. Any interested person may petition the Executive Officer or the Regional Administrator to take action in accordance with this finding. Cases where an individual NPDES permit may be required include the following:

    a. The discharger is not in compliance with the conditions of this Order or the discharge authorization letter from the Executive Officer;

    b. A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;

    c. Effluent limitation guidelines are promulgated for point sources covered by the general NPDES permit;

    d. Changes to water quality control plan containing requirements applicable to such point sources are approved; or

    e. The requirements of 40 CFR 122.28 (a) are not met.

14. A Water Quality Control Plan (Basin Plan) became effective on January 24, 1995. The Basin Plan contains beneficial uses and water quality objectives for surface and ground waters in the Santa Ana Region.

15. Existing and potential beneficial uses designated for surface waters in the Santa Ana Region include:

    a. Municipal and Domestic Supply,
    b. Agricultural Supply,
    c. Industrial Service Supply,
    d. Industrial Process Supply,
    e. Groundwater Recharge,
    f. Hydropower Generation,
    g. Water Contact Recreation,
    h. Non-contact Water Recreation
    i. Warm Freshwater Habitat,
    j. Limited Warm Freshwater Habitat,
    k. Cold Freshwater Habitat,
    l. Preservation of Biological Habitats of Special Significance,
    m. Wildlife Habitat,
    n. Marine Habitat,
    o. Shellfish Harvesting,
    p. Estuarine Habitat,
    q. Rare, Threatened or Endangered Species, and

r. Spawning, Reproduction, and Development.

16. Many surface waters within the Region recharge underlying groundwater basins. The existing and potential beneficial uses of groundwater subbasins within the Region include:

    a. Municipal and Domestic Supply,
    b. Agricultural Supply,
    c. Industrial Service Supply, and
    d. Industrial Process Supply.

17. The requirements contained in this Order are necessary to implement the Basin Plan.

18. Effluent limitations and national standards of performance established pursuant to Section 301, 302, 303(d), 304, 306, and 307 of the Federal CWA and amendments thereto are applicable to this type of discharges.

19. On June 8, 1989, pursuant to 40 CFR 122.28, the State Water Resources Control Board (hereinafter State Board), applied to the Environmental Protection Agency (hereinafter EPA) for revisions of its NPDES program in accordance with 40 CFR 123.62 and 403.10. The application included a request to add general permit authority to its approved NPDES program. On September 22, 1989, Region IX EPA approved the State Board's request and granted authorization for the State's issuance of general NPDES permits.

20. On May 18, 2000, the U.S. Environmental Protection Agency issued a final rule for the establishment of Numeric Criteria for Priority Toxic Pollutants necessary to fulfill the requirements of Section 303(c)(2)(B) of the Clean Water Act for the State of California. This rule is commonly referred to as the California Toxics Rule.

21. Federal Regulations require permits to include limitations for all pollutants that are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion of a water quality standard.

22. On March 2, 2000, the State Water Resources Control Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California. This Policy includes implementation provisions for the California Toxics Rule. The Policy specifies a methodology to determine if pollutants in the discharge are at a level which will cause, have the reasonable potential to cause, or contribute to an excursion of a water quality standard and delineates procedures to be used to calculate appropriate limits.

23. This Order implements relevant provisions of the California Toxic Rule and the State Board Policy. The limitations for priority pollutants in this Order were developed following the methodology and procedures outlined in the State Board Policy. A more detailed discussion regarding the development of the effluent limitations can be found in the Fact Sheet for this Order and in the Board's file(s) pertaining to this matter.

24. The limitations for priority pollutants apply to discharges to flowing surface waters, since those and downstream waters may be affected. The effluent limitations do not apply to discharges that percolate to the same underlying groundwater subbasin from which the WTS extracts and treats contaminated groundwater, prior to reaching a flowing surface water. In such cases, neither the immediate or downstream receiving waters, including groundwater subbasins, would be adversely affected by these discharges.

25. The quality characteristics of the discharges and the impacts of the discharges on the affected receiving waters have been carefully considered. If conducted in accordance with the terms and conditions of this Order, the discharges will not result in adverse impacts to the beneficial uses of the affected receiving waters. Discharges that result in volatilization of pollutants or that percolate into the same groundwater subbasin from which the groundwater treated at the WTS was extracted will not adversely affect that groundwater or result in the lowering of water quality. Discharges from WTS sites that enter flowing surface waters may result in the lowering of water quality in those surface waters and/or groundwater subbasin(s) recharged by those surface waters. However, given the limited magnitude and duration of these discharges, and requisite compliance with the limitations specified in this Order, this lowering of water quality is not considered significant. The limited lowering of water quality will not adversely affect the beneficial uses of affected receiving waters. Operation of the WTS is intended to protect and restore beneficial uses by limiting the spread of contaminant plumes and augmenting potable water supplies. For this reason, the limited lowering of water quality associated with process wastewater discharges from the WTS is considered of maximum benefit to the people of the state. Therefore, these waste discharge requirements are consistent with federal and state antidegradation policies (40 CFR 131.12 and State Board Resolution No. 68-16).

26. In accordance with California Water Code Section 13389, the issuance of waste discharge requirements for this discharge 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.

27. The Regional Board has notified interested agencies and persons of its intent to issue general waste discharge requirements for discharges resulting from groundwater cleanup projects, and has provided them with an opportunity to submit their written views and recommendations.

28. The Regional Board, in a public meeting, heard and considered all comments pertaining to general waste discharge requirements for discharges resulting from groundwater cleanup projects.

IT IS HEREBY ORDERED that dischargers of process wastewater resulting from water treatment systems that deliver product water to potable distribution systems, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder, shall comply with the following:

A. DISCHARGE SPECIFICATIONS:

1. The discharge of wastes shall not contain constituent concentrations in excess of the following limits. These limitations apply at the end of the discharge pipe. If the receiving surface water body is dry and the wastewater percolates to the same groundwater subbasin from which the contaminated groundwater was extracted, these limitations do not apply:

EFFLUENT LIMITATIONS APPLICABLE TO DISCHARGES INTO RECEIVING WATERS DESIGNATED MUN (see Basin Plan Table 3-1)		
Constituent	Maximum Daily Concentration Limit (µg/l)	Average Monthly Concentration Limit (µg/l)
Tetrachloroethene (PCE)	1.6	0.8
Trichloroethylene (TCE)	5.4	2.7
Perchlorate	8	4

EFFLUENT LIMITATIONS APPLICABLE TO DISCHARGES INTO RECEIVING WATERS NOT DESIGNATED MUN (see Basin Plan Table 3-1)		
Constituent	Maximum Daily Concentration Limit (µg/l)	Average Monthly Concentration Limit (µg/l)
Tetrachloroethene (PCE)	10.0	5.0
Trichloroethylene (TCE)	10.0	5.0
Perchlorate	8	4

EFFLUENT LIMITATIONS APPLICABLE TO DISCHARGES INTO ALL RECEIVING WATERS (see Basin Plan Table 3-1)	
Constituent	Maximum Daily Concentration Limit (mg/l)
Total Dissolved Solids (TDS)	See Section A.4. and Section A.5., below
Total Inorganic Nitrogen (TIN)	See Section A.4. and Section A.5., below
Total Residual Chlorine[2]	0.1
Suspended Solids	75

2. The pH of the discharge shall be within 6.5 and 8.5 pH units (see also Receiving Water Limitations B.2.g.).

3. There shall be no visible oil and grease in the discharge.

4. For discharges to surface waters where the groundwater will not be affected by the discharge, the TDS and/or TIN of the effluent shall not exceed the water quality objectives for the receiving surface water where the effluent is discharged, as specified in Table 4-1 of the 1995 Basin Plan for the Santa Ana Region.

5. For discharges to surface waters where the groundwater will be affected by the discharge, the TDS and/or TIN concentrations of the effluent shall not exceed the water quality objectives for the surface water where the effluent is discharged nor the affected groundwater subbasin, as specified in Table 4-1 of the 1995 Basin Plan for the Santa Ana Region. The more restrictive water quality objectives shall govern. However, discharge exceeding the groundwater subbasin water quality objectives may be returned to the same subbasin from which it was extracted without reduction of the TDS or TIN concentrations so long as the concentrations of those constituents are no greater than when the groundwater was first extracted. Incidental increases in the TDS and TIN concentrations (such as may occur during air stripping) of treated effluent will not be considered increases for the purposes of determining compliance with this discharge specification.

B. RECEIVING WATER LIMITATIONS:

1. The discharge of wastes shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Board or the State Board, as required by the Federal CWA and regulations adopted thereunder.

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[2] *If chlorine is used for treatment or disinfection of wastes.*

2. The discharge shall not cause any of the following:

   a. The undesirable discoloration of the receiving waters.

   b. The presence of objectionable odor in the receiving water.

   c. The presence of visible oil, grease scum, floating or suspended material or foam in the receiving waters.

   d. The deposition of objectionable deposits along the banks or the bottom of the stream channel.

   e. The depletion of the dissolved oxygen concentration below 5.0 mg/l in the receiving water. If the ambient dissolved oxygen concentration is less than 5.0 mg/l, the discharge shall not cause a further depression.

   f. An increase in the temperature of the receiving waters above 90°F (32°C) which normally occurs during the period of June through October, nor above 78°F (26°C) during the rest of the year.

   g. Change the ambient pH levels more than 0.5 pH units.

   h. The presence of radionuclides in concentrations that exceed the maximum permissible concentrations for radionuclides in water set forth in Chapter 5, Title 17 of the California Code of Regulations.

   i. The concentration of pollutants in the water column, sediments, or biota to adversely affect the beneficial uses of the receiving waters.

   j. The bioaccumulation of chemicals in aquatic resources to levels which are harmful to human health.

