CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. R7-2004-0100
NPDES N0. CA7000016

WASTE DISCHARGE REQUIREMENTS
FOR
PACIFIC GAS AND ELECTRIC COMPANY, OWNER/OPERATOR
GROUNDWATER REMEDIATION FACILITY

Southeast of Needles – San Bernardino County

The California Regional Water Quality Control Board, Colorado River Basin Region (Regional Board) finds that:

1. The Topock Compressor Station is a natural gas compressor station used for transmission of natural gas by pipeline. Pacific Gas and Electric Company (PG&E), 77 Beale Street, San Francisco, CA 94105, is the owner and operator of the Topock Compressor Station and proposed Groundwater Remediation Facility. The proposed location for the Groundwater Remediation Facility is San Bernardino County Assessor's parcel No. 650-151-06. PG&E is currently in the process of purchasing the land from the Metropolitan Water District. PG&E is hereafter referred to either as PG&E or the Discharger.

2. The Topock Compressor Station Class II surface impoundments, proposed groundwater extraction wells and proposed conveyance piping are located on land owned or managed by the U.S. Bureau of Land Management (BLM). BLM is the federal administering agency for the land.

3. From 1951 to 1964, PG&E discharged untreated wastewater containing hexavalent chromium from the compressor station cooling tower to percolation beds in Bat Cave Wash, an ephemeral stream bed draining into the Colorado River.

4. In 1964, PG&E began treatment of blow down water by reduction of hexavalent chromium to trivalent chromium (chrome III) prior to discharge to the percolation beds. On August 14, 1969, the Regional Board adopted Resolution No. 69-25 prohibiting PG&E from discharging wastewater containing hexavalent chromium. At approximately the same time, PG&E began disposing of the treated blow down water by subsurface injection at well PGE8.

5. On November 6, 1970, PG&E submitted a Report of Waste Discharge for disposal of 0.030 million gallons per day (mgd) of industrial wastewater from cooling tower operations into one on-site lined basin designed by a California registered civil engineer.

6. On December 10, 1970, the Regional Board adopted Resolution No. 70-72 to regulate the proposed discharge of cooling tower wastewater into the one on-site lined basin.

7. On September 11, 1975, the Regional Board rescinded Resolution No. 70-72 and adopted Board Order No. 75-52.

8. Board Order No. 75-52 permitted a maximum of 0.030 mgd of industrial wastewater containing chromate to be discharged to four lined evaporative basins. Also, the Board Order prohibited the discharge of wastewater to the Colorado River or to any channel draining to the Colorado River. In addition, the Board Order specified that chemical residues obtained by chemical flocculation or evaporation of process wastewater shall be discharged only at a solid waste disposal site approved to receive these wastes.

9. On October 2, 1985, the Regional Board rescinded Board Order No. 75-52 and adopted Board Order No. 85-99.

10. Board Order No. 85-99, allowed the discharger to replace the hazardous chromate-based cooling tower water treatment process with phosphate-based inhibitors. Phosphate-based inhibitors are in use today.

11. On January 27, 1988, the Regional Board rescinded Board Order No. 85-99 and adopted Board Order No. 88-30, which was revised on March 23, 1988.

12. Revised Board Order No. 88-30 allowed discharge to four new Class II surface impoundments. PG&E closed the four existing lined evaporative basins along with all hazardous waste facilities at the Topock Compressor Station. Closure was done in compliance with closure requirements of 40 CFR Part 265 and Subchapter 15, Chapter 3, Title 23 of the California Code of Regulations

13. On May 14, 1998, Board Order No. 88-30 was rescinded and Board Order No. 98-050 was adopted.

14. The ponds are currently regulated under Waste Discharge Requirements (WDRs) Order No. 98-050.

15. On May 10, 1995, PG&E notified the Regional Board Office that the results of analyses of groundwater samples collected from two abandoned production wells at Topock located approximately 2000 feet northeast of the former percolation ponds and 1700 feet southwest of the Colorado River, indicated concentrations of 2,300 parts per billion (ppb) and 2,850 ppb total chromium and concentrations of 1,480 ppb and 2,340 ppb hexavalent chromium for the two wells respectively. The samples were collected from a depth of approximately 120 feet below ground surface (bgs). The source of pollution is believed to be historical discharges to Bat Cave Wash and is not associated with the current evaporation basins.

16. The California Department of Health Services has set the Maximum Contaminant Level (MCL) for total chromium in drinking water at 50 ppb.

17. On February 26, 1996, Department of Toxic Substances Control (DTSC) and PG&E entered into a Corrective Action Consent Agreement (CACA) at the Topock Gas Compressor Station due to hazardous levels of chromium found in groundwater. DTSC is the lead agency in the Resource Conservation and Recovery Act (RCRA) investigation under the CACA.

18. Under the terms of the CACA, PG&E agreed to conduct a RCRA Facility Investigation (RFI), and implement appropriate corrective action measures. The draft RFI was submitted in May, 2000. Results of the RFI indicated hexavalent chromium in a groundwater plume at concentrations of 13,000 ppb located 600 feet from the Colorado River at monitoring well cluster MW-20.

19. On June 30, 2004 DTSC directed PG&E to prepare and immediately implement Interim Measure No. 3 to expand existing groundwater extraction and management facilities to address hydraulic control of the chromium (VI) plume at the Topock site.

20. On June 30, 2004, DTSC issued a Notice of Exemption (NOE) for the proposed project summarized in Interim Measure No. 3. The NOE addresses the California Environmental Quality Act (CEQA) requirements for an Emergency Project, Title 14, Section 15269(c) providing for actions necessary to prevent an emergency.

21. On July 8, 2004 PG&E submitted Summary of Proposed Project for Interim Measures No.3 – Revision 1 that provided a general summary of the proposed project. The proposal describes the method of treatment to be used and means of disposal of treated water and waste products. They are as follows:

a. Discharge to Land - Subsurface injection to one or more of three proposed injection well fields. Up to ten injection wells are proposed;

b. Discharge to Topock Compressor Station Class II surface impoundments - Reuse of treated groundwater in the Compressor Station cooling tower;

c. Discharge to Surface Water - Discharge of treated water to the Colorado River under the National Pollutant Discharge Elimination System (NPDES).

22. On July 29, 2004 PG&E submitted an application and Report of Waste Discharge for a permit to discharge treated groundwater by three methods of disposal. A separate application was submitted for each disposal method.

23. This Board Order only addresses discharge to the Colorado River. Subsurface injection and discharge to the Topock Compressor Station Class II surface impoundments are addressed in separate Board Orders.

24. The discharger proposes to discharge a maximum of 150 gallons per minute (gpm) of treated reverse osmosis permeate to the Colorado River.

25. The discharger proposes operation of a treatment facility for implementation of Interim Measures No. 3 to address hydraulic control of the contaminated groundwater plume boundaries and prevent contaminated groundwater from entering the Colorado River. The design flow for the treatment facility is 135 gallons per minute (gpm), with a maximum capacity of 150 gpm of contaminated groundwater.

26. The extracted groundwater will be treated with chemical reduction, precipitation, and solids removal by gravity or clarifier. Ferrous chloride will be used to reduce Cr (VI) to Cr (III). The precipitated solids containing Cr (III) and Fe (III) will be removed by gravity settling and microfiltration. Reverse Osmosis (RO) will be used as a polishing step for the treated water to reduce Total Dissolved Solids (TDS). Under this Board Order, RO concentrate and liquids will be discharged directly to the Class II surface impoundments owned an operated by PG&E at the Topock Compressor Station or trucked to an appropriate off-site disposal facility. Residual solids will be disposed according to federal and state regulations.

27. The discharger proposes to use the following chemicals for the treatment of extracted groundwater:

Name of Chemicals	Purpose
Ferrous Chloride	Chemical Reducing Reagent
Sodium Hydroxide	pH Control
Sulfuric Acid	pH Control
Antiscalant Formulation	Mineral Control
Anionic Polymer	Particle Setting and Solids Dewatering
Sodium Hypochlorite Solution	Microfilter Cleaning
Citric Acid Cleaner	Microfilter and RO Cleaning
Hydrochloric Acid Solution	Microfilter Cleaning
Nonionic Surfactant	Microfilter and RO Cleaning

Sodium Metabisulfite	RO Membrane Preservation
Sodium Bicarbonate	pH Control

28. The Report of Waste Discharge application described the proposed discharge as follows:

Parameter	Units	Average	Maximum
Aluminum	mg/L[1]	0.05	0.1
Ammonia (as N)	mg/L	1.5	3.0
Barium	mg/L	0.3	0.98
Boron	mg/L	1.9	3.6
Color	units	15	30
Copper	mg/L	0.02	0.04
Flow	gpm[2]	80	200
Fluoride	mg/L	0.3	0.6
Hexavalent Chromium	mg/L	0.008	0.016
Iron (total)	mg/L	0.3	0.6
Lead	mg/L	0.002	0.004
Manganese	mg/L	0.05	0.1
Molybdenum	mg/L	0.01	0.02
Nickel	mg/L	0.012	0.024
Nitrate/Nitrite as N	mg/L	10	20
pH	units	7.5	8.4
Sulfate	mg/L	250	500
Summer Temperature	° F	80	100
TDS	mg/L	500	1000
Total Chromium	mg/L	0.025	0.050
Turbidity	NTU	5	10
Winter Temperature	° F	80	85
Zinc	mg/L	0.08	0.10

29. The Water Quality Control Plan for the Colorado River Basin Region of California (Basin Plan), as amended to date, designates the beneficial uses of ground and surface waters in the Region. The Basin Plan contains water quality objectives for the Colorado River and the Piute Hydrologic Unit.

30. The beneficial uses of the Colorado River are:

a. Municipal supply (MUN)
b. Agricultural supply (AGR)
c. Aquaculture (AQUA)
d. Industrial supply (IND)
e. Groundwater recharge (GWR)
f. Water contact recreation (REC I)
g. Non contact water recreation (REC II)
h. Warm freshwater habitat (WARM)
i. Cold freshwater habitat (COLD)
j. Wildlife habitat (WILD)
k. Hydropower generation (POW)
l. Preservation of rare and endangered species (RARE)

[1] Milligrams per Liter
[2] Gallons per Minute

31. The beneficial uses of ground waters in the Piute Hydrologic Unit are:

    a. Municipal supply (MUN)
    b. Industrial supply (IND)
    c. Agricultural supply (AGR)

32. Discharges not exceeding 1.0 MGD are classified as Minor by the United States Environmental Protection Agency. Accordingly, Regional Board staff has classified this discharge as a Minor Discharge.