3. The discharge shall not result in acute toxicity in ambient receiving waters. The effluent shall be deemed to cause acute toxicity when the toxicity test of 100% effluent as required in Monitoring and Reporting Program No. R8-2003-0002, results in failure of the test as determined using the pass or fail test protocol specified in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (EPA-821-R-02-012, October 2002). The discharger shall immediately stop the discharge whenever the discharge fails the toxicity test(s). Prior to resuming the discharge, the discharger shall identify and correct the source of the toxicity to the satisfaction of the Executive Officer.

C. PROHIBITIONS:

1. The discharge of oil, trash, industrial waste sludge, or other solids directly to the surface waters in this region or in any manner that will ultimately affect surface waters in this region is prohibited.

2. The discharge of any substances in concentrations toxic to animal or plant life is prohibited.

3. The discharge of wastes to property not owned or controlled by the discharger is prohibited.

4. Odors, vectors, and other nuisances of waste origin are prohibited beyond the limits of each discharger's facility.

5. The addition of chemicals to the extracted groundwater, exclusive of chlorine to control biofouling (H_2S) in treatment systems, is prohibited except when approved by the Executive Officer.

6. There shall be no direct discharges of waste to Areas of Special Biological Significance.

D. COMPLIANCE DETERMINATION:

1. Compliance with Discharge Specification A.1. shall be based on the minimum levels[3] (ML) specified in Attachment "A" of the Monitoring and Reporting Program No. R8-2003-0002, unless an alternative minimum level or practical quantitation level[4] (PQL) is approved for the pollutant of concern by the Regional Board's Executive Officer. If the discharger develops a limit of quantitation (LOQ) specific to their matrix, the LOQ shall serve as the ML with the approval of the Executive Officer of the Regional Board. If no minimum level is specified for a constituent, the method detection limit (MDL) specified in 40 CFR 136 shall be used. If no MDL is available, the lowest practicable detection limit shall be used with the approval of the Executive Officer.

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3 *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed..*

4 *PQL is the lowest concentration of a substance that can be determined within ± 20 percent of the true concentration by 75 percent of the analytical laboratories tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL is the method detection limit (MDL) x 5 for carcinogens and MDL x 10 for noncarcinogens.*

2. Compliance determinations shall be based on available analyses for the time interval associated with the effluent limitation. Where only one sample analysis is available in a specified time interval (e.g., weekly, monthly, quarterly), that sample shall serve to characterize the discharge for the entire interval. In light of the intermittent nature of the discharges addressed by this Order, if there is only one sample result and that result exceeds the average monthly limit, then one violation will be deemed to have occurred. If multiple samples taken on different days are available within a month, each sample result that exceeds the maximum daily limit will be deemed a violation. If the average of these samples exceeds the average monthly limit, then one violation will be deemed to have occurred.

3. When determining compliance, based on a single sample, with a single effluent limitation which applies to a group of chemicals (e.g., PCBs), concentrations of individual members of the group may be considered to be zero if the analytical response for individual chemicals falls below the MDL for that chemical.

4. Compliance with an effluent limitation based on multiple samples shall be determined through the application of appropriate statistical methods. Compliance based on a single sample analysis may be determined where appropriate, as described below.

    a. When the effluent limitation is greater than or equal to the ML or PQL, compliance shall be determined based on the effluent limitation and either single or multiple sample analyses.

    b. When the effluent limitation is less than the ML or PQL compliance determinations based on analysis of a single sample shall only be undertaken if the concentration of the constituent of concern in the sample is greater than or equal to the ML or PQL.

    c. When the effluent limitation is less than the ML or PQL, and recurrent analytical responses between the ML or PQL and the effluent limitation occur, compliance shall be determined by statistical analysis of multiple samples.

    d. For statistical analysis, the March 1991 Technical Support Document (EPA/505/2-90-001) methodology or other methods approved by the Executive Officer of the Regional Board shall be used.

E. PROVISIONS:

1. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the CWA, or amendments thereto, that shall become effective 10 days after the date of adoption, provided the Regional Administrator of the EPA has no objection. If the Regional Administrator objects to its issuance, this Order shall not serve as an NPDES permit until such objection is withdrawn.

2. Neither the treatment nor the discharge of waste shall create, or threaten to create, a nuisance or pollution as defined by Section 13050 of the California Water Code.

3. This Order expires on May 1, 2008. However, it shall continue in force and effect until a new Order is issued. Only those dischargers authorized to discharge under the expiring Order will be regulated by the continued Order. Upon reissuance of a new general permit, the dischargers shall file a notice of intent within 45 days of the effective date of the new Order and obtain a new authorization to discharge from the Executive Officer.

4. The Executive Officer shall determine whether the proposed discharge is eligible for coverage under this general permit, after which, the Executive Officer may;

   a. Authorize the proposed discharge by transmitting a "Discharge Authorization Letter" to the discharge proponent (now an "authorized discharger") authorizing the initiation of the discharge under the conditions of this Order and any other conditions consistent with this Order which are necessary to protect the beneficial uses of the receiving waters; or,

   b. Require the discharge proponent to obtain an individual NPDES permit prior to any discharge to surface waters within the Santa Ana Region.

5. The discharge authorization letter from the Executive Officer shall specify any conditions necessary to protect the beneficial uses of the receiving waters and shall specify the Self-Monitoring Program for the proposed discharge in accordance with this Order. The discharge authorization letter may be terminated or revised by the Executive Officer at any time.

6. The discharger shall comply with all requirements of this Order and the terms, conditions and limitations of the discharge authorization letter.

7. The discharger shall minimize, reduce, or treat purge water and other discharges as appropriate to meet the effluent limitations of this Order whenever there is reasonable potential that the wastewater discharged will commingle with ambient receiving surface waters.

8. The discharger shall take all reasonable steps to regulate the velocity of the waste discharge in a manner that prevents and/or minimizes soil erosion as the waste stream travels through stream beds and/or soft bottom storm channels.

9. The discharge shall be limited to WTS wastewater discharges as described in Finding No. 3, above..

10. The discharger shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

11. The discharger shall take all reasonable steps to minimize any adverse impact to receiving waters resulting from noncompliance with any effluent limitations specified in this Order, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

12. The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment (and related appurtenances) and control which are installed or used by the discharger to achieve compliance with this Order and the conditions of the authorization letter(s) from the Executive Officer. Proper operation and maintenance shall include the following:

    a. Effective performance, adequate funding, adequate operator staffing and training and adequate laboratory and process controls and appropriate quality assurance procedures.

    b. Regular maintenance and inspection of all systems.

    c. Maintenance of records of the inspection results that shall be made available to the Regional Board whenever required and demanded.

13. An Operation and Maintenance (O&M) Manual shall be developed prior to the initiation of the discharge and shall be readily accessible to site operating personnel. The O&M Manual shall include the following:

    a. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.

    b. Process and equipment inspection and maintenance schedules.

    c. Describe preventive (fail-safe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events.

    d. Identification and description of the possible sources of accidental loss, bypass of untreated or partially treated wastes, and polluted drainage including power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes and possible spills.

14. All treatment facility startup and operation instruction manuals shall be maintained and available to operating personnel at the site where groundwater remediation is being conducted.

15. The discharger shall comply with the monitoring and reporting program issued by the Executive Officer with the authorization letter. Revision of this monitoring and reporting program by the Executive Officer may be necessary to confirm that the discharger is in compliance with the requirements and provisions contained in this Order. Revisions may be made by the Executive Officer at any time during the term of this Order, and may include a reduction or an increase in the number of constituents to be monitored, the frequency of monitoring or the number and size of samples collected. Reduction in the number of constituents being monitored and/or frequency of monitoring shall be considered only if the following conditions are satisfied:

a. Only dischargers without any criminal convictions under any environmental statute and NPDES civil, judicial and administrative enforcement actions are eligible.

b. Only dischargers covered under Order No. 96-18 or under an existing individual permit for the last consecutive two years who have had no effluent violations of monitored constituents during the last two years are eligible.

c. Constituents with effluent limitations shall be monitored at least once per year.

d. Should any of the monitoring for a specific constituent show effluent concentrations above the effluent limit, the frequency of monitoring for that constituent shall be increased as directed by the Executive Officer.

16. The discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement.

17. This Order does not convey any property rights of any sort, or any exclusive privilege.

18. This Order is not transferable to any person except after notice to and approval by the Regional Board.

19. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the discharger from his liabilities under federal, state, or local laws, nor guarantee the discharger a capacity right in the receiving waters.

20. The provisions of this Order are severable, and if any provision of this Order, or the application of any provisions of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order shall not be affected thereby.

21. Any violation of this Order constitutes a violation of the CWA, its regulations, and the California Water Code, and is grounds for enforcement action and/or termination of the authorization to discharge.

22. Except for data determined to be confidential under Section 308 of the Clean Water Act (CWA), all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the Regional Water Quality Control Board and the Regional Administrator of EPA. As required by the CWA, effluent data shall not be considered confidential.

23. The Regional Board, EPA, and other authorized representatives shall be allowed:

    a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;

    b. Access to copy any records that are kept under the conditions of the order;

    c. To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

    d. To photograph, sample and monitor for the purpose of assuring compliance with this Order, or as otherwise authorized by the CWA.

F. PERMIT REOPENING, REVISION, REVOCATION, AND RE-ISSUANCE:

1. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal CWA, or amendments thereto, the Board will revise and modify this Order in accordance with such standards.

2. This Order may be reopened to address any changes in State or federal plans, policies or regulations that would affect the quality requirements for the discharges.

3. Any permit noncompliance constitutes a violation of the CWA and the California Water Code and is grounds for enforcement action; for permit or authorization letter termination, revocation and reissuance, or modification; the issuance of an individual permit; or for denial of a renewal application.

4. This Order may be modified by the Regional Board prior to the expiration date to include effluent or receiving water limitations for toxic constituents determined to be present in significant amounts in the discharge through the comprehensive monitoring program included as part of this Order.

5. This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by a discharger for modification, revocation and reissuance, or termination of this Order or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

G. PENALTIES:

1. The CWA provides that any person who violates a provision implementing sections 301, 302, 306, 307, or 308 of the CWA is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates provisions implementing these sections of the CWA is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

2. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

3. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

4. The California Water Code provides that any person who violates a waste discharge requirement or a provision of the California Water Code is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day, or $20 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.

H. REQUIRED REPORTS AND NOTICES:

1. Reporting Provisions:

   a. All applications, reports, or information submitted to the Regional Board shall be signed and certified in accordance with 40 CFR 122.22.

   b. The discharger shall furnish, within a reasonable time, any information the Regional Board or EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The discharger shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

   c. Except for data determined to be confidential under Section 308 of the CWA, all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the Regional Water Quality Control Board and the Regional Administrator of EPA. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act and Section 13387 of the California Water Code.

2. Within forty five (45) days of the effective date of this Order, those dischargers regulated under Order No. 96-18 or Order No. R8-2002-0007, and those dischargers under individual waste discharge requirements, who wish to be regulated under this Order shall submit a notice of intent. Additional information may be required if there has been a change in ownership of facility or changes in the character and/or treatment of the discharges.

3. The discharger shall file with the Board a report of waste discharge at least 120 days before making any material change or proposed change in the character, location, volume, treatment or disposal methods of the discharge.

4. The discharger shall give advance notice to the Regional Board of any planned changes in the permitted facility or activity that may result in noncompliance with these waste discharge requirements.

5. Each discharger shall submit to the Executive Officer, as part of the application for proposed discharge, a report certifying the adequacy of each component of the proposed treatment system and the associated Operation and Maintenance (O&M) Manual. This certification shall contain a requirement-by-requirement analysis, based on accepted engineering practice, of how the process and physical design of the treatment systems will ensure compliance with this Order. The design engineer[5] shall affix his/her signature, professional license number and seal to this certification.

6. In the event of any change in control or ownership of land or waste discharge facilities currently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which signed by the new owner accepting responsibility for complying with this Order shall be forwarded to the Executive Officer.

7. The discharger shall furnish, within a reasonable time, any information the Executive Officer may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The discharger shall also furnish to the Executive Officer, upon request, copies of records required to be kept by this Order.

I. APPLICATION REQUIREMENTS FOR DISCHARGES:

At least 60 days before the start of a new discharge or permit expiration, the discharger shall submit an application and obtain the authorization letter from the Executive Officer to discharge treated groundwater. The application shall consist of the following information:

1. Notice of Intent to be covered under this general permit.

2. A site characterization study which defines the onsite contaminants and their properties, the three-dimensional extent and concentration of contaminants in the subsurface, and includes a description of the geologic and hydrologic factors that control the migration of the contaminants.

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5 *A registered civil engineer, registered geologist, or certified engineering geologist licensed in the State of California (Sections 6735, 7835, and 7835.1 of the California Business and Profession's Code).*

3. A report which shall include the following:

   a. Chemical analysis of the untreated groundwater. A representative groundwater sample shall be analyzed for organic pollutants using EPA method and results shall be reported with ML or PQL and MDL;

   b. The name of the receiving water;

   c. The estimated average and maximum daily flow rates;

   d. A map showing the path from the point of initial discharge to the ultimate location of discharge;

   e. A list of known or suspected pollutant(s) plum(s) which have, or may have impacted the quality of the underlying groundwater;

   f. A description of the proposed treatment system and a certification report on the adequacy of each component of the proposed treatment system along with the associated operation. This certification report shall contain a requirement-by-requirement analysis, based on accepted engineering practice, of how the process(es) and physical design(s) of the treatment system will ensure compliance with this Order. The design engineer shall affix his/her signature and engineering license number to this certification report. The report(s) shall also certify the following:

      (1) all treatment facility startup and operation instruction manuals are adequate and available to operating personnel;

      (2) all treatment facility maintenance and testing schedules are included in the treatment facility operation and maintenance manual (O&M Manual) which shall be kept readily accessible to onsite operating personnel; and

      (3) influent and effluent sampling locations and ports located in areas where samples representative of the waste stream to be monitored can be obtained.

4. Any other information deemed necessary by the Executive Officer.

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 May 16, 2003.

Gerard J. Thibeault
Executive Officer

California Regional Water Quality Control Board
Santa Ana Region

NOTICE OF INTENT

TO COMPLY WITH THE TERMS AND CONDITIONS OF THE GENERAL PERMIT TO DISCHARGE PROCESS WASTEWATER ASSOCIATED WITH CERTAIN WELLHEAD TREATMENT SYSTEMS
(Order No. R8-2003-0002, NPDES No. CAG648001)

I. PERMITTEE (*Person/Agency Responsible for the Discharge*)

Agency/Company Name:_____

Address:_____

Street *City* *State* *ZIP*

Contact Person:_____ Phone:_(_____)_____

II. FACILITY

Name:_____

Location:_____

Street *City* *State* *ZIP*

Contact Person:_____ Phone:_(_____)_____

a. Projected Flow Rate (*gpd*):_____, b. Receiving Water (*identify*):_____

III. BILLING INFORMATION (*Where annual fee invoices should be sent*)

Agency/Company Name:_____

Address:_____

Street *City* *State* *ZIP*

Contact Person:_____ Phone:_(_____)_____

IV. INDICATE EXISTING PERMIT NUMBER: (*if applicable*)

a. Individual permit Order No. _____ NPDES No. _____

b. General Permit Order No. R8-2002-0007-_____

c. Others (specify) _____

V. CERTIFICATION:

I certify under penalty of law that I am an authorized representative of the permittee and that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the permittee will comply with the terms and conditions stipulated in Order No. R8-2003-0002 including the monitoring and reporting program issued by the Executive Officer of the Regional Board.

Name and Official Title:_____
(type or print)

Signature: _____ Date: _____

Remarks: *If changes to facility ownership and/or treatment processes were made after the issuance of the existing permit, please provide a description of such changes on another sheet and submit it with this Notice of Intent.*

California Regional Water Quality Control Board
Santa Ana Region

Monitoring and Reporting Program No. R8-2003-0002
NPDES No. CAG648001

For

GENERAL WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES TO SURFACE WATERS OF PROCESS WASTEWATER ASSOCIATED WITH CERTAIN WELLHEAD TREATMENT SYSTEMS

Santa Ana Region

A. MONITORING GUIDELINES:

Monitoring shall be in accordance with the following:

1. All sampling and sample preservation shall be in accordance with the current edition of "*Standard Methods for the Examination of Water and Wastewater*" (American Public Health Association).

2. All laboratory analyses shall be performed in accordance with test procedures under 40 CFR 136 (revised as of May 14, 1999) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA), unless otherwise specified in this monitoring and reporting program (M&RP). In addition, the Regional Board and/or EPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR 136. Unless otherwise specified herein, organic pollutants shall be analyzed using EPA method 8260, as appropriate, and results shall be reported with ML or PQL and MDL.

3. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services or EPA or at laboratories approved by the Executive Officer of the Regional Board.

4. The discharger shall conduct acute toxicity testing as specified in Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (EPA-821-R-02-012, October 2002). The toxicity test shall be conducted when effluent discharges reach flowing surface waters[1]. Using a control and 100% effluent, static non-renewal survival (pass/fail) tests for 96 hours shall be conducted using the two test species specified in the table below corresponding to the onsite groundwater salinity, for the first required annual test under this Order. Based on the test results, the discharger shall determine the most sensitive test species. For the required succeeding toxicity monitoring, the discharger shall use the most sensitive species with prior approval from the Regional Board Executive Officer. The discharger shall submit documentation supporting the discharger's determination of the most sensitive test species. The effluent tests must be conducted concurrent with reference toxicant tests. The effluent and reference toxicant tests must meet all test acceptability criteria as specified in the acute manual[2]. If the test acceptability criteria are not achieved, then the discharger must re-sample and re-test within 14 days. The test results must be reported according to the acute manual chapter on Report Preparation, and shall be attached to the monitoring reports. The use of alternative methods for measuring acute toxicity may be considered by the Executive Officer on a case-by-case basis.

   a. Test species:

IF THE EFFLUENT OR RECEIVING WATER SALINITY IS:	TEST SPECIES	TEST
Less than 1,000 mg/l salinity	Fathead minnow, *Pimphales promelas*	Larval survival test
	Water flea, *Ceriodaphnia dubia*	Survival test
Equal to or greater than 1,000 mg/l salinity	Silverside, *Menedia beryllina*	Survival Test
	Pacific mysid, *Holmesimysis costata*	Survival Test

1 *If wastewater discharges percolate into the ground, in lieu of toxicity testing the discharger shall record on a permanent log and report the observation noting the location where wastewater percolation terminated including the name of the person making the observation, the date and time of observation and weather condition (dry, sunny or rainy)*

2 *"Acute manual" refers to protocols described in "Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" (EPA-821-R-02-012, October 2002).*

b. In the event that the required annual toxicity test fails, the discharger shall stop any discharge of wastewater to waters of the U.S. and shall retest within 14 days of receiving the notice of failure and shall determine the cause of the failure. The discharger shall stop any discharge of wastewater to waters of the U.S. until such time that the cause of toxicity is determined and appropriately addressed. Commencement of any discharge shall be with prior approval by the Executive Officer.