33. Clean Water Act Section 301(b)(1) requires NPDES permits to include effluent limitations that achieve technology-based standards and any more stringent limitations necessary to meet water quality standards. Water quality standards include the Regional Board's Basin Plan beneficial uses and narrative and numeric water quality objectives, State Board adopted standards, and federal standards including the California Toxics Rule (CTR) and the National Toxics Rule (NTR). Federal regulations (40CFR 122(d)(1)) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numeric water quality standard.

34. The USEPA adopted the National Toxics Rule (NTR) (40 CFR § 131.36) on February 5, 1993 and California Toxics Rule (CTR) (40 CFR §131.38) on May 12, 2000. The CTR promulgates new criteria for both human health protection and protection of aquatic life. New numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants are listed. In addition, the CTR contains a compliance schedule provision, which authorizes the State to issue schedules of compliance for new or revised NPDES permit limits based on the federal criteria when certain conditions are met.

35. 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 (California Toxics Policy). This Policy establishes (1) implementation provisions for priority pollutant criteria promulgated by the U.S. EPA through the NTR and CTR and for priority pollutant objectives established by the Regional Water Quality Control Boards in their water quality control plans; (2) monitoring requirements for 2, 3, 7, 8- tetrachlorodibenzo-p-dioxin (TCDD) equivalents; and (3) chronic toxicity control provisions.

36. Effluent and receiving water limitations in this Board Order are based on the Federal Clean Water Act, Basin Plan, State Water Resources Control Board's plans and policies, U. S. Environmental Protection Agency guidance and regulations, best professional judgment, and best available technology economically achievable.

37. Effluent limitations and toxic and pretreatment effluent standards, established pursuant to Section 208(b), 301, 302, 304, and 307 of the Federal Clean Water Act (CWA) and amendments thereto that are applicable to this discharge are implemented in this Board Order.

38. Regional Board staff prepared a Fact Sheet regarding the facility. The Fact Sheet is incorporated into this permit by this reference.

39. Federal regulations for storm water discharges were promulgated by the United States Environmental Protection Agency (USEPA) (40 CFR Parts 122, 123, and 124). The regulations require specific categories of facilities which discharge storm water associated with industrial activity to obtain National Pollutant Discharge Elimination System (NPDES) permits and to implement Best Conventional Pollutant Technology (BCT) and Best Available Technology Economically Achievable (BAT) to reduce or eliminate industrial storm water pollution.

40. The State Water Resources Control Board (SWRCB) adopted Order No. 97-03-DWQ (General Permit No. CAS000001), specifying waste discharge requirements for discharges of storm water associated with industrial activities, excluding construction activities, and requiring submittal of a Notice of Intent by industries to be covered under the Permit.

41. The discharge is a new discharge and may cause some degradation of surface waters, however such degradation is consistent with the maximum benefit to the people of the State because the discharge is a component of the remediation activities and will allow for containment of the groundwater plume containing hazardous levels of chromium that otherwise threatens the Colorado River and its beneficial uses. This Order requires the Discharger to meet waste discharge requirements that require compliance with water quality standards and best practicable treatment or control. This Order requires compliance with water quality objectives to implement state and federal water quality standards and will not unreasonably impact beneficial uses or cause a condition of pollution or nuisance. The permitted discharge is consistent with the anti-degradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution No. 68-16. If terms of the permit are met, the impact on water quality will be insignificant, including potential impacts on a municipal water source, which is the beneficial use most likely affected by the discharge.

42. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.), requiring preparation of an environmental impact report or negative declaration in accordance with Section 13389 of the California Water Code. DTSC, acting as the lead agency, has filed a Notice of Exemption for the Interim Measure 3 Emergency Groundwater Extraction and Management project at Pacific Gas and Electric Company, Topock Compressor Station. On July 1, 2004, the NOE (SCH#2004078010) was filed with the State Clearing House. The NOE states, in part: "In February 2004, [DTSC] directed [PG&E] to initiate immediate pumping, transport, and disposal of groundwater at the Topock site to ensure that groundwater containing chromium does not reach the Colorado River. Due to the influence of the Colorado River stage on groundwater levels . . . , extracting groundwater at higher rates will be necessary to maintain the stated goal of hydraulic control." The NOE further describes the project as follows: "The critical elements for this proposed project are the piping, conveyance of groundwater, construction of temporary treatment facilities, and development of a disposal method for the treated water.

43. DTSC concludes in the NOE that the project is statutorily exempt under Title 14 CCR Section 15269(c) (and Public Resources Code Section 21080(b)(4)) as an action to prevent or mitigate an emergency. The NOE states: "These project activities are necessary to prevent or mitigate an emergency situation wherein the waters of the Colorado River may be impacted with a hazardous constituent, chromium, which is in contaminated groundwater in close proximity to the river. Immediate action is necessary to contain and reverse the flow of groundwater away from the Colorado River. Commencement of the development of additional extraction, treatment, and treated water disposal capacity is urgent to assure that increased pumping rates will be available to respond to impending fluctuations of the Colorado River level.

44. The Regional Board has reviewed the NOE prepared by DTSC. The Regional Board concurs that an emergency condition exists because the flow of groundwater to the Colorado River has not yet been contained. It is necessary and desirable to have in place alternative disposal options to accommodate increased extraction and treatment rates (resulting in the need for increased disposal capacity) that may be required to contain the groundwater flow. While the duration of the Interim Measures has not been determined, it is appropriate to limit the term of this Order, as described in Provision No. 2, by which time it is reasonable to conclude that DTSC will have undertaken an environmental analysis of all disposal alternatives.

45. In consideration of the several disposal options being considered by the Board, the Discharger is prohibited from discharging to the Colorado River without first obtaining prior written determination from the Executive Officer that sufficient and satisfactory evidence has been submitted demonstrating that other wastewater disposal options are not reasonable and feasible. This determination shall be considered by the Regional Board for ratification or rejection at its next board meeting after the Executive Officer's determination is made.

46. The Board has notified the discharger and all known interested agencies and persons of its intent to issue waste discharge requirements for this discharge and has provided them with an opportunity for a public meeting and an opportunity to submit comments.

47. The Board, in a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, that in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Clean Water Act, and regulations and guidelines adopted thereunder, the discharger shall comply with the following:

A. Effluent Limitations

1. Representative samples of wastewater discharged from the treatment system shall not contain constituents in excess of the limits indicated below. The discharge to the Colorado River shall be monitored at a location which is acceptable by the Regional Board's Executive Officer or his designee:

Constituent	Unit	Average Monthly Effluent Limit	Maximum Daily Effluent Limit
Aluminum	µg/L	50	100
Ammonia as N	mg/L	1.5	3
Antimony	µg/L	6	6
Arsenic	µg/L	10	10
Barium	µg/L	300	600
Boron	mg/L	1.0	2.0
Boron (Mixing Zone)[a]	mg/L	0.70	1.40
Chromium (VI)	µg/L	8	16
Chromium (Total)	µg/L	25	50
Color	units	15	30
Copper	µg/L	18	36
Fluoride	mg/L	0.30	0.60
Lead	µg/L	2	4
Manganese	µg/L	50	50
Molybdenum	µg/L	10	20
Nickel	µg/L	12	24
Nitrate + Nitrite (as N)	mg/L	10	10
Selenium	µg/L	4	8
Sulfate	mg/L	250	250
TDS	mg/L	500	723
Total Iron	µg/L	300	300
Turbidity	NTU	5.0	10.0
Zinc	µg/L	80	160

[a] In the event that the discharger chooses not to submit a mixing zone study, compliance with the discharge requirements will be at end of pipe.

2. The maximum daily flow shall not exceed 150 gpm.

3. The hydrogen ion (pH) of the effluent shall be maintained within the limits of 6.5 to 8.5.

4. The effluent shall not contain heavy metals, chemicals, pesticides or other constituents in concentrations toxic to a human health.

5. Stormwater discharges from the facility shall not cause or threaten to cause pollution, contamination, or nuisance.

6. Stormwater discharges from the facility shall not contain hazardous substances equal to or in excess of a reportable quantity listed in 40 CFR, Part 302.

7. There shall be no acute or chronic toxicity in the treatment plant effluent nor shall the treatment plant effluent cause any acute or chronic toxicity in the receiving water. All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, or bioassays of appropriate duration or other appropriate methods specified by the Regional Board.

B. Receiving Water Limitations

1. Receiving water limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit. The discharge shall not cause the following in the Colorado River:

   a. Depress the concentration of dissolved oxygen to fall below 8.0 mg/L. When dissolved oxygen in the receiving water is already below 8.0 mg/L, the discharge shall not cause any further depression.

   b. The presence of oil, grease, floating material (liquids, solids, foam and scum) or suspended material in amounts that create a nuisance or adversely affect beneficial uses.

   c. Result in the deposition of pesticides or combination of pesticides to be detected in concentrations that adversely affect beneficial uses.

   d. Aesthetically undesirable discoloration or odors in the receiving water.

   e. A significant increase in fungi, slime, or other objectionable growth.

   f. Increase turbidity that results in affecting beneficial uses.

   g. The normal ambient pH to fall below 6.0 or exceed 9.0 units.

   h. Impact the receiving water temperature, resulting in adversely affecting beneficial uses.

   i. Result in the deposition of material that causes nuisance or adversely affects beneficial uses.

   j. The chemical constituents to exceed concentrations that adversely affect beneficial uses or create nuisance.

   k. Toxic pollutants to be present in the water column, sediments or biota in concentrations that adversely affect beneficial uses or that produce detrimental physiological responses in human, plant, animal, or aquatic life.

l. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause or otherwise adversely affect beneficial uses.

2. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board as required by the Federal Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, or pursuant to the California Water Code, the Regional Board will revise and modify this Permit in accordance with such more stringent standards.

C. Prohibitions

1. The Discharger shall not activate the use of this Board Order for discharge to the Colorado River without first obtaining prior written determination from the Executive Officer that sufficient and satisfactory evidence has been submitted demonstrating that other wastewater disposal options are not reasonable and feasible. This determination shall be considered by the Regional Board for ratification or rejection at its next board meeting after the Executive Officer's determination is made.

2. Bypass, overflow, discharge or spill of untreated or partially treated waste is prohibited.

3. The discharge of waste to land not owned or controlled by the discharger is prohibited.

4. Discharge of treated wastewater at a location or in a manner different from that described in this Board Order is prohibited.

5. The discharger shall not discharge waste in excess of the design treatment capacity of the disposal system.

6. The discharge shall not cause degradation of any water supply.

7. The discharger shall not cause degradation of any water supply in compliance with State Board Resolution No. 68-16.

D. Specifications

1. The treatment or disposal of wastes from the facility shall not cause pollution or nuisance as defined in Section 13050(l) and 13050(m) of Division 7 of the California Water Code.