5. The discharger shall multiply each measured or estimated congener concentration by its respective toxic equivalency factor (TEF) as shown below and report the sum of these values. The discharger shall use the U.S. EPA approved test method 1613 for dioxins and furans. The discharger shall report the analytical results of the monitoring for each congener, including the quantifiable limit (approved reporting limit) and the method detection limit, and the measured or estimated concentration.

Toxic Equivalency Factors for 2,3,7, 8-TCDD Equivalents	
Congener	TEF
2,3,7,8-TetraCDD	1
1,2,3,7,8-PentaCDD	1.0
1,2,3,4,7,8-HexaCDD	0.1
1,2,3,6,7,8-HexaCDD	0.1
1,2,3,7,8,9-HexaCDD	0.1
1,2,3,4,6,7,8-HeptaCDD	0.01
OctaCDD	0.0001
2,3,7,8-TetraCDF	0.1
1,2,3,7,8-PentaCDF	0.05
2,3,4,7,8-PentaCDF	0.5
1,2,3,4,7,8-HexaCDF	0.1
1,2,3,6,7,8-HexaCDF	0.1
1,2,3,7,8,9-HexaCDF	0.1
2,3,4,6,7,8-HexaCDF	0.1
1,2,3,4,6,7,8-HeptaCDF	0.01
1,2,3,4,7,8,9-HeptaCDF	0.01
OctaCDF	0.0001

6. All analytical data shall be reported with minimum levels (ML)[3], method detection limits (MDLs) and with identification of either practical quantitation levels (PQLs) or limits of quantitation (LOQs).

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3 *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

7. The discharger shall select and use the appropriate ML from Attachment "A' of this M&RP. For a specific constituent, when there is more than one ML value, the discharger shall select and use the ML value and its associated analytical method, listed in Attachment A of this M&RP which is lower the effluent limitation. If no ML value is below the effluent limitation, then Regional Board will select the lowest ML value and its associated analytical method, listed in Attachment A.

8. For non-priority priority pollutants[4], laboratory data must quantify each constituent down to the Practical Quantitation Levels specified in Attachment "B". Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.

9. The discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by the Board or EPA, the discharger shall participate in the NPDES discharge monitoring report QA performance study. The permittee must have a success rate equal to or greater than 80%.

10. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

11. The flow measurement system shall be calibrated at least once per year or more frequently, to ensure continued accuracy.

12. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Influent samples shall be taken at each point of inflow to the treatment system and shall be representative of the influent to the treatment system. Effluent samples shall be taken downstream of the last addition of waste to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters.

13. Whenever the discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report specified by the Executive Officer.

14. The discharger may request a reduction in the constituents to be monitored and/or a reduction in monitoring frequency for a specific constituent(s) subject to the approval of the Executive Officer when the conditions stipulated in Provisions E.15. of this Order are met.

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4 *Pollutants not listed in table shown in 40 CFR 131.38.*

15. The discharger shall monitor weekly those constituents that are detected at levels of concern[5] in the required priority pollutant scan or in the required organic scan using EPA Method 8260. To return to the monitoring frequency specified, the discharger shall request and receive approval from the Regional Board's Executive Officer or designee.

16. The discharger shall assure that records of all monitoring information are maintained and accessible for a period of at least five years from the date of the sample, report, or application. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or by the request of the Board at any time. Records of monitoring information shall include:

    a. The date, exact place, and time of sampling or measurements;
    b. The individual(s) who performed the sampling, and/or measurements;
    c. The date(s) analyses were performed;
    d. The individual(s) who performed the analyses;
    e. The analytical techniques or methods used;
    f. All sampling and analytical results;
    g. All monitoring equipment calibration and maintenance records;
    h. All original strip charts from continuous monitoring devices;
    i. All data used to complete the application for this Order; and,
    j. Copies of all reports required by this Order.

17. Discharge monitoring data shall be submitted in a format acceptable to the Regional Board. Specific reporting format may include preprinted forms and/or electronic media. Unless otherwise specified, discharge flows shall be reported in terms of daily average discharge flows. The results of all monitoring required by this Order shall be reported to the Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order.

18. The discharger shall deliver a copy of each monitoring report in the appropriate format to:

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

19. Weekly samples shall be collected on a representative day of each week.

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5 *Levels of concern are detected values 50 % or greater than the criteria values specified for Priority Pollutants in the California Toxics Rule (see Federal Register/Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations) and the national; recommended water quality criteria for non-priority pollutants (see Federal Register / Vol. 63, No. 237 / Thursday, December 10, 1998/ Notices, Pages 68360 & 68361) or Maximum Contaminant Level (MCL) and Action Levels (AL) adopted by the Department of Health Services.*

20. Bi-monthly samples shall be collected on a representative day of the week.

21. Monthly samples shall be collected on a representative day of the month.

22. Quarterly samples shall be collected in January, April, July, and October.

23. Semi-Annual samples shall be collected once during dry weather (April to September) and once during wet weather (October to March) for the first year of the discharge. The discharger may terminate monitoring for the congeners when the required wet and dry weather monitoring is complied with.

24. Annual samples shall be collected on the month the discharge authorization letter was issued.

B. EFFLUENT MONITORING:

1. The following shall constitute the effluent monitoring program:

CONSTITUENT	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF SAMPLING & ANALYSIS
Flow	------	GPD	Daily
Tetratchloroethylene (PCE)	Grab	µg/l	During the first 30 minutes of each discharge event
Trichloroethylene (TCE)	"	"	"
Perchlorate	"	"	"
Total Residual Chlorine[6]	"	mg/l	"
Total Dissolved Solids	"	"	"
Total Inorganic Nitrogen (TIN)	Grab	mg/l	During the first 30 minutes of each discharge event
Suspended Solids	"	"	"
2,3,7,8-TetraCDD	"	µg/l	Semi -annually (See A.5. & A.23.)
1,2,3,7,8-PentaCDD	"	"	"
1,2,3,4,7,8-HexaCDD	"	"	"
1,2,3,6,7,8-HexaCDD	"	"	"
1,2,3,7,8,9-HexaCDD	"	"	"
1,2,3,4,6,7,8-HeptaCDD	"	"	"
OctaCDD	"	"	"

6 *If chlorine is used for treatment or disinfection of wastes.*

CONSTITUENT	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF SAMPLING & ANALYSIS
2,3,7,8-TetraCDF	Grab	µg/l	Semi -annually (See A.5. & A.23.)
1,2,3,7,8-PentaCDF	"	"	"
2,3,4,7,8-PentaCDF	"	"	"
1,2,3,4,7,8-HexaCDF	"	"	"
1,2,3,6,7,8-HexaCDF	"	"	"
1,2,3,7,8,9-HexaCDF	"	"	"
2,3,4,6,7,8-HexaCDF	"	"	"
1,2,3,4,6,7,8-HeptaCDF	"	"	"
1,2,3,4,7,8,9-HeptaCDF	"	"	"
OctaCDF	"	"	"
Priority Pollutant (see Attachment "C")	Grab	"	Annually
Total Hardness	Grab	mg/l	Annually, simultaneously when sampling for priority pollutants
Toxicity Testing (see paragraph A.4., above.)	Grab	Pass/Fail	At the initiation of the project and annually thereafter (see paragraph A.24., above)

2. The monitoring frequency for those priority pollutants that are detected during the required annual monitoring at a concentration greater than fifty percent of the most stringent applicable receiving water objective (freshwater or human health (consumption of organisms only) as specified for that pollutant in 40 CFR 131.38[7]) shall be accelerated to quarterly for one year following detection. To return to the annual monitoring frequency, the discharger shall request and receive approval from the Regional Board's Executive Officer or designee.

3. Receiving Water Monitoring: Whenever there is a discharge and the discharger claims that there are no receiving water at the point where the discharge reaches the stream, the discharger shall record on a permanent log the following information: (a) the date(s); (b) time(s); (c) and duration(s) of the discharge; (d) a description of the location where the discharge percolated into the ground, (e) the climatic condition in the area during the discharge and (f) the name of the individual(s) who performed the observation. This information shall be submitted with the required quarterly report.

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7 *See Federal Register / Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

C. REPORTING:

Reporting shall be in accordance with the following:

1. All monitoring reports, or information submitted to the Regional Board shall be signed and certified in accordance with 40 CFR 122.22 and shall be submitted under penalty of perjury.

2. All reports shall be arranged in a tabular format to clearly show compliance or noncompliance with each discharge limitation.

3. One week before wastewater discharges from maintenance operation of well(s) and/or wellhead treatment systems is commenced, the discharger shall notify the Regional Board or its designated compliance officer by email and/or orally by telephone.

4. If no discharge occurs during the previous monitoring period, a letter to that effect shall be submitted in lieu of a monitoring report.

5. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, and of the actions undertaken or proposed which will bring the discharger into full compliance with requirements at the earliest time, and an estimate of the date when the discharger will be in compliance. The discharger shall notify the Regional Board by letter when compliance with the time schedule has been achieved.

6. Noncompliance Reporting

    a. The discharger shall report any noncompliance that may endangers health or the environment. Any information shall be provided to the Executive Officer (909-782-4130) and the Office of Emergency Services (1-800-852-7550) orally within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue, and, steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

    b. Any violation of a maximum daily discharge limitation for any of the pollutants listed in this Order shall be included as information that must be reported within 24 hours.

    c. The Regional Board may waive the above required written report on a case-by-case basis.

7. Monitoring reports shall be submitted by the 30th day of each month following the monitoring period and shall include:

a. The results of all chemical analyses for the previous month, and annual samples whenever applicable,

b. The daily flow data,

c. A summary of the month's activities including a report detailing compliance or noncompliance with the task for the specific schedule date, and

d. For every item where the requirements are not met, the discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time and submit a timetable for correction.

Ordered by _____
Gerard J. Thibeault
Executive Officer

May 16, 2003

MINIMUM LEVELS IN PPB (µg/l)

Table 1- VOLATILE SUBSTANCES[1]	GC	GCMS
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromomethane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Dichlorobromomethane	0.5	2
1,1 Dichloroethane	0.5	1
1,2 Dichloroethane	0.5	2
1,1 Dichloroethylene	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichloropropylene (volatile)	0.5	2
Ethylbenzene	0.5	2
Methyl Bromide (*Bromomethane*)	1.0	2
Methyl Chloride (*Chloromethane*)	0.5	2
Methylene Chloride (*Dichloromethane*)	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
Tetrachloroethylene	0.5	2
Toluene	0.5	2
trans-1,2 Dichloroethylene	0.5	1
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
Trichloroethylene	0.5	2
Vinyl Chloride	0.5	2
1,2 Dichlorobenzene (volatile)	0.5	2
1,3 Dichlorobenzene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2

Selection and Use of Appropriate ML Value:

ML Selection: When there is more than one ML value for a given substance, the discharger may select any one of those ML values, and their associated analytical methods, listed in this Attachment that are below the calculated effluent limitation for compliance determination. If no ML value is below the effluent limitation, then the discharger shall select the lowest ML value, and its associated analytical method, listed in this Attachment.

ML Usage: The ML value in this Attachment represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences. Assuming that all method-specific analytical steps are followed, the ML value will also represent, after the appropriate application of method-specific factors, the lowest standard in the calibration curve for that specific analytical technique. Common analytical practices sometimes require different treatment of the sample relative to calibration standards.

Note: chemical names in parenthesis and italicized is another name for the constituent.

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[1] *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

MINIMUM LEVELS IN PPB (μg/l)

Table 2 – Semi-Volatile Substances[2]	GC	GCMS	LC
2-Chloroethyl vinyl ether	1	1	
2 Chlorophenol	2	5	
2,4 Dichlorophenol	1	5	
2,4 Dimethylphenol	1	2	
4,6 Dinitro-2-methylphenol	10	5	
2,4 Dinitrophenol	5	5	
2- Nitrophenol		10	
4- Nitrophenol	5	10	
4 Chloro-3-methylphenol	5	1	
2,4,6 Trichlorophenol	10	10	
Acenaphthene	1	1	0.5
Acenaphthylene		10	0.2
Anthracene		10	2
Benzidine		5	
Benzo (a) Anthracene (*1,2 Benzanthracene*)	10	5	
Benzo(a) pyrene (*3,4 Benzopyrene*)		10	2
Benzo (b) Flouranthene (*3,4 Benzofluoranthene*)		10	10
Benzo(g,h,i)perylene		5	0.1
Benzo(k)fluoranthene		10	2
bis 2-(1-Chloroethoxyl) methane		5	
bis(2-chloroethyl) ether	10	1	
bis(2-Chloroisopropyl) ether	10	2	
bis(2-Ethylhexyl) phthalate	10	5	
4-Bromophenyl phenyl ether	10	5	
Butyl benzyl phthalate	10	10	
2-Chloronaphthalene		10	
4-Chlorophenyl phenyl ether		5	
Chrysene		10	5
Dibenzo(a,h)-anthracene		10	0.1
1,2 Dichlorobenzene (semivolatile)	2	2	
1,3 Dichlorobenzene (semivolatile)	2	1	
1,4 Dichlorobenzene (semivolatile)	2	1	
3,3' Dichlorobenzidine		5	
Diethyl phthalate	10	2	
Dimethyl phthalate	10	2	
di-n-Butyl phthalate		10	
2,4 Dinitrotoluene	10	5	
2,6 Dinitrotoluene		5	
di-n-Octyl phthalate		10	
1,2 Diphenylhydrazine		1	
Fluoranthene	10	1	0.05
Fluorene		10	0.1
Hexachloro-cyclopentadiene	5	5	
1,2,4 Trichlorobenzene	1	5	

MINIMUM LEVELS IN PPB (µg/l)

Table 2 - SEMI-VOLATILE SUBSTANCES[2]	GC	GCMS	LC	COLOR
Pentachlorophenol	1	5		
Phenol [3]	1	1		50
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
N-Nitroso diphenyl amine	10	1		
Phenanthrene		5	0.05	
Pyrene		10	0.05	

Table 3– INORGANICS[4]	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1000
Arsenic		2	10	2	2	1		20	1000
Beryllium	20	0.5	2	0.5	1				1000
Cadmium	10	0.5	10	0.25	0.5				1000
Chromium (total)	50	2	10	0.5	1				1000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1000
Lead	20	5	5	0.5	2				10000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1000
Selenium		5	10	2	5	1			1000
Silver	10	1	10	0.25	2				1000
Thallium	10	2	10	1	5				1000
Zinc	20		20	1	10				1000
Cyanide								5	

2 *With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1000, therefore, the lowest standards concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1000.*

3 *Phenol by colorimetric technique has a factor of 1*

4 *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

MINIMUM LEVELS IN PPB (μg/l)

Table 4- PESTICIDES – PCBs[5]	GC
Aldrin	0.005
alpha–BHC (*a-Hexachloro-cyclohexane*)	0.01
beta–BHC (*b-Hexachloro-cyclohexane*)	0.005
Gamma–BHC (*Lindane; g-Hexachloro-cyclohexane*)	0.02
Delta-BHC (*d-Hexachloro-cyclohexane*)	0.005
Chlordane	0.1
4,4'-DDT	0.01
4,4'-DDE	0.05
4,4'-DDD	0.05
Dieldrin	0.01
Alpha-Endosulfan	0.02
Beta-Endosulfan	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

Techniques:
GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry
SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP - Direct Current Plasma
COLOR - Colorimetric

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[5] *The normal method-specific factor for these substances is 100, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.*

PRACTICAL QUANTITATION LEVELS FOR COMPLIANCE DETERMINATION

	Constituent	RL µg/l	Analysis Method
1	Arsenic	7.5	GF/AA
2	Barium	20	ICP/GFAA
3	Cadmium	15	ICP
4	Chromium (VI)	15.0	ICP
5	Cobalt	10.0	GF/AA
6	Copper	19.0	GF/ICP
7	Cyanide	50.0	335.2/335.3
8	Iron	100.0	ICP
9	Lead	26.0	GF/AA
10	Manganese	20.0	ICP
11	Mercury	0.5	CV/AA
12	Nickel	50.0	ICP
13	Selenium	14.0	GF/HYDRIDE GENERATION
14	Silver	16.0	ICP
15	Zinc	20	ICP
16	1,2 - Dichlorobenzene	5.0	601/602/624
17	1,3 - Dichlorobenzene	5.0	601
18	1,4 - Dichlorobenzene	5.0	601
18	2,4 - Dichlorophenol	10.0	625/604
20	4 - Chloro -3-methylphenol	10.0	625/604
21	Aldrin	0.04	608
22	Benzene	1.0	602/624
23	Chlordane	0.30	608
24	Chloroform	5.0	601/624
25	DDT	0.10	608
26	Dichloromethane	5.0	601/624
27	Dieldrin	0.10	608
28	Fluorantene	10.0	625/610
29	Endosulfan	0.50	608
30	Endrin	0.10	608
31	Halomethanes	5.0	601/624
32	Heptachlor	0.03	608
33	Hepthachlor Epoxide	0.05	608
34	Hexachlorobenzene	10.0	625
35	Hexachlorocyclohexane		
	Alpha	0.03	608
	Beta	0.03	608
	Gamma	0.03	608
36	PAH's	10.0	625/610
37	PCB	1.0	608
38	Pentachlorophenol	10.0	625/604
39	Phenol	10.0	625/604
40	TCDD Equivalent	0.05	8280
41	Toluene	1.0	602/625
42	Toxaphene	2.0	608
43	Tributyltin	0.02	GC
44	2,4,6-Trichlorophenol	10.0	625/604