2. No changes in the type or amount of treatment chemicals added to the process water as described in this Board Order shall be made without the written approval of the Regional Board's Executive Officer.

3. The facility shall be protected from any washout or erosion of wastes or covering material, and from any inundation, which could occur as a result of floods, having a predicted frequency of once in 100 years. The facility includes extraction wells, treatment plant, conveyance system, and outfall.

4. Bioassays shall be performed to evaluate the toxicity of the discharged wastewater in accordance with the following procedures unless otherwise specified by the Regional Board's Executive Officer or his designee:

a. Bioassays shall be conducted on a sensitive fish species and an invertebrate species as approved by the Regional Board's Executive Officer. Pimephales promelas (fathead minnow) and Ceriodaphnia dubia (water flea) are suggested test species that may be utilized. The bioassays shall be conducted in accordance with the protocol given in EPA/821-R-02-013 – Short Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms, 4th Edition, and EPA/821-R-02-012 Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters for Freshwater and Marine Organisms, 5th Edition, or subsequent editions.

b. The bioassay test shall be performed as specified in the Monitoring and Reporting Program.

5. Any chronic toxicity test that exceeds 2 chronic toxicity units (TU_c) or a three-sample median[3] (consecutive samples) that exceeds 1 TU_c may trigger an accelerated monitoring frequency. In addition, any acute toxicity test results showing high toxicity may trigger an accelerated monitoring frequency. High acute toxicity is defined as follows:

   a. Less than 80% survival when acute toxicity is calculated from the results of the chronic toxicity test, or

   b. Less than 90% survival when acute toxicity is calculated from the results of the acute toxicity test, or

   c. Results of acute toxicity t-test for 100 percent effluent concentration that is reported as failed.

6. Accelerated monitoring frequency shall consist of performing three toxicity tests in a six-week period following the first excedence of the chronic or acute toxicity triggers.

7. A Toxicity Identification Evaluation (TIE) may be triggered if testing from the accelerated monitoring frequency indicate any of the following:

   a. A chronic toxicity of 2 TU_c or greater;

   b. The three-sample median exceeds 1 TU_c;

   c. Result of acute toxicity t-test for 100 percent effluent concentration that is reported as failed.

   d. Less than 80% survival when acute toxicity is calculated from the results of the chronic toxicity test, or

   e. Less than 90% survival when acute toxicity is calculated from the results of the acute toxicity test.

8. The TIE shall be conducted to identify and evaluate toxicity in accordance with procedures recommended by the United States Environmental Protection Agency (USEPA) which include the following:

   a. Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, (USEPA, 1992a) or subsequent editions;

   b. Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition (USEPA, 1991a) or subsequent editions;

[3] 3-Sample median is defined as follows: The middle value of 3 consecutive samples arranged from the low value to the high value.

c. Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Sampling Exhibiting Acute and Chronic Toxicity (USEPA, 1993a) or subsequent editions;

d. Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (USEPA, 1993b) or subsequent editions;

9. If repeated toxicity tests reveal toxicity, the discharger may be required to conduct a Toxicity Reduction Evaluation (TRE). The discharger shall take all reasonable steps to control toxicity once the source of the toxicity is identified. A failure to conduct required toxicity tests or a TRE within a designated period shall result in the establishment of numerical effluent limitations for chronic toxicity in a permit or appropriate enforcement action. Recommended guidance in conducting a TRE include the following:

   a. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations, EPA/600/2-88/70 April 1989.

   b. Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program dated March 27, 2001, USEPA Office of Wastewater Management, Office of Regulatory Enforcement.

10. The facility shall be protected from any washout or erosion of wastes or covering material, and from any inundation, which could occur as a result of floods having a predicted frequency of once in 100 years.

E. Provisions

1. This Board Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Federal Clean Water Act, as amended, and shall become effective at the end of fifty (50) days from the date of the hearing when this Board Order was adopted by the Regional Board, provided the Regional Administrator, U.S. Environmental Protection Agency, has no objections.

2. This Board Order expires no later than two years from the date of first discharge, but in no event later than January 31, 2007, unless specifically authorized by a future order of the Regional Board. The discharger shall submit an NPDES application and file a complete Report of Waste Discharge in accordance with Title 23, California Code of Regulations, at least 180 days in advance of such date as an application for issuance of a new Board Order.

3. The discharger shall comply with all conditions of this Board Order. Noncompliance constitutes a violation of the Federal Clean Water Act and Porter-Cologne Water Quality Control Act, and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification of waste discharge requirements; or denial of a Permit renewal application.

4. The discharger shall comply with "Standard Provisions for National Pollutant Discharge Elimination System Permit" dated October 1990 (attached).

5. The discharger shall comply with "Monitoring and Reporting Program No. R7-2004-0100", and future revisions thereto, as specified by the Regional Board's Executive Officer.

6. The discharger shall ensure that all site-operating personnel are familiar with the content of this Board Order, and shall maintain a copy of this Board Order at the site.

7. The discharger shall, at all times, properly operate and maintain all systems and components of collection, treatment and control which are installed or used by the discharger to achieve compliance with the conditions of this Board Order. Proper operation and maintenance includes effective performance, adequate process controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of this Board Order. All systems both in service and reserved, shall be inspected and maintained on a regular basis. Records shall be kept of the inspection results and maintenance performed and made available to the Regional Board upon demand.

8. A contingency plan detailing mitigation measures in the event of a plant upset shall be submitted for approval by the Regional Board's Executive Officer at least 30 days prior to any discharge. The plan shall provide an analysis of potential causes of system failure, the effect of failure, and the proposed course of corrective action.

9. Unless otherwise approved by the Regional Board's Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the California State Department of Health Services. All analyses shall be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants", promulgated by the United States Environmental Protection Agency.

10. The discharger shall report any noncompliance that may endanger human health or the environment. The discharger shall immediately report orally information of the noncompliance as soon as (1) the discharger has knowledge of the discharge, (2) notification is possible, and (3) notification can be provided without substantially impeding cleanup or other emergency measures, to the Regional Board office and the Office of Emergency Services. During non-business hours, the discharger shall leave a message on the Regional Board office voice recorder. A written report shall also be provided within five (5) business days of the time the discharger becomes aware of the incident. The written report shall contain a description of the noncompliance and its cause, the period of noncompliance, the anticipated time to achieve full compliance, and the steps taken or planned, to reduce, eliminate, and prevent recurrence of the noncompliance. The discharger shall report all intentional or unintentional significant spills that occur within the facility to the Regional Board office in accordance with the above time limits.

11. The discharger shall allow the Regional Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

    a. Enter upon the premises regulated by this Board Order, or the place where records must be kept under the conditions of this Board Order;

    b. Have access to and copy, at reasonable times, any records that shall be kept under the conditions of this Board Order;

    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Board Order; and

    d. Sample or monitor at reasonable times, for the purpose of assuring compliance with this Board Order or as otherwise authorized by the California Water Code, any substances or parameters at this location.

12. The discharger shall comply with the following:

    a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. The discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Board Order, and records of all data used to complete the application for this Board Order, for a period of at least 5 years from the date of the sample, measurement, report or application.

c. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements.
2. The individual(s) who performed the sampling or measurements.
3. The date(s) analyses were performed.
4. The individual(s) who performed the analyses.
5. The results of such analyses.

13. Prior to any change in ownership or management of this operation, the discharger shall transmit a copy of this Board Order to the succeeding owner/operator, and forward a copy of the transmittal letter to the Regional Board.

14. Prior to any modifications in this facility, which would result in material change in the quality or, quantity of wastewater treated or discharged, or any material change in the location of discharge, the discharger shall report all pertinent information in writing to the Regional Board and obtain revised requirements before any modifications are implemented.

15. Adequate measures shall be taken to assure that flood or surface drainage waters do not erode or otherwise render portions of the discharge facilities inoperable.

16. All storm water discharges from this facility must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies, regarding discharges of storm water to storm water drain systems or other courses under their jurisdiction.

17. Storm water discharges from the facility shall not cause or threaten to cause pollution or contamination.

18. Storm water discharges from the facility shall not contain hazardous substances equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

19. The discharger shall provide a plan as to the method, treatment, handling and disposal of solids waste that is consistent with all State and Federal laws and regulations, including any and all prior approvals required by the Bureau of Land Management, and obtain prior written approval from the Regional Board specifying location and method of disposal, before disposing of treated or untreated solid waste.

20. The discharger shall submit to the Regional Board a toxicity reduction evaluation (TRE) workplan (1-2 pages) within 90 days of commencement of discharge. This plan shall describe the steps the permittee intends to follow in the event that toxicity is detected, and should include at a minimum:

a. A description of the investigation and evaluation techniques that will be used to identify potential causes/sources of toxicity, effluent variability, and treatment system efficiency;

b. A description of the facility's method of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility;

c. If a toxicity identification evaluation (TIE) is necessary, who will conduct it (i.e., in-house or outside consultant).

21. The discharger shall, as required by the Executive Officer, conduct a Pollutant Minimization Program in accordance with the California Toxics Policy when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and a sample result is reported as detected and not quantified and the effluent limitation is less than the reported minimum level; or a sample result is reported as not detected and the effluent limitation is less than the method detection limit.

22. The discharger shall submit design plans for the discharge outfall to the Colorado River to the Regional Board's Executive Officer for approval at least 30 days prior to any discharge. The discharger shall in addition provide a complete mixing zone study for the constituent Boron. The discharger has stated that an effluent limitation of 0.70 mg/L, as an average monthly limit for Boron is technically infeasible. In the event that the discharger chooses not to submit a mixing zone study, compliance with the discharge requirements will be at end of pipe. Either a Professional Engineer (PE), Registered Geologist (RG), Certified Engineering Geologist (CEG), or a Certified Hydro Geologist (CHG) must certify the design plans.

23. The permit shall be reopened and modified or revoked and reissued as a result of the detection of a reportable priority pollutant identified by special conditions' monitoring data, included in this permit. These special conditions in the permit may be, but are not limited to, fish tissue sampling, whole effluent toxicity tests, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in the permit as a result of the special condition monitoring data.

24. The Regional Board directs the Executive Officer to forthwith prepare and file with the Office of Planning and Research, State Clearinghouse, a Notice of Exemption under Public Resources Code Section 21080(b)(4) and Title 14, California Code of Regulations, Section 15269(c).

25. This Board Order does not authorize violation of any federal, state, or local laws or regulations

26. This Board Order does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

27. This Board Order may be modified, rescinded and reissued, for cause. The filing of a request by the discharger for a Board Order modification, rescission and reissuance, or a notification of planned changes or anticipated noncompliance does not stay any Board Order condition. Causes for modification include the promulgation of new regulations, modification of land application plans, or modification in sludge use or disposal practices, or adoption of new regulations by the State Board or the Regional Board, including revisions to the Basin Plan.