EPA PRIORITY POLLUTANT LIST

Metals		Acid Extractibles		Base/Neutral Extractibles (continuation)	
1.	Antimony	45.	2-Chlorophenol	91.	Hexachloroethane
2.	Arsenic	46.	2,4-Dichlorophenol	92.	Indeno (1,2,3-cd) Pyrene
3.	Beryllium	47.	2,4-Dimethylphenol	93.	Isophorone
4.	Cadmium	48.	2-Methyl-4,6-Dinitrophenol	94.	Naphthalene
5a.	Chromium (III)	49.	2,4-Dinitrophenol	95.	Nitrobenzene
5b.	Chromium (VI)	50.	2-Nitrophenol	96.	N-Nitrosodimethylamine
6.	Copper	51.	4-Nitrophenol	97.	N-Nitrosodi-N-Propylamine
7.	Lead	52.	3-Methyl-4-Chlorophenol	98.	N-Nitrosodiphenylamine
8.	Mercury	53.	Pentachlorophenol	99.	Phenanthrene
9.	Nickel	54.	Phenol	100.	Pyrene
10.	Selenium	55.	2, 4, 6 – Trichlorophenol	101.	1,2,4-Trichlorobenzene
11.	Silver	**Base/Neutral Extractibles**		**Pesticides**	
12.	Thallium	56.	Acenaphthene	102.	Aldrin
13.	Zinc	57.	Acenaphthylene	103.	Alpha BHC
Miscellaneous		58.	Anthracene	104.	Beta BHC
14.	Cyanide	59.	Benzidine	105.	Delta BHC
15.	Asbestos (not required unless requested)	60.	Benzo (a) Anthracene	106.	Gamma BHC
16.	2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)	61.	Benzo (a) Pyrene	107.	Chlordane
Volatile Organics		62.	Benzo (b) Fluoranthene	108.	4, 4' - DDT
17.	Acrolein	63.	Benzo (g,h,i) Perylene	109.	4, 4' - DDE
18.	Acrylonitrile	64.	Benzo (k) Fluoranthene	110.	4, 4' - DDD
19.	Benzene	65.	Bis (2-Chloroethoxy) Methane	111.	Dieldrin
20.	Bromoform	66.	Bis (2-Chloroethyl) Ether	112.	Alpha Endosulfan
21.	Carbon Tetrachloride	67.	Bis (2-Chloroisopropyl) Ether	113.	Beta Endosulfan
22.	Chlorobenzene	68.	Bis (2-Ethylhexyl) Phthalate	114.	Endosulfan Sulfate
23.	Chlorodibromomethane	69.	4-Bromophenyl Phenyl Ether	115.	Endrin
24.	Chloroethane	70.	Butylbenzyl Phthalate	116.	Endrin Aldehyde
25.	2-Chloroethyl Vinyl Ether	71.	2-Chloronaphthalene	117.	Heptachlor
26.	Chloroform	72.	4-Chlorophenyl Phenyl Ether	118.	Heptachlor Epoxide
27.	Dichlorobromomethane	73.	Chrysene	119.	PCB 1016
28.	1,1-Dichloroethane	74.	Dibenzo (a,h) Anthracene	120.	PCB 1221
29.	1,2-Dichloroethane	75.	1,2-Dichlorobenzene	121.	PCB 1232
30.	1,1-Dichloroethylene	76.	1,3-Dichlorobenzene	122.	PCB 1242
31.	1,2-Dichloropropane	77.	1,4-Dichlorobenzene	123.	PCB 1248
32.	1,3-Dichloropropylene	78.	3,3'-Dichlorobenzidine	124.	PCB 1254
33.	Ethylbenzene	79.	Diethyl Phthalate	125.	PCB 1260
34.	Methyl Bromide	80.	Dimethyl Phthalate	126.	Toxaphene
35.	Methyl Chloride	81.	Di-n-Butyl Phthalate		
36.	Methylene Chloride	82.	2,4-Dinitrotoluene		
37.	1,1,2,2-Tetrachloroethane	83.	2-6-Dinitrotoluene		
38.	Tetrachloroethylene	84.	Di-n-Octyl Phthalate		
39.	Toluene	85.	1,2-Dipenylhydrazine		
40.	1,2-Trans-Dichloroethylene	86.	Fluoranthene		
41.	1,1,1-Trichloroethane	87.	Fluorene		
42.	1,1,2-Trichloroethane	88.	Hexachlorobenzene		
43.	Trichloroethylene	89.	Hexachlorobutadiene		
44.	Vinyl Chloride	90.	Hexachlorocyclopentadiene	Revised: 7/7/2000	

Santa Ana California Regional Water Quality Control Board
Santa Ana Region

May 16, 2003

STAFF REPORT

ITEM: **6**

SUBJECT:

Issuance of general waste discharge requirements for discharges of process wastewater associated with wellhead treatment systems (WTS) within the Santa Ana Region, Order No. R8-2003-0002 (NPDES No. CAG648001)

DISCUSSION:

See Attached Fact Sheet

RECOMMENDATION:

Adopt Order No. R8-2003-0002, NPDES No. CAG648001 as presented.

Comments were solicited from the following agencies:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) - Terry Oda
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 - Jorge Leon
State Water Resources Control Board, Division of Water Quality - James Maughan
State Department of Water Resources, Glendale
State Department of Fish and Game, Long Beach
State Department of Health Services, San Bernardino
State Department of Health Services, Santa Ana
State Department of Health Services, San Diego - Steve Williams
Orange County Health Care Agency - Seth Daugherty
Orange County Environmental Management Agency, Resources Division - Chris Crompton
Orange County Planning & Development Services Department – Tim Neely
Orange County Water District - Nira Yamachika
Riverside County Environmental Health Department - Sandy Bonchek
San Bernardino County Department of Public Works, Env. Mngmnt Div. - Naresh Varma
San Bernardino County Environmental Health Department – Daniel Avera
South Coast Air Quality Management District - James Lents
City of Riverside, Public Utilities - Dan Randall
City of San Bernardino, Municipal Water Department - W. William Bryden
DDB Engineering, Newport Beach - Debbie Burris
Orange County Coastkeeper - Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper

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

May 16, 2003

FACT SHEET

The attached pages contain information concerning general waste discharge requirements and a National Pollutant Discharge Elimination System (NPDES) permit for discharges to surface waters of process wastewater associated with the operation of wellhead treatment systems within the Santa Ana Region.

A. NEED FOR GENERAL WASTE DISCHARGE REQUIREMENTS

Currently there are seven (7) wellhead treatment system (WTS) sites within the Region that treat groundwater polluted by solvents/volatile organic compounds and/or other substances such as perchlorate, and that deliver the treated water to potable water supply systems. At these sites, waste streams are derived as the result of facility operations, including well purge water and backwash (see description below). These WTS sites are distinct from other groundwater remediation projects, such as typical petroleum hydrocarbon remediation sites, where the product water is discharged to surface or ground waters. These discharges of treated water are regulated under Order No. R8-2002-0007, NPDES No. CAG918001, general waste discharge requirements for discharges to surface waters of extracted and treated groundwater resulting from the cleanup of groundwater polluted by petroleum hydrocarbons and/or solvents at service stations and similar sites. Order No. R8-2002-0007 was adopted by the Regional Board on January 23, 2002 to renew the requirements specified in Order No. 96-18, NPDES No. CAG918001. Discharges of process wastes from the WTS sites to surface waters were authorized initially under Order No. 96-18. However, given the distinct nature of the discharges, it is appropriate to establish waste discharge requirements that are specific to the discharges, rather than to continue regulation under the existing general groundwater cleanup Order. Pollutants commonly encountered at the WTS sites are perchlorate and volatile organics, such as Tetrachloroethene (PCE) and Trichloroethylene (TCE). Additional WTS to address perchlorate contamination of groundwater in the Region are expected to come on line in the near future and are expected to require regulation of process waste discharges. To facilitate effective and appropriate regulation of these WTS discharges, staff recommends the adoption of general waste discharge requirements, as presented herein.

B. GENERAL NPDES PERMIT

The issuance of general permits is authorized at 40 CFR[1] 122.28. This section of the regulations provides for the issuance of general permits to regulate discharges of wastes that result from similar operations, are the same types of wastes, require the same effluent limitations, require similar monitoring, and are more appropriately regulated under a general permit than under

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1 *Code of Federal Regulations.*

individual permits. In most cases, discharges, which are from the groundwater cleanup sites polluted by solvents to surface waters of the Santa Ana Region, meet the requirements of 40 CFR 122.28. Where these requirements are not met, individual permits are required.

The United States Environmental Protection Agency, Region IX, granted authority to the State of California to issue general permits pursuant to 40 CFR 122.28 on September 22, 1989.

C. SITE CHARACTERIZATION AND TREATMENT TECHNOLOGY

A number of contaminated groundwater plumes have been identified in the upper Santa Ana River Basin. These include: Trichloroethylene (TCE) plume in the western portion of the Bunker Hill II groundwater subbasin; perchlorate plume at the southern portion of the Bunker Hill I subbasin, TCE plume at the former Norton Air Force Base, and TCE and perchlorate plume at Crafton-Redlands. The Cities of Riverside and San Bernardino have operated groundwater extraction wells in the plume-contaminated areas to restore the quality of the groundwater subbasins and to provide reliable water supply for domestic, industrial, and municipal uses throughout each service area. Groundwater is extracted, treated, then delivered to the Cities' potable water supply systems. The most commonly used method of treatment of volatile organic contaminated groundwater is granular activated carbon (GAC) adsorption. At some sites in San Bernardino, air-stripping towers are used to treat a small portion of the extracted groundwater. Ion exchange/resin systems are used for treatment of perchlorate contaminated groundwater.

WTS generate three kinds of wastewaters:

1. Purged well water discharges. The purged water[2] is discharged at initial and routine startup of the wells and during sampling of influent flow. Discharges of well purge water are raw groundwater without GAC or ion exchange/resin system treatment;
2. Discharges during carbon bed expansion, carbon change, backwashing or fluffing. The backwash water and filter rinse water or fluffing water is discharged at startup and routine operation of the GAC treatment system. Water used for backwashing or fluffing is treated groundwater; and
3. Disinfection and rinse water discharges. Wastewater from chlorine-disinfection of wells and GAC vessel(s) is discharged before startup of the GAC system. Water used for disinfection is potable water.

Attachment "A" to this Fact Sheet shows examples of discharge flows and type of pollutants from existing WTS operated and owned by the Cities of San Bernardino and Riverside. As shown in this Attachment, the process discharges from the WTS are periodic and limited in both magnitude and duration.

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2 *Purge water discharges that do not percolate before commingling with surface receiving waters are limited in magnitude (typically less than 2000 gallons per minute) and duration (typically less than 5 minutes). Introduction of the purge water to the treatment systems could compromise the efficacy of the treatment systems due to biofouling.*

Attachment "B" shows a comparison of TCE/PCE mass discharges from existing WTS compared to TCE/PCE mass removed from the groundwater subbasin. Attachment "B" indicates that during the period 1998-2001, the City of San Bernardino discharged an estimated 0.083 lbs of TCE/PCE into the flood channels, while the WTS removed 961 lbs of TCE/PCE (the estimated removal rate is 99.9%)[3]. During the period 2000-2001, the City of Riverside discharged 0.34 lbs of TCE and 1.86 lbs of perchlorate into the flood channels, while the WTSs removed 376 lbs of TCE and 2,226 lbs of perchlorate (the estimated removal rate is 99.9%)[4].

Discharges from the existing WTS sites are, for the most part, to storm drains or creeks that are typically dry. In these cases, the wastewater discharges percolate into the underlying groundwater subbasin from which the contaminated groundwater was drawn, without reaching a flowing surface water. Where volatile organic pollutants are concerned (e.g., PCE/TCE), the constituents volatilize upon discharge. Under these circumstances, the discharges do not cause or contribute to further degradation of the affected groundwater subbasin, nor do they result in aquatic life toxicity. (In any case, no aquatic life protection objectives for TCE, PCE or perchlorate have been established.) In some cases, the discharges are to streams that are flowing as the result of precipitation or perennial flow. Again, volatile organic compounds are expected to volatilize quickly. Where non-volatile pollutants are concerned, these surface water discharges have the potential to affect use of the affected receiving waters for municipal supply and groundwater recharge.

D. REGULATORY BASIS FOR WASTE DISCHARGE REQUIREMENTS

This Order includes requirements that implement the Water Quality Control Plan (Basin Plan), which was adopted by the Regional Board on March 11, 1994. The Basin Plan was approved by the Office of Administrative Law and became effective on January 24, 1995. This Plan specifies water quality objectives and beneficial uses for the waters of the Santa Ana Region.

The proposed Order specifies numeric and narrative limits for the control of toxic substances. These limits implement relevant Basin Plan objectives, including objectives specified in the California Toxics Rule, and other state and federal requirements. These limits are based on best available technology economically achievable and best professional judgement using the following.

1. 1995 Basin Plan
2. Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California adopted on March 2, 2000 by the State Water Resources Control Board (hereinafter, "Policy")
3. Code of Federal Regulations (40 CFR Parts 122-124, 129, 131, 136, 141 and 142)
4. Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, promulgated in May 18, 2000 by the U.S. EPA ("California Toxics Rule").

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3 *"Application for Renewal of Discharge Requirements for Drinking Water Restoration Facilities" submitted by San Bernardino, April 18, 2002.*

4 *Provided by the City of Riverside.*

5. Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001, March 1991)
6. State Department of Health Services' (DHS) MCLs and Office of Environmental Health Hazard Assessment (OEHHA) MCLs; and,
7. Current analytical detection limits.

Generally, for freshwater discharges, there is no significant amount of receiving water at the point of discharge. Therefore, no mixing zone allowance is included in the calculation of effluent limits in this Order. Consequently, compliance with the effluent limits is required to be determined at the end of the discharge pipe prior to mixing with the ambient receiving water. These effluent limitations apply to discharges to flowing surface waters, but not to discharges that percolate to the same underlying groundwater subbasin from which the WTS extracts and treats contaminated groundwater prior to reaching a flowing surface water.

The Policy specifies calculation procedures for deriving effluent limitations in waste discharge requirements. Step 6 of the procedure stipulates that the average monthly effluent limitation is set equal to the effluent concentration allowance[5]. Where there is no mixing zone allowance and there is no freshwater aquatic life water quality objective in the California Toxics Rule, the effluent concentration allowance (ECA) is equal to the applicable human health objective. Therefore, in these circumstances the AML is equal to the human health objective. The Policy also stipulates that where receiving waters are designated with the municipal water supply beneficial use (MUN), the human health objective for the consumption of water and organisms applies in calculating the effluent limitation, otherwise the human health objective for the consumption of organisms only applies. This Order includes effluent limits for discharges to receiving waters that are designated MUN and for those that are not. For discharges to receiving waters designated MUN, the AMLs for TCE and PCE were taken from the California Toxics Rule (CTR) human health objectives for the consumption of water and organisms. For receiving waters not designated MUN, the AMLs for TCE and PCE are based on DHS' maximum contaminant levels (MCL's), rather than the CTR human health objectives for consumption of organisms. The MCL approach was used to derive effluent limitations in Order R8-2002-0007, under which these discharges were previously regulated. This MCL approach is employed in this Order to assure conformance with federal antibacksliding regulations. Each AML effluent limitation was multiplied by a 2.01 factor to determine the maximum daily concentration effluent limits for TCE and PCE. This factor is the average monthly effluent limit multiplier taken from Table 2 of the Policy. The multiplier corresponds to a coefficient of variation of 0.6 and an

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5 *The EFFLUENT CONCENTRATION ALLOWANCE (ECA) is a value derived from the water quality objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).*

estimated monthly sampling frequency of the effluent equal to 4.[6] The AML discharge limitation for perchlorate is based on OEHHA's action level. The same multiplier factor (2.01) was used to derive the maximum daily effluent limit. (There is no CTR objective for perchlorate. No limitation for perchlorate is specified in Order No. R8-2002-0007, given that this constituent is not expected to be in the wastewater discharges regulated by that Order.).

Perchlorate is not listed in the California Toxics Rule and has no Maximum Contaminant Levels (MCLs). DHS recommends that monitoring be conducted for such "unregulated" chemicals[7] (DHS, February 8, 2002). However, DHS has adopted an action level (AL) for Perchlorate. Chemicals for which ALs have been adopted may eventually be regulated by MCLs. To protect all the underlying groundwater subbasins within the region, which are all designated MUN, this Order adopts the Action Level as the discharge limitation for perchlorate.

Monitoring is the primary means of ensuring that waste discharge requirements are met. It is also the basis for enforcement actions against dischargers who are in violation of the waste discharge requirements issued by the Regional Board. All dischargers enrolled under this general permit will be required to conduct monitoring in accordance with a monitoring program issued by the Executive Officer. Each monitoring and reporting program will be customized for each enrollee based on the characteristics of the groundwater being treated and discharged. The typical required constituents and frequency of analyses are tabulated in the self-monitoring program attached to this general permit as "Typical Monitoring and Reporting Program (MR&P) No. R8-2003-0002." This monitoring and reporting program will be revised as appropriate. An increase of the parameters or frequency of monitoring will be required when monitoring data show the presence of other pollutants of concern that are not limited in this Order, or toxicity test failures. A reduction of the parameters or frequency of monitoring may be implemented with prior approval of the Executive Officer when monitoring data demonstrate that such reduction is warranted. In accordance with the Policy, this Order requires dischargers covered under this general permit to monitor for the 17 congeners specified in the Policy, once during dry weather and once during wet weather for a one-year period.

E. ANTIDEGRADATION ANALYSIS

The Regional Board has considered antidegradation pursuant to 40 CFR 131.12 and State Board Resolution No. 68-16. Discharges in conformance with these waste discharge requirements will not adversely affect the beneficial uses of the affected receiving waters. Discharges that percolate into the same groundwater subbasin from which the groundwater treated at the WTS was extracted will not adversely affect that groundwater or result in the lowering of water quality. Discharges from WTS sites that enter flowing surface waters may result in the lowering of water quality in those surface waters. However, given the limited magnitude and duration of

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6 *This multiplier approach, specified in the Policy, was utilized to calculate maximum daily effluent limitations for TCE and PCE in Order No. R8-2002-0007, under which the process waste discharges from WTS were regulated. However, in Order No. R8-2002-0007, an inappropriate multiplier was used to calculate the maximum daily limitations for TCE and PCE, resulting in slightly more stringent maximum daily effluent limitations for these constituents than those proposed in this Order. This error will be corrected through amendment of Order No. R8-2002-0007.*

7 *"Unregulated Chemicals" are "unregulated" in that they lack drinking water standards—MCLs.*

these discharges, and requisite compliance with the limitations specified in this Order, this lowering of water quality is not considered significant. The limited lowering of water quality will not adversely affect the beneficial uses of affected receiving waters. Operation of the WTS is intended to protect and restore beneficial uses by limiting the spread of contaminant plumes and augmenting potable water supplies. For this reason, the limited lowering of water quality associated with process wastewater discharges from the WTS is considered of maximum benefit to the people of the state. These waste discharge requirements are consistent with federal and state antidegradation policies.

F. COVERAGE UNDER THE GENERAL PERMIT

This general permit covers wastewater discharges resulting from purging of WTS extraction wells, discharges of backwash water or fluffing water, and discharges of disinfection rinse water. Discharges of purge water from these facilities currently covered by the general dewatering NPDES permit (de minimus) will be covered by this permit.

This Order requires each new discharger[8] to submit to the Executive Officer an application for the proposed discharge. Submission of the application will constitute a "Notice of Intent" to be covered under this Order. The application for the proposed discharge will require, at the minimum, the following information:

1. Notice of Intent to be covered under this general permit.

2. A site characterization study which defines the onsite contaminants and their properties, the three-dimensional extent and concentration of contaminants in the subsurface, and includes a description of the treatment systems.