I, Philip A. Gruenberg, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the Regional Water Quality Control Board, Colorado River Basin Region, on October 13, 2004.

Philip A. Gruenberg
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. R7-2004-0100

FOR
PACIFIC GAS AND ELECTRIC COMPANY, OWNER/OPERATOR
GROUNDWATER REMEDIATION FACILITY

Southeast of Needles – San Bernardino County

MONITORING

1. The collection, preservation and holding times of all samples shall be in accordance with United States Environmental Protection Agency (USEPA) approved procedures. Unless otherwise approved by the Regional Board's Executive Officer, all analyses shall be conducted by a laboratory certified by the State Department of Health Services. All analyses shall be conducted in accordance with the latest edition of the "Guidelines Establishing Test Procedures for Analysis of Pollutants" (40 CFR Part 136), promulgated by the USEPA.

2. Pursuant to the California Water Code (CWC) Section 13267, samples taken for Total Chromium shall be analyzed with a method having a method detection limit (MDL) of 1.0 ppb and samples taken for Chromium VI shall be analyzed with a method having a MDL of 0.2 ppb. The analytical results shall be reported consistent with actual observations by a California certified laboratory, and shall be reported in terms of the practical quantitation limit (PQL), if the MDL cannot be achieved. These requirements are necessary to ensure compliance with the Waste Discharge Requirements set forth in Board Order R7-2004-0100, determine the impact on the receiving water, and confirm that the discharge of treated ground water not violate Waste Discharge Requirements. Ground water monitoring in the area proposed for extraction has shown that these constituents are present at very high levels and the discharge is a potential threat to ground water and to the Colorado River.

3. Samples shall be collected at the location approved by the Regional Board's Executive Officer. If no location is specified, sampling shall be conducted at the most representative sampling point available.

4. If the facility is not in operation, or there is no discharge under this permit during a required reporting period, the discharger shall forward a letter to the Regional Board indicating that there as been no activity during the required reporting period. No sampling or analysis is required during any reporting period if the facility is not operated during that period.

5. The discharger shall monitor the treatment facility influent, effluent, and receiving water in accordance with the following:

TREATMENT FACILITY START UP PHASE AND START UP REPORTING

1. The discharger shall inform the Regional Board in writing of the location of all sampling stations and the expected start up date at least 10 days prior to beginning operational start up.

2. During the start up phase of the ground water treatment facility, sampling of the system influent and effluent must be performed on the first (1st) and third (3rd) days of operation.

   a. On the 1st day of operation, the system shall be allowed to run until at least three (3) extraction well volumes are removed and until three (3) consecutive readings taken at least one (1) hour apart for pH, specific conductivity, and temperature are within five (5) percent of each other. Discharge shall be conveyed to a holding tank or disposed at an offsite, permitted facility.

b. Once these criteria are met, the treatment system effluent shall be sampled and submitted for analysis. During this phase of the start up, all treatment system effluent shall be discharged to a holding tank, or disposed at an offsite, permitted facility until the results of the 1st day analysis show that the effluent is in compliance with the effluent limitations set forth in Board Order R7-2004-0100.

c. If the analyses of the treatment system effluent collected during the 1st day of operation indicate that the effluent is in compliance, the system shall be operated with the treatment system effluent being discharged to the Colorado River provided the analyses are received within 48 hours of sampling. If the discharge is not in compliance with the effluent limitations, it shall be conveyed to a holding tank or disposed at an offsite, permitted facility.

d. A second series of samples shall be collected on the 3rd day. If the samples from the 3rd day are in compliance, effluent from the treatment system shall continue to be discharged to the Colorado River. If the discharge is not in compliance with the effluent limitations, it shall be conveyed to a holding tank or disposed at an offsite, permitted facility.

e. During the second series of sample collection, the discharge shall be monitored for the Priority Pollutants (California Toxics Rule) as required by the State Implementation Plan (SIP).

3. If the treatment system is shut down for more than 96 hours during start up phase, the start up and sampling procedures must be repeated.

4. A report on the start up phase shall be submitted to the Regional Board no more than fifteen (15) calendar days after completion of the start up phase. The report should contain a summary of all monitoring results, copies of laboratory reports, Chain of custody forms, flow rates, and a description of any changes or modifications to the pilot treatment system.

TREATMENT FACILITY REPORTING AFTER START UP PHASE

1. Upon completion of the start up phase, the discharger shall begin the normal monitoring and reporting for the daily operation of the treatment system. The Treatment System Influent and effluent, sludge monitoring and operation and maintenance reporting shall be monitored as listed below in the following sections.

A. Groundwater Treatment System Influent

1. Extracted groundwater shall be analyzed for the following constituents immediately prior to treatment:

Constituents	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Flow	gpm[1]	Metered	Continuous	Monthly
TDS	mg/L[2]	Grab	See Footnote[3]	Monthly
Turbidity	NTU[4]	Grab	See Footnote[3]	Monthly
Specific Conductance	µmhos/cm[5]	Grab	See Footnote[3]	Monthly
pH	pH units	Grab	See Footnote[3]	Monthly
Total Chromium	µg/L[6]	Grab	See Footnote[3]	Monthly
Chromium VI	µg/L	Grab	See Footnote[3]	Monthly

[1] gallons per minute reported as a monthly average
[2] mg/L = milligrams per Liter
[3] Samples shall be taken on the 1st and 3rd days during start up phase. Sampling will continue twice weekly for the first month, weekly for the following two months, and monthly thereafter.
[4] Nephelometric Turbidity Units
[5] micromhos per centimeter
[6] micrograms per Liter

Aluminum	µg/L	Grab	Monthly	Monthly
Ammonia (as N)	mg/L	Grab	Monthly	Monthly
Antimony	µg/L	Grab	Monthly	Monthly
Arsenic	µg/L	Grab	Monthly	Monthly
Barium	µg/L	Grab	Monthly	Monthly
Boron	mg/L	Grab	Monthly	Monthly
Copper	µg/L	Grab	Monthly	Monthly
Fluoride	mg/L	Grab	Monthly	Monthly
Lead	µg/L	Grab	Monthly	Monthly
Manganese	µg/L	Grab	Monthly	Monthly
Molybdenum	µg/L	Grab	Monthly	Monthly
Nickel	µg/L	Grab	Monthly	Monthly
Nitrate/Nitrite (as N)	mg/L	Grab	Monthly	Monthly
Sulfate	mg/L	Grab	Monthly	Monthly
Total Iron	µg/L	Grab	Monthly	Monthly
Zinc	µg/L	Grab	Monthly	Monthly

B. Groundwater Treatment System Effluent

1. Treated groundwater shall be analyzed for the following constituents immediately after treatment:

Constituents	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Flow	gpm	Metered	Continuous	Monthly
TDS	mg/L	Grab	See Footnote[7]	Monthly
Turbidity	NTU	Grab	See Footnote[7]	Monthly
Specific Conductance	µmhos/cm	Grab	See Footnote[7]	Monthly
pH	pH units	Grab	See Footnote[7]	Monthly
Total Chromium	µg/L	Grab	See Footnote[7]	Monthly
Chromium VI	µg/L	Grab	See Footnote[7]	Monthly
Aluminum	µg/L	Grab	Monthly	Monthly
Ammonia (as N)	mg/L	Grab	Monthly	Monthly
Antimony	µg/L	Grab	Monthly	Monthly
Arsenic	µg/L	Grab	Monthly	Monthly
Barium	µg/L	Grab	Monthly	Monthly
Boron	mg/L	Grab	Monthly	Monthly
Color	units	Grab	Monthly	Monthly
Copper	µg/L	Grab	Monthly	Monthly
Fluoride	mg/L	Grab	Monthly	Monthly
Lead	µg/L	Grab	Monthly	Monthly
Manganese	µg/L	Grab	Monthly	Monthly
Molybdenum	µg/L	Grab	Monthly	Monthly
Nickel	µg/L	Grab	Monthly	Monthly
Nitrate/Nitrite (as N)	mg/L	Grab	Monthly	Monthly
Sulfate	mg/L	Grab	Monthly	Monthly
Total Iron	µg/L	Grab	Monthly	Monthly
Zinc	µg/L	Grab	Monthly	Monthly

[7] Samples shall be taken on the 1st and 3rd days during start up phase. Sampling will continue twice weekly for the first month, and weekly thereafter.

C. Groundwater Treatment System Reverse Osmosis Concentrate Monitoring

1. Reverse Osmosis Concentrate shall be analyzed for the following constituents:

Constituents	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Flow	gpm	Metered	Continuous	Monthly
TDS	mg/L	Grab	See Footnote[3]	Monthly
Specific Conductance	µmhos/cm	Grab	See Footnote[3]	Monthly
pH	pH units	Grab	See Footnote[3]	Monthly
Total Chromium	mg/L	Grab	See Footnote[3]	Monthly
Chromium VI	mg/L	Grab	See Footnote[3]	Monthly
Antimony	mg/L	Grab	Monthly	Monthly
Arsenic	mg/L	Grab	Monthly	Monthly
Barium	mg/L	Grab	Monthly	Monthly
Beryllium	mg/L	Grab	Monthly	Monthly
Cadmium	mg/L	Grab	Monthly	Monthly
Cobalt	mg/L	Grab	Monthly	Monthly
Copper	mg/L	Grab	Monthly	Monthly
Fluoride	mg/L	Grab	Monthly	Monthly
Lead	mg/L	Grab	Monthly	Monthly
Molybdenum	mg/L	Grab	Monthly	Monthly
Mercury	mg/L	Grab	Monthly	Monthly
Nickel	mg/L	Grab	Monthly	Monthly
Selenium	mg/L	Grab	Monthly	Monthly
Silver	mg/L	Grab	Monthly	Monthly
Thallium	mg/L	Grab	Monthly	Monthly
Vanadium	mg/L	Grab	Monthly	Monthly
Zinc	mg/L	Grab	Monthly	Monthly

D. Groundwater Treatment System Sludge Monitoring

1. Representative composite sludge samples shall be taken from each treatment tank whose purpose is to accumulate sludge for disposal prior to transportation of the sludge offsite. If sludge is transported offsite more frequently than monthly, a representative sample shall be taken on a monthly or quarterly basis as specified below. Sludge samples shall be tested for the following constituents:

Constituents	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Fluoride	mg/kg[8]	Composite	See Footnote[8a]	Monthly
Total Chromium	mg/kg	Composite	See Footnote[8a]	Monthly
Chromium VI	mg/kg	Composite	See Footnote[8a]	Monthly
Antimony	mg/kg	Composite	See Footnote[8a]	Monthly
Arsenic	mg/kg	Composite	See Footnote[8a]	Monthly
Barium	mg/kg	Composite	See Footnote[8a]	Monthly
Beryllium	mg/kg	Composite	See Footnote[8a]	Monthly
Cadmium	mg/kg	Composite	See Footnote[8a]	Monthly
Cobalt	mg/kg	Composite	See Footnote[8a]	Monthly
Copper	mg/kg	Composite	See Footnote[8a]	Monthly
Lead	mg/kg	Composite	See Footnote[8a]	Monthly

[8] milligrams per kilogram

[8a] Each time sludge is transported offsite, unless sludge is transported offsite more frequently than monthly, in which case the sampling frequency shall be monthly.