3. A report that shall include the following:

    a. Chemical analysis of the untreated groundwater;

    b. The name of the proposed receiving water body;

    c. The estimated average and maximum daily flow rates;

    d. A map showing the path from the point of initial discharge to the outfall(s);

    e. A description of the proposed groundwater treatment system and the associated operation;

    f. Discharge sampling locations and ports located in areas where samples representative of the waste stream to be monitored can be obtained; and

    g. Any other information deemed necessary by the Executive Officer.

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8 *"New discharger" refers to those proposing to discharge wastewater under Order No. R8-2003-0002 and not currently covered under Order No. 96-18 or R8-2002-0007.*

4. This Order requires those dischargers already covered under the general permit Order No. 96-18 or Order No. R8-2002-0007 and those dischargers under individual permits who wish to be covered under this new general permit to submit only a notice of intent unless otherwise required to submit information about any recent change in ownership of facility, changes in the character and treatment of the discharges and any other relevant information that will update facility information which are on the Regional Board files.

G. DISCHARGE AUTHORIZATION LETTER

Upon receipt of a complete application for a proposed discharge, the Executive Officer will review the application to determine whether the proposed discharger has demonstrated that it will comply with the following criteria and is eligible to discharge wastes under this Order:

a. The proposed discharge consists of purge water, backwash-water or fluffing water, disinfection rinse water or other similar types of wastewater resulting from the operation of wellhead treatment facilities;

b. The proposed discharge to surface waters is within the Santa Ana Region;

c. The associated cleanup operation, maintenance, and monitoring plans are capable of ensuring that the discharge will meet the waste discharge requirements of this Order; and

d. The proposed discharge will not have any adverse impact on waters of exceptional recreational or ecological significance.

Upon determination by the Executive Officer that the proposed discharge satisfies the requirements of this Order, the Executive Officer may either:

a. Authorize the proposed discharge by transmitting a discharge authorization letter to the discharge proponent (thereupon an "authorized discharger" or "enrollee") authorizing the initiation of the discharge subject to the conditions of this Order and any other conditions necessary to protect the beneficial uses of waters within the Santa Ana Region. The discharge authorization letter will also transmit a self-monitoring program. The discharge authorization letter may be terminated or revised by the Executive Officer at any time. The Executive Officer will submit a copy of the discharge authorization letter to the State Water Resources Control Board and the EPA. A list of the discharge authorization letters that have been issued will be reported in the Board's meeting agenda; or

b. Require the discharge proponent to obtain an individual NPDES permit prior to any discharge to surface waters in the Santa Ana Region.

If a NPDES permit has not been issued and the Executive Officer does not provide written authorization for the initiation of the discharge under the terms and conditions of this Order, no discharge from wellhead treatment system to waters of the State within the Santa Ana Region is permitted. An individual NPDES permit may be issued to the discharger.

H. EXPIRATION DATE

The proposed Order expires on May 1, 2008.

I. WRITTEN COMMENTS

Interested persons are invited to submit written comments on the proposed discharge limits and the Fact Sheet. Comments should be submitted by April 28, 2003, either in person or by mail to:

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

J. INFORMATION AND COPYING

Persons wishing further information may write to the above address or call Jun Martirez of the Regional Board at (909) 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).

K. REGISTER OF INTERESTED PERSONS

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

L. PUBLIC HEARING

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

DATE:	May 16, 2003
TIME:	9:00 a.m.
PLACE:	City Council Chambers of Santa Ana 22 Civic Center Plaza Santa Ana

Table A-1
City of San Bernardino Wellhead Systems

Discharge Point/Location	Year[1]	Operational/Maintenance Discharge			Purged Discharge		
		Flow Duration	Discharge Frequency per year/total discharge volume Million Gallons	Pollutants of Concern,	Flow	Discharge Frequency per year/total discharge volume Million Gallons	Pollutants of Concern
1	2	3	4	5	6	7	8
Newmark 48th St and Magnolia St	2001	700-1,200 gpm for 69 minutes	2 discharges totaling 0.09 mg.	PCE Range; 2.8 to 7.1 ug/L TCE Range; 0.9 to 1.2 ug/L	1000 gpm for 179 minutes	3 discharges totaling 0.4 mg	PCE Range; 3.8 to 5.9 ug/L TCE Range; 0 to 0.9 ug/L
	2000	800-1,200 gpm for 1172 minutes	5 discharges totaling 2.6 mg.	PCE Range; <0.5 ug/L TCE Range; <0.5 ug/L	1000 gpm for 237 minutes	1 discharge totaling 0.2 mg	PCE Range; <0.5 ug/L TCE Range; <0.5 ug/L
Waterman 30th St and Waterman Ave	2001	700-1,200 gpm for 79 minutes	7 discharges totaling 0.4 mg.	PCE Range; <0.5 ug/L TCE Range; <0.5 ug/L	0 gpm	No discharges 0.0 mg	No discharges
	2000	500-1,200 gpm for 678 minutes	5 discharges totaling 1.0 mg.	PCE Range; <0.5 ug/L TCE Range; <0.5 ug/L	0 gpm	No Discharges 0.0 mg	No discharges
17th St 17th and Serria Way	2001	N/A	N/A (sanitary sewer)	N/A	0 gpm	No Discharges 0.0 mg	No discharges
	2000	N/A	N/A (sanitary sewer)	N/A	0 gpm	No Discharges 0.0 mg	No discharges
19th St. 19th and Pennsylvania	2001	500-1,200 gpm for 223 minutes	4 discharges totaling 0.2 mg.	PCE Range; <0.5 ug/L TCE Range; <0.5 ug/L	0 gpm	No Discharges 0.0 mg	No discharges
	2000	800-1,200 gpm for 678minutes	4 discharges totaling 1.7 mg.	PCE Range; 1.3 to 3.9 ug/L TCE Range; <0.5 ug/L	0 gpm	No Discharges 0.0 mg	No discharges

[1] *Denotes the year at which data was taken and used in the table.*

Table A-2
City of Riverside Wellhead Systems

Discharge Point	Year	Operational/Maintenance Discharge			Purged Discharge		
		Flow	Discharge Frequency	Pollutants of Concern,	Flow	Discharge Frequency	Pollutants of Concern
1	2	3	4	5	6	7	8
Sunnyside, San Bernardino	2001	Range: 0.015 — 3.456 mgd mean: 0.77 mgd; median: 0.03 mgd	Total 8 discharges, 6.18 mg	TCE: 1.1-4.7 µg/L Mean: 2.8 Median: 2.2 Perchlorate: 15 µg/L	2,000 gpm for 5 minute each, total 0.01 mg x 72 = 0.72 mg	Estimated 3 wells x 2 time/month x 12 month/year = 72 discharges	TCE: 0.5 – 10 µg/L Mean: 4.62 Median: 4.75 Perchlorate: 4 – 42 µg/L Mean: 14.7 Median: 8.1
Tippecanoe, San Bernardino	2001	range: 0.01—3.456 mgd mean: 1.00 mgd; median: 0.03 mgd	total 6 discharges, 6.93 mg	TCE: 1.2—3.2 µg/L Mean: 2.1 Median: 2.0 Perchlorate: 27 µg/L	2,000 gpm for 5 minute each, total 0.01 mg x 72 = 0.72 mg	Estimated 3 wells x 2 time/month x 12 month/year = 72 discharges	TCE: 0.74 – 6.90 µg/L Mean: 3.38 Median: 3.50 Perchlorate: 11 – 48 µg/L Mean: 26 Median: 22.5
Palm Meadows, San Bernardino	2001	No discharge	No discharge		2,000 gpm for 5 minute each, total 0.01 mg x 48 = 0.48 mg	Estimated 2 wells x 2 time/month x 12 month/year = 48 discharges	TCE: <0.5 µg/L Perchlorate: 4 – 9.8 µg/L Mean: 6.7 Median: 6.5

Table B-1
TCE/PCE Removed by the System
San Bernardino

Year	Water production Acre-foot[1]	Water discharged Acre-foot	Total removed TCE/PCE, lbs	Total discharged TCE/PCE, lbs	Total TCE/PCE removal Rate, %
1998	12,349	23.04	149.3	0.04	99.972
1999	23,279	2.13	227.8	0.0005	100
2000	24,321	17.39	259.4	0.0197	99.992
2001	26,411	3.41	324.5	0.0214	99.993
Total	86,360	45.9	960.9	0.0832	99.989

Table B-2
TCE and Perchlorate Removed by the System
City of Riverside

Year	Water production Acre-foot[2]	Total Water discharged[2] Acre-foot	Removed TCE, lbs	Removed ClO_4, lbs	Total discharged TCE, lbs[3]	Total discharged ClO_4, lbs[4]	TCE removal Rate, %	ClO_4 removal Rate, %
2000	21,944	23	188	1,113	0.17	0.93	99.91	99.92
2001	21,944	23	188	1,113	0.17	0.93	99.91	99.92
Total	43,888	46	376	2,226	0.34	1.86	99.91	99.92

1 *The System includes all treatment facilities listed in the Table 4-1-a of the City of San Bernardino.*

2 *Discharged water includes purged water and operational water from Sunnyside and Palm Meadows (Tippecanoe does not reach SAR). Sunnyside: backwash water 19 acre-feet/year + well blowoff water 2.2 acre-feet/year; Palm Meadows: well blowoff water 1.5 acre-feet; total discharge to SAR: 23 acre-foot/year.*

3 *Sunnyside: backwash water 0.14 lb, well blowoff 0.02 lb; Palm Meadow: well blow off 0.01 lb; total discharge to SAR: 0.17 lb/year.*

4 *Sunnyside: backwash water 0.77 lb, well blowoff 0.10 lb; Palm Meadow: well blowoff 0.06 lb; total discharge to SAR: 0.93 lb/year.*