Mercury	mg/kg	Composite	See Footnote[8a]	Monthly
Molybdenum	mg/kg	Composite	See Footnote[8a]	Monthly
Nickel	mg/kg	Composite	See Footnote[8a]	Monthly
Selenium	mg/kg	Composite	See Footnote[8a]	Monthly
Silver	mg/kg	Composite	See Footnote[8a]	Monthly
Thallium	mg/kg	Composite	See Footnote[8a]	Monthly
Vanadium	mg/kg	Composite	See Footnote[8a]	Monthly
Zinc	mg/kg	Composite	See Footnote[8a]	Monthly
Bioassay			See Footnote[8b]	Quarterly

2. The discharger shall report quarterly on the quantity, location and method of disposal of all sludge and similar solid materials being produced at the wastewater treatment facility.

3. The discharger shall quarterly collect one representative composite sample of sludge for each treatment tank and have an aquatic bioassay test performed on the samples. Report and select a procedure from the Static Acute Bioassay Procedure for Hazardous Waste Sample by the California Department of Fish and Game, Water pollution Control Laboratory, revised November 1988 or by other test methods approved by the California Department of Fish and Game. The discharger shall provide a report supporting any deviation from a standard procedure and must be approved by the Regional Board's Executive Officer.

RECEIVING WATER MONITORING

All receiving water samples shall be grab samples. Sampling stations shall be as follows:

Station	Description
R-1	Not to exceed 100 feet upstream from the point of discharge. A greater distance may be acceptable provided the discharger submits proper justification that the prescribed distance is inaccessible.
R-2	Not to exceed 25 feet downstream of the discharge pipe outlet.

Constituents	Units	Type of Sample	Sampling Frequency	Reporting Frequency
TDS	mg/L	Grab	See Footnote[9]	Monthly
Turbidity	NTU	Grab	See Footnote[9]	Monthly
Specific Conductance	µmhos/cm	Grab	See Footnote[9]	Monthly
pH	pH units	Grab	See Footnote[9]	Monthly
Total Chromium	µg/L	Grab	See Footnote[9]	Monthly
Chromium VI	µg/L	Grab	See Footnote[9]	Monthly
Aluminum	µg/L	Grab	Monthly	Monthly
Ammonia (as N)	mg/L	Grab	Monthly	Monthly
Barium	µg/L	Grab	Monthly	Monthly
Boron	mg/L	Grab	Monthly	Monthly
Color	units	Grab	Monthly	Monthly
Copper	µg/L	Grab	Monthly	Monthly
Fluoride	mg/L	Grab	Monthly	Monthly
Lead	µg/L	Grab	Monthly	Monthly
Manganese	µg/L	Grab	Monthly	Monthly
Molybdenum	µg/L	Grab	Monthly	Monthly

[8b] Each time sludge is transported offsite, unless sludge is transported offsite more frequently than quarterly, in which case the sampling frequency shall be quarterly.

[9] Samples shall be taken when discharge to receiving water has started. Sampling will continue twice weekly for the first month, weekly for the following two months, and monthly thereafter.

Nickel	µg/L	Grab	Monthly	Monthly
Nitrate/Nitrite (as N)	mg/L	Grab	Monthly	Monthly
Sulfate	mg/L	Grab	Monthly	Monthly
Total Iron	µg/L	Grab	Monthly	Monthly
Zinc	µg/L	Grab	Monthly	Monthly

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions at Stations R1 and R2. Attention shall be given to the presence or absence of:

a. Floating or suspended matter
b. Discoloration
c. Aquatic life (including plants, fish shellfish, birds)
d. Visible film, sheen or coating
e. Fungi, slime, or objectionable growths
f. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the monitoring report.

EFFLUENT TOXICITY TESTING

The discharger shall conduct chronic and acute toxicity testing on the effluent as follows:

Test	Unit	Type of Sample	Minimum Frequency of Test	Reporting Frequency
Chronic Toxicity	TU_c[10]	24-Hr. Composite	Quarterly	Quarterly
Acute Toxicity[11]	TU_a[12] or (P or F)[13] and Percent Survival	24-Hr. Composite	Quarterly	Quarterly

Both test species given below shall be used to measure chronic and acute toxicity:

Species	Effect	Test Duration (Days)	Reference[14]
Fathead Minnow (Pimephales promelas)	Larval Survival and Growth	7	EPA/821-R-02-013 (Chronic) EPA/821-R-02-012 (Acute)
Water Flea (Ceriodaphnia dubia)	Survival and Reproduction	7	EPA/821-R-02-013 (Chronic) EPA/821-R-02-012 (Acute)

Toxicity Test References:

1. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA/821-R-02-012, October, 2002 or subsequent editions.
2. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water for Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October, 2002 or subsequent editions.
3. Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program, EPA 833-R-00-003, June 2000.

[10] Chronic Toxicity Units
[11] Acute bioassay results can be calculated from chronic bioassay test for Pimephales promelas.
[12] Acute Toxicity Units
[13] Pass or Fail when using a t-test
[14] Additional references are listed in the Toxicity Test References section.

4. Method Guidance and Recommendations for Whole Effluent Testing, EPA 821-B-00-004, July 2000.
5. Clarifications Regarding Flexibility in 40 CFR Part 136 Whole Effluent Toxicity (WET) Test Methods, memorandum dated April 10, 1996 from Tudor Davies, Director of the EPA Office of Water's Office of Science and Technology.

DEFINITION OF TOXICITY

Chronic toxicity measures sublethal effect (e.g., reduced growth, reproduction) to experimental test organisms exposed to an effluent or ambient waters compared to that of the control organisms.

Chronic toxicity shall be measured in TU_c, where TU_c = 100/NOEC. The no observed effect concentration (NOEC) is the highest concentration of toxicant to which organisms are exposed in a chronic test that causes no observable adverse effect on the test organisms (e.g., the highest concentration of toxicant to which the values for the observed responses are not statistically significantly different from the controls).

Acute toxicity is a measure of primarily lethal effects that occur over a ninety-six (96) hour period. Acute toxicity for Pimephales promelas can be calculated from the results of the chronic toxicity test for Pimephales promelas and reported along with the results of each chronic test. Acute toxicity for Ceriodaphnia dubia cannot be calculated from the results of the chronic toxicity test for Ceriodaphnia dubia because the test design is not amenable to calculation of a lethal concentration (LC50) value as needed for the acute requirement.

Acute toxicity shall be measured in Tu_a, where Tu_a = 100/LC50 or as pass/fail using a t-test. LC50 is the toxicant concentration that would cause death in 50 percent of the test organisms.

REPORTING OF BIOASSAY RESULTS

The discharger shall submit the analysis and results of the toxicity tests, including any accelerated testing, in toxicity units with the discharge monitoring reports for the month in which the last test is conducted.

REPORTING OF A TOXICITY IDENTIFICATION EVALUATION AND/OR RESULTS OF THE TOXICITY REDUCTION EVALUATION WORKPLAN

1. If a Toxicity Identification Evaluation (TIE) is conducted the discharger shall submit the results of the TIE with the discharge monitoring reports for the month in which the final report is completed.

2. If the Toxicity Reduction Evaluation (TRE) Workplan has been initiated, the discharger shall report on the progress of the actions being taken and include this information with each monthly monitoring report.

QUALITY ASSURANCE

Dilution and control waters may be obtained from an unaffected area of receiving waters. Synthetic (standard) dilution is an option and may be used if the above source is suspected to have toxicity greater than 1.0 TU_c

A series of at least five dilutions and a control shall be tested for chronic toxicity testing and may be used for acute toxicity testing. The series shall include the following concentrations: 12.5, 25, 50, 75, and 100 percent effluent.

For the acute toxicity testing using a t-test, two dilutions shall be used, i.e., 100 percent effluent and a control (when a t-test is used instead of an LC50).

If organisms are not cultured in-house, concurrent testing with a referenced toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc.).

If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the toxicity test references, then the permittee must re-sample and retest within 14 days or as soon as possible.

OPERATION AND MAINTENANCE

1. The discharger shall inspect and document any operation/maintenance problems by inspecting each unit process. In addition, calibration of flow meters and equipment shall be performed in a timely manner and documented. Operation and Maintenance reports shall be submitted to the Regional Board Office twice-annually.

REPORTING

1. The discharger shall arrange the data in tabular form so that the specified information is readily discernible. The data shall be summarized in such a manner as to clearly illustrate whether the facility is operating in compliance with waste discharge requirements.

2. Records of monitoring information shall include:

   a. The date, exact place, and time of sampling or measurement(s);
   b. The individual(s) who performed the sampling or measurement(s);
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or method used; and
   f. The results of such analyses.

3. The results of any analysis taken more frequently than required at the locations specified in this Monitoring and Reporting Program shall be reported to the Regional Board.

4. Monitoring reports shall be certified under penalty of perjury to be true and correct, and shall contain the required information at the frequency designated in this monitoring report.

5. Each report shall contain the following statement:

   "I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations".

6. A duly authorized representative of the discharger may sign the documents if:

   a. The authorization is made in writing by the person described above;

   b. The authorization specified an individual or person having responsibility for the overall operation of the regulated disposal system; and

   c. The written authorization is submitted to the Regional Board's Executive Officer.

7. Reporting of any failure in the facility shall be as described in Provision No. 9 of Board Order R7-2004-0100. Results of any analysis performed as a result of a failure of the facility shall be provided within fourteen (14) days after collection of the samples.

8. The discharger shall attach a cover letter to the Self Monitoring Report. The information contained in the cover letter shall clearly identify violations of the WDRs, discuss corrective actions taken or planned and the proposed time schedule of corrective actions. Identified violations should include a description of the requirement that was violated and a description of the violation.

9. Daily, semi-weekly, weekly, and monthly monitoring reports shall be submitted to the Regional Board by the 15th day of the following month. Quarterly monitoring reports shall be submitted to the Regional Board by January 15, April 15, July 15, and September 15 of each year. Semi annual monitoring reports shall be submitted to the Regional Board by January 15, and July 15, of each year. Annual monitoring reports shall be submitted to the Regional Board by January 15 of each year.

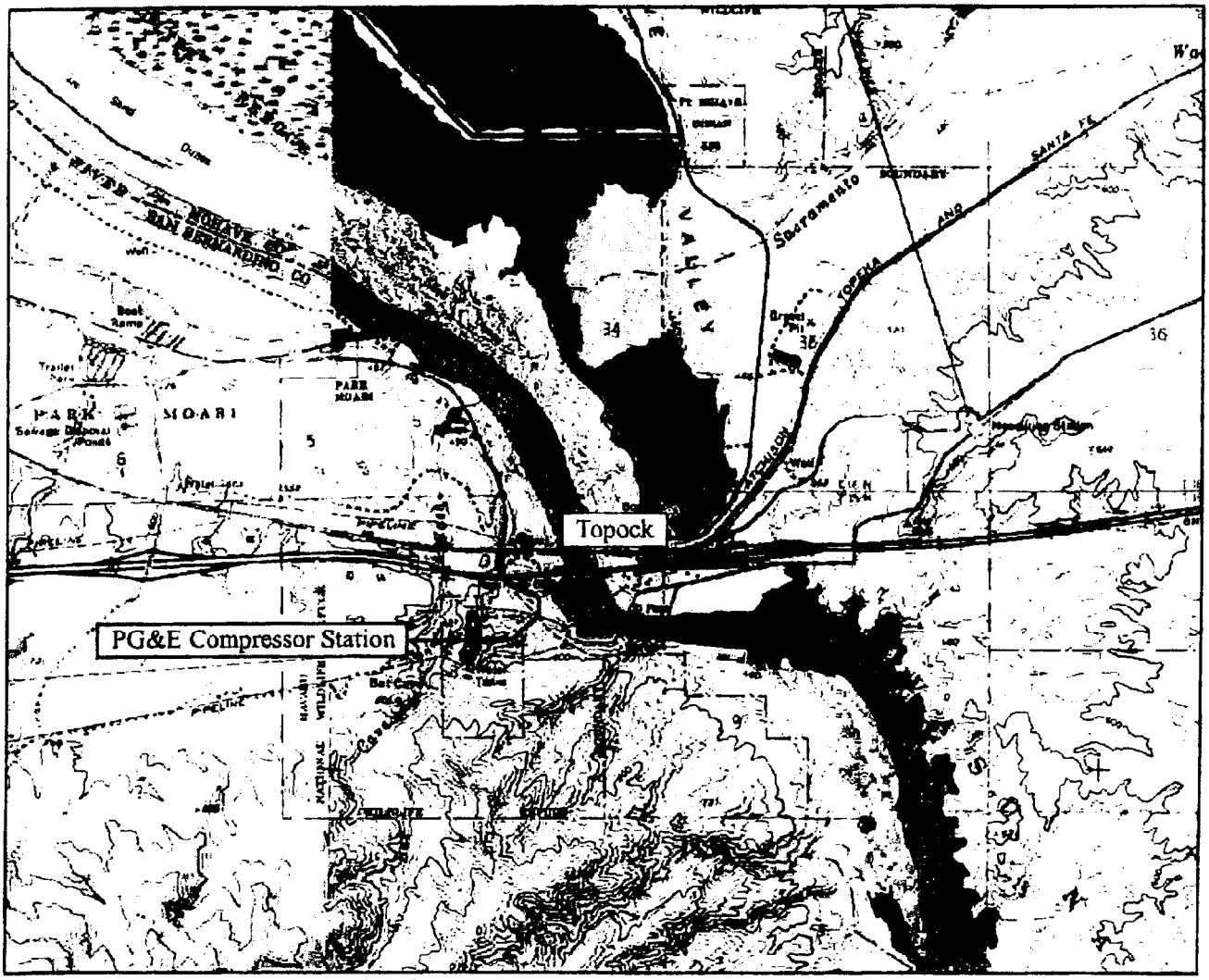
10. Submit monitoring reports to:

    California Regional Water Quality Control Board
    Colorado River Basin Region
    73-720 Fred Waring, Suite 100
    Palm Desert, CA 92260

Ordered by: _____
Executive Officer

OCT 13 2004
Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION



Source: USGS topographic map from National Geographic TOPO! software

Scale 1:15,375

PACIFIC GAS AND ELECTRIC COMPANY, OWNER/OPERATOR
GROUNDWATER REMEDIATION FACILITY
Southeast of Needles – San Bernardino County

BOARD ORDER NO. R7-2004-0100
NPDES NO. CA7000016

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

FACT SHEET
APPLICATION FOR
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
AND
WASTE DISCHARGE REQUIREMENTS
TO DISCHARGE TO STATE WATERS

Permittee Name:	PG&E Groundwater Remediation Facility	Public Notice No.: 7-04-31
NPDES Permit Number:	CA7000016	Board Order No.: R7-2004-0100
Mailing Address:	Pacific Gas & Electric Company 77 Beale Street San Francisco, CA 94105	
Location:	I-40 and Park Moabi Road 15 miles east of Needles, Ca	
Contact Person:	Yvonne Meeks	
Telephone:	(805) 546-5243	

I. Status of Permit

Pacific Gas and Electric Company (PG&E) owner/operator (hereinafter referred to as PG&E or the discharger), of the Topock Compressor Station submitted an application for Waste Discharge Requirements (WDRs) and permit to discharge wastewater under the National Pollutant Discharge Elimination System (NPDES).

From 1951 to 1964, PG&E discharged about 6 million gallons per year of untreated wastewater containing hexavalent chromium to Bat Cave Wash, an ephemeral streambed draining into the Colorado River, causing contamination of the groundwater in the region between the Compressor Station and the Colorado River.

The application is for a groundwater remediation facility to be located on San Bernardino County Assessor's parcel No. 650-151-06. PG&E is currently in the process of purchasing the land from the Metropolitan Water District. The discharger proposes to discharge treated reverse osmosis permeate to the Colorado River.

II. Facility Description

The discharger proposes operation of a groundwater remediation facility. The facility is designed to extract and treat 150 gallons per minute (gpm) of contaminated groundwater for implementation Interim Measures No. 3. The proposed project addresses hydraulic control of the contaminated groundwater plume boundaries to prevent contaminated groundwater from entering the Colorado River.

The extracted groundwater will be treated with chemical reduction, precipitation, and solids removal by gravity or clarifier. Ferrous chloride will be used to reduce Cr (VI) to Cr (III). The precipitated solids containing Cr (III) and Fe (III) will be removed by gravity settling and microfiltration. Reverse Osmosis will be used as a polishing step for the treated water to reduce Total Dissolved Solids (TDS).

III. Description of Discharge

The discharger will be composed of treated RO permeate. The final effluent will be discharged to Colorado River.

IV. Receiving Water

The receiving water for Outfall OO1 is the Colorado River.

1. The designated beneficial uses of waters in the Colorado River are:

   a. Municipal supply (MUN)
   b. Agricultural supply (AGR)
   c. Aquaculture (AQUA)
   d. Industrial supply (IND)
   e. Groundwater recharge (GWR)
   f. Water contact recreation (REC I)
   g. Non contact water recreation (REC II)
   h. Warm freshwater habitat (WARM)
   i. Cold freshwater habitat (COLD)
   j. Wildlife habitat (WILD)
   k. Hydropower generation (POW)
   l. Preservation of rare and endangered species (RARE)

V. Reasonable Potential Analysis

Reasonable Potential Analysis for constituents to exceed water quality criteria is based on historical disposal practices and on data from previous and ongoing groundwater investigations. Primary Constituents of Concern (COCs) at the Topock site are hexavalent chromium and total chromium. The Corrective Action Consent Agreement (CACA) identified copper, nickel, zinc, pH, and electrical conductivity as site COCs. Groundwater samples have been sampled for general chemistry parameters including total dissolved solids, total organic carbon, oxygen 18, deuterium, chloride, sulfate, nitrate, fluoride, barium, calcium, iron, magnesium, manganese, potassium, sodium, alkalinity, orthophosphate, ammonia, and sulfide. Additional analytical parameters were requested for selected wells sampled in the Sampling and Analysis Plan Groundwater and Surface Water Monitoring. These additional parameters include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), perchlorate, polychlorinated biphenyls (PCBs) and California Code of Regulations, Title 26 metals. Effluent Limitation Calculations for the Priority Pollutants as required by the California Toxics Rule (CTR) and the State Implementation Plan (SIP) are provided in attachment "A".

VI. Proposed Technology-Based Effluent Limitations

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for facilities other than publicly owned treatment works [defined in Section 304(b)]. Section 301(b)(1)(A) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on best practicable control technology currently available as defined by the Environmental Protection Agency (EPA) administrator.

Regulations promulgated in 40 CFR §125.3(a)(2) require technology-based effluent limits for industrial dischargers to be placed in NPDES permits based on Best Practicable Control Technology (BPT).

VII. Proposed Water Quality-Based Effluent Limitations (WQBEL's)

Effluent discharged from this facility could contain pollutants in sufficient quantities to affect receiving water quality. Pursuant to Section 13263, Article 4, Chapter 4 of the Porter Cologne Water Quality

Control Act, the Regional Boards are required to issue Waste Discharge Requirements for discharges that could affect the quality of the State's waters. Furthermore, Federal Regulation 40 CFR 122.1 requires the issuance of NPDES permits for pollutants discharged from a point source to the waters of the United States. The draft discharge requirements contain specific discharge limitations for selected pollutants.

Constituents	Basis for Limitations
Aluminum	Aluminum is known to cause toxicity in aquatic life.
Ammonia as N	Elevated levels of Ammonia may adversely affect odor in water supplied to the public. The limit is based on the Odor threshold (Amoore and Hautala).
Antimony	Elevated levels of Antimony may cause adverse effects to human health.
Arsenic	Arsenic is a known carcinogen to human health
Barium	Elevated levels of Barium may cause toxicity to human health.
Boron	Elevated levels of Boron may cause toxicity to human health.
Chromium (VI)	Chromium VI is a known carcinogen to human health and may adversely affect aquatic life.
Chromium (Total)	Chromium is a known to cause toxicity to aquatic life and human health. The limit is based on the discharger's facility design criteria as the Best Practicable Control Technology.
Color	Excedence of Color criteria in water supplied to the public may adversely affect appearance.
Flow	The maximum design capacity of the treatment facility is 150 gallons per minute.
Copper	Copper is known to cause toxicity in aquatic life.
Fluoride	Elevated levels of Fluoride may cause toxicity to human health.
Lead	Elevated levels of lead may cause toxicity to human health. The limit is based on the California Public Health Goal for Drinking Water.
Manganese	Elevated levels of Manganese in water supplied to the public may adversely affect taste.

Molybdenum	Elevated levels of Molybdenum may adversely affect suitability of use for agriculture.
Nickel	Elevated levels of nickel may cause toxicity to human health.
Nitrate + Nitrite (as N)	Elevated levels of Nitrate / Nitrite may cause toxicity to human health.
Hydrogen Ion (pH)	Hydrogen Ion (pH) is a measure of Hydrogen Ion concentration in the water. A range specified between 6.5 to 8.5 ensures suitability in water supplied to the public.
Sulfate	Elevated levels of Sulfate in water supplied to the public may adversely affect taste and odor.
Total Dissolved Solids	High levels of TDS in water supplied to the public can adversely affect taste.
Total Iron	Elevated levels of Iron in water supplied to the public may adversely affect taste and appearance.
Turbidity	Excedence of turbidity criteria in water supplied to the public may adversely affect appearance.
Zinc	Zinc is known to cause toxicity in aquatic life.
Toxicity	Toxicity testing ensures that the effluent does not contain metals, chemicals, pesticides or other constituents in concentrations toxic to aquatic life.

VIII. Proposed Effluent Limitations

Table 1, contained later in this Fact Sheet, summarizes the proposed effluent limitations for Outfall 001. Proposed effluent limitations are based on effluent limit guidelines, WQBL's and Colorado River Basin Plan Water Quality Standards.

VIII. Monitoring Requirements

Monitoring for those pollutants expected to be present in the Outfall OO1 will be required as shown on the proposed monitoring and reporting program and as required in the "*Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*" adopted March 2, 2000.

IX. Information Sources

While developing effluent limitations and receiving water limitations, monitoring requirements, and special conditions for the draft permit, the following information sources were used:

(1) EPA NPDES Application Forms 1 and 2D dated July 28, 2004.
(2) Code of Federal Regulations – Title 40
(3) Water Quality Control Plan (Colorado River Basin – Region 7) as amended to date.
(4) Regional Board files related to Pacific Gas and Electric Company, Topock Compressor Station.
(5) Porter-Cologne Water Quality Control Act with additions and amendments effective January 1, 2000.
(6) Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California adopted March 2, 2000.
(7) California Toxics Rule, published May 18, 2000 by U.S. EPA.
(8) National Toxics Rule (NTR), adopted by U.S. EPA on February 5, 1993.

X. Written Comments

Interested parties and agencies are invited to submit written comments on the proposed Waste Discharge Requirements and the Regional Board's Executive Officer's proposed determinations. Comments should be submitted in writing not later than September 14, 2004 to:

Executive Officer
California Regional Water Quality Control Board
Colorado River Basin Region
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

The application number shall appear on the first page of any submitted comments. All comments received by the above date will be considered in the formulation of the final determinations.

XI. Public Hearing

The Waste Discharge Requirements will be considered by the Regional Board at a public hearing to be held at the City of La Quinta City Council Chambers, 78495 Calle Tampico, La Quinta on September 15, 2004.

XII. Waste Discharge Requirements Appeals

Any person may petition the State Board to review the decision of the Regional Board regarding Waste Discharge Requirements. A petition must be made within 30 days of the Regional Board's hearing.

XIII. Additional Information

Persons wishing further information may write to the following address:

California Regional Water Quality Control Board
Colorado River Basin Region
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

or call the Regional Board at (760) 346-7491.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

TABLE 1
PROPOSED EFFLUENT AND RECEIVING WATER LIMITATIONS
NPDES PERMIT NO. CA7000016
BOARD ORDER NO. R7-2004-0100
PACIFIC GAS AND ELECTRIC COMPANY, OWNER/OPERATOR
GROUNDWATER REMEDIATION FACILITY

Effluent Limitations

1. Representative samples of wastewater discharged to The Colorado River from the treatment systems shall not contain constituents in excess of the limits indicated below. The discharge to the Colorado River shall be monitored at a location which is acceptable by the Regional Board's Executive Officer or his designee:

Constituent	Unit	Average Monthly Effluent Limit	Maximum Daily Effluent Limit
Aluminum	µg/L	50	100
Ammonia as N	mg/L	1.5	3
Antimony	µg/L	6	6
Arsenic	µg/L	10	10
Barium	µg/L	300	600
Boron	mg/L	1.0	2.0
Boron (Mixing Zone)[a]	mg/L	0.70	1.40
Chromium (VI)	µg/L	8	16
Chromium (Total)	µg/L	25	50
Color	units	15	30
Copper	µg/L	18	36
Fluoride	mg/L	0.30	0.60
Lead	µg/L	2	4
Manganese	µg/L	50	50
Molybdenum	µg/L	10	20
Nickel	µg/L	12	24
Nitrate + Nitrite (as N)	mg/L	10	10
Sulfate	mg/L	250	250
Selenium	µg/L	4	8
TDS	mg/L	500	723
Total Iron	µg/L	300	300
Turbidity	NTU	5.0	10.0
Zinc	µg/L	80	160

2. The maximum daily flow shall not exceed 150 gpm.

3. The hydrogen ion (pH) of the effluent shall be maintained within the limits of 6.5 to 8.5.

4. The effluent shall not contain heavy metals, chemicals, pesticides or other constituents in concentrations toxic to aquatic life.

[a] In the event that the discharger chooses not to submit a mixing zone study, compliance with the discharge requirements will be at end of pipe.

5. Stormwater discharges from the facility shall not cause or threaten to cause pollution, contamination, or nuisance.

6. Stormwater discharges from the facility shall not contain hazardous substances equal to or in excess of a reportable quantity listed in 40 CFR, Part 302.

7. There shall be no acute or chronic toxicity in the treatment plant effluent nor shall the treatment plant effluent cause any acute or chronic toxicity in the receiving water. All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, or bioassays of appropriate duration or other appropriate methods specified by the Regional Board.

Receiving Water Limitations

1. Receiving water limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit. The discharge shall not cause the following in the Colorado River.

   a. Depress the concentration of dissolved oxygen to fall below 8.0 mg/L. When dissolved oxygen in the receiving water is already below 8.0 mg/L, the discharge shall not cause any further depression.

   b. The presence of oil, grease, floating material (liquids, solids, foam and scum) or suspended material in amounts that create a nuisance or adversely affect beneficial uses.

   c. Result in the deposition of pesticides or combination of pesticides to be detected in concentrations that adversely affect beneficial uses.

   d. Aesthetically undesirable discoloration or odors in the receiving water.

   e. A significant increase in fungi, slime, or other objectionable growth.

   f. Increase turbidity that results in affecting beneficial uses.

   g. The normal ambient pH to fall below 6.0 or exceed 9.0 units.

   h. Impact the receiving water temperature, resulting in adversely affecting beneficial uses.

   i. Result in the deposition of material that causes nuisance or adversely affects beneficial uses.

   j. The chemical constituents to exceed concentrations that adversely affect beneficial uses or create nuisance.

   k. Toxic pollutants to be present in the water column, sediments or biota in concentrations that adversely affect beneficial uses or that produce detrimental physiological responses in human, plant, animal, or aquatic life.

   l. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause or otherwise adversely affect beneficial uses.

2. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board as required by the Federal Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Regional Board will revise and modify this Permit in accordance with such more stringent standards.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION (R-7)
CTR AND SIP CALCULATIONS FOR TOPOCK NPDES PERMIT

PART 1 CALCULATION OF EFFLUENT CONCENTRATION ALLOWANCES (ECA)

For each water quality criterion/objective, calculate the effluent concentration allowance (*ECA*) using the following steady-state mass balance equation:

ECA = C + D (C - B) when *C > B*, and

ECA = C when *C <=B*,

where
- *C* = the priority pollutant criterion/objective, adjusted (as described in section 1.2), if necessary, for hardness, pH, and translators (as described in section 1.4.1);
- *D* = the dilution credit (as determined in section 1.4.2); and
- *B* = the ambient background concentration. The ambient background concentration shall be the observed maximum as determined in accordance with section 1.4.3.1 with the exception that an *ECA* calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the ambient background concentration as an arithmetic mean determined in accordance with section 1.4.3.2.

The concentration units for *C* and *B* must be identical. Both *C* and *B* shall be expressed as total recoverable, unless inappropriate. The dilution credit is unitless.

Table 1

Pollutant	Ambient B	C Acute	D Acute	C Chronic	D Chronic	C HH	D HH
Antimony	0	NA	0	NA	0	14	0
Arsenic	0	340	0	150	0	NA	0
Chrome VI	0	16	0	11	0	NA	0
Copper	0	37	0	22	0	1300	0
Lead	0	201	0	8	0	NA	0
Nickel	0	1153	0	128	0	610	0
Selenium	0	NA	0	5	0	NA	0
Zinc	0	289	0	291	0	NA	0

Perform the following calculations and insert values in Table 2

$ECA_{ACUTE} = C_{ACUTE} + D_{ACUTE} \times (C_{ACUTE} - \text{Ambient B})$

$ECA_{CHRONIC} = C_{CHRONIC} + D_{CHRONIC} \times (C_{CHRONIC} - \text{Ambient B})$

Table 2

Pollutant	ECA_{ACUTE} (µg/L)	$ECA_{chronic}$ (µg/L)
Antimony	NA	NA
Arsenic	340	150
Chrome VI	16	11
Copper	37	22
Lead	201	8
Nickel	1153	128
Selenium	NA	5
Zinc	289	291

STEP 2 CALCULATIONS OF LONG TERM AVERAGES (LTA)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION (R-7)
CTR AND SIP CALCULATIONS FOR TOPOCK NPDES PERMIT

For each *ECA* based on an aquatic life criterion/objective, determine the long-term average discharge condition (*LTA*) by multiplying the *ECA* with a factor (multiplier) that adjusts for effluent variability. The multiplier shall be calculated as described below, or shall be found in Table 1. To use Table 1, the *coefficient of variation (*CV*) for the effluent pollutant concentration data must first be calculated. If (a) the number of effluent data points is less than ten, or (b) at least 80 percent of the data are reported as not detected, the *CV* shall be set equal to 0.6. When calculating *CV* in this procedure, if an effluent data point is below the detection limit for the pollutant in that sample, one-half of the detection limit shall be used as a value in the calculations. Multipliers for acute and chronic criteria/objectives that correspond to the *CV* can then be found in Table 1.

Cv	WLa Multipliers		
	95th percentile	99 percentile	
0.1	0.853	0.797	**Acute**
0.2	0.736	0.643	
0.3	0.644	0.527	
0.4	0.571	0.44	
0.5	0.514	0.373	
0.6	0.468	0.321	**Table 5-1**
0.7	0.432	0.281	
0.8	0.403	0.249	
0.9	0.379	0.224	
1	0.360	0.204	
1.1	0.344	0.187	
1.2	0.330	0.174	
1.3	0.319	0.162	
1.4	0.310	0.153	
1.5	0.302	0.144	
1.6	0.296	0.137	
1.7	0.290	0.131	
1.8	0.285	0.126	
1.9	0.281	0.121	
2	0.277	0.117	

Cv	WLa Multipliers		
	95th percentile	99 percentile	
0.1	0.922	0.891	
0.2	0.853	0.797	
0.3	0.791	0.715	
0.4	0.736	0.643	**Chronic**
0.5	0.687	0.581	
0.6	0.644	0.527	
0.7	0.606	0.481	
0.8	0.571	0.440	
0.9	0.541	0.404	**Table 5-1**
1	0.514	0.373	
1.1	0.490	0.345	
1.2	0.468	0.321	
1.3	0.449	0.300	
1.4	0.432	0.281	
1.5	0.417	0.264	
1.6	0.403	0.249	
1.7	0.390	0.236	
1.8	0.379	0.224	
1.9	0.369	0.214	
2	0.360	0.204	

LTA Equations

LTA_{Acute} = ECA_{Acute} (from Table 2)* ECA multiplier $_{Acute\ 99}$ (from Table 5-1)

$LTA_{Chronic}$ = $ECA_{Chronic}$ (from Table 2)* ECA multiplier $_{Chronic\ 99}$ (from Table 5-2)

Select the lowest (most limiting) of the *LTA*s for the pollutant derived in *Step 2.*

TABLE 3 VALUES USED IN LTA CALCULATON

Pollutant	CV Q	Sigma	Mult Acute 99th Percentile	Mult Chronic 99th Percentile	LTA Acute	LTA Chronic	LTA Min
Antimony	0.6	0.555	0.321	0.527	NA	NA	NA
Arsenic	0.6	0.555	0.321	0.527	109.1	79.1	79.1
Chrome VI	0.6	0.555	0.321	0.527	5.0	5.6	5.0
Copper	0.6	0.555	0.321	0.527	11.8	11.7	11.7
Lead	0.6	0.555	0.321	0.527	64.6	4.1	4.1
Nickel	0.6	0.555	0.321	0.527	370.0	67.5	67.5
Selenium	0.6	0.555	0.321	0.527	NA	2.6	2.6
Zinc	0.6	0.555	0.321	0.527	92.7	153.5	92.7

STEP 3 CALCULATIONS OF AVERAGE MONTHLY EFFLUENT LIMITATION (AMEL) AND MAXIMUM DAILY EFFLUENT LIMITATION (MDEL)

Calculate water quality-based effluent limitations (an *average monthly effluent limitation, AMEL, and a *maximum daily effluent limitation, MDEL) by multiplying the most limiting *LTA* (as selected in *Step 2*) with a factor (multiplier) that adjusts for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations, and the effluent monitoring frequency as follows:

$AMEL_{aquatic\ life}$ = *LTA Min (from Table 3)* * $AMEL_{multiplier95}$ (from Table 5-3b)

$MDEL_{aquatic\ life}$ = *LTA Min (from Table 3)* * $MDEL_{multiplier99}$ (from Table 5-3a)

The AMEL and MDEL multipliers shall be calculated as described below, or shall be found in Table 5-2 using the previously calculated *CV* and the monthly sampling frequency (*n*) of the pollutant in the effluent. If the sampling frequency is four times a month or less, *n* shall be set equal to 4. For this method only, maximum daily effluent limitations shall be used for publicly-owned treatment works (POTWs) in place of average weekly limitations.

Table 5-3a

Cv	LTA multipliers	
	95th percentile	99 percentile
0.1	1.17	1.25
0.2	1.36	1.55
0.3	1.55	1.9
0.4	1.75	2.27
0.5	1.95	2.68
0.6	2.13	3.11
0.7	2.31	3.56
0.8	2.48	4.01
0.9	2.64	4.46
1	2.78	4.9
1.1	2.91	5.34
1.2	3.03	5.76
1.3	3.13	6.17
1.4	3.23	6.56
1.5	3.31	6.93
1.6	3.38	7.29
1.7	3.45	7.63
1.8	3.51	7.95
1.9	3.56	8.26
2	3.6	8.55

Maximum Daily Limit MDL

Table 5-3a

Table 5-3b

	LTA Multipliers									
	95th percentile					99 percentile				
Cv	n=1	n=2	n=4	n=10	n=30	n=1	n=2	n=4	n=10	n=30
0.1	1.17	1.12	1.08	1.06	1.03	1.25	1.18	1.121	1.08	1.04
0.2	1.36	1.25	1.17	1.12	1.06	1.55	1.37	1.25	1.16	1.09
0.3	1.55	1.38	1.26	1.18	1.09	1.9	1.59	1.4	1.24	1.13
0.4	1.75	1.52	1.36	1.25	1.12	2.27	1.83	1.55	1.33	1.18
0.5	1.95	1.66	1.45	1.31	1.16	2.68	2.09	1.72	1.42	1.23
0.6	2.13	1.8	1.55	1.38	1.19	3.11	2.37	1.9	1.52	1.28
0.7	2.31	1.94	1.65	1.45	1.22	3.56	2.66	2.08	1.62	1.33
0.8	2.48	2.07	1.75	1.52	1.26	4.01	2.96	2.27	1.73	1.39
0.9	2.64	2.2	1.85	1.59	1.29	4.46	3.28	2.48	1.84	1.44
1	2.78	2.33	1.95	1.66	1.33	4.9	3.59	2.68	1.96	1.5
1.1	2.91	2.45	2.04	1.73	1.36	5.34	3.91	2.9	2.07	1.56
1.2	3.03	2.56	2.13	1.8	1.39	5.76	4.23	3.11	2.19	1.62
1.3	3.13	2.67	2.23	1.87	1.43	6.17	4.55	3.34	2.32	1.68
1.4	3.23	2.77	2.31	1.94	1.47	6.56	4.86	3.56	2.45	1.74
1.5	3.31	2.86	2.4	2	1.5	6.93	5.17	3.78	2.58	1.8
1.6	3.38	2.95	2.48	2.07	1.54	7.29	5.47	4.01	2.71	1.87
1.7	3.45	3.03	2.56	2.14	1.57	7.63	5.77	4.23	2.84	1.93
1.8	3.51	3.1	2.64	2.2	1.61	7.95	6.06	4.46	2.98	2
1.9	3.56	3.17	2.71	2.27	1.64	8.26	6.34	4.68	3.12	2.07
2	3.6	3.23	2.78	2.33	1.68	8.55	6.61	4.9	3.26	2.14

Average Monthly Limit (AML) Table 5-2b

AMEL $_{\text{aquatic life}}$ = *LTA Min (from Table 3)* * AMEL $_{\text{multiplier95}}$ (from Table 5-3b)

MDEL $_{\text{aquatic life}}$ = *LTA Min (from Table 3)* * MDEL $_{\text{multiplier99}}$ (from Table 5-3a)

For the applicable human health criterion/objective, set the AMEL equal to the *ECA* (from *Step 1*).

AMELhuman health = ECA

To calculate the MDEL for a human health criterion/objective, multiply the ECA by the ratio of the MDEL multiplier to the AMEL multiplier.

Table 4 **Values from above equations**

Pollutant	LTA Min	CV Q	N samp	AMEL Mult	AMEL Aqua	MDEL Mult	MDEL Aqua	AMEL HH	MDEL/AMEL	MDEL HH
Antimony	NA	0.6	4	1.55	NA	3.11	NA	14	2.0069	28.097
Arsenic	79.1	0.6	4	1.55	122.5	3.11	245.8	NA	2.0069	NA
Chrome VI	5.0	0.6	4	1.55	7.8	3.11	15.7	NA	2.0069	NA
Copper	11.7	0.6	4	1.55	18.2	3.11	36.5	1300	2.0069	2609
Lead	4.1	0.6	4	1.55	6.4	3.11	12.9	NA	2.0069	NA
Nickel	67.5	0.6	4	1.55	104.6	3.11	209.8	610	2.0069	1224.2
Selenium	2.6	0.6	4	1.55	4.1	3.11	8.2	NA	2.0069	NA
Zinc	92.7	0.6	4	1.55	143.7	3.11	288.3	NA	2.0069	NA

AMEL AND MDEL EFFLUENT LIMITS BASED ON SIP AND CTR

Pollutant	AMEL (µg/L)	MDEL (µg/L)
Antimony	14	28
Arsenic	123	246
Chrome VI	8	16
Copper	18	36
Lead	6	13
Nickel	105	210
Selenium	4	8
Zinc	144	288

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION (R-7)
CTR AND SIP CALCULATIONS FOR TOPOCK NPDES PERMIT

AVERAGE MONTHLY EFFLUENT LIMITS (AMEL)

Pollutant	AMEL (µg/L)	BASIS FOR EFFLUENT LIMITS
Aluminum	50	Secondary Maximum Contaminant Level (MCL)
Ammonia	1,500	Taste and Odor Threshold
Antimony	6	Primary MCL
Arsenic	10	USEPA Primary MCL
Barium	300	Best Practical Treatment Technology
Boron	1,000	Best Achievable Treatment Technology
Boron (Mixing Zone Value)	700	Best Achievable Treatment Technology
Chromium (VI)	8	California Toxic Rule
Chromium (Total)	25	Best Practical Treatment Technology
Color	15 Color Units	Secondary MCL
Copper	18	California Toxic Rule
Fluoride	300	Best Practical Treatment Technology
Lead	2	Public Health Goal
Manganese	50	Secondary MCL
Molybdenum	10	Water Quality Goal for Agriculture
Nickel	12	Public Health Goal
Nitrate + Nitrate (as Nitrogen)	10,000	Primary MCL
Sulfate	250	Secondary MCL
Selenium	4	California Toxic Rule
Total Dissolved Solids (TDS)	500	Secondary MCL
Iron	300	Secondary MCL
Turbidity	5	Secondary MCL
Zinc	80	Best Practical Treatment Technology

MAXIMUM DAILY EFFLUENT LIMITS (MDEL)

Pollutant	MDEL (µg/L)	BASIS FOR EFFLUENT LIMITS
Aluminum	100	Secondary Maximum Contaminant Level (MCL)
Ammonia	3,000	Taste and Odor Threshold
Antimony	6	Primary MCL
Arsenic	10	USEPA Primary MCL
Barium	600	Best Practical Treatment Technology
Boron	2,000	Best Achievable Treatment Technology
Boron (Mixing Zone Value)	700	Best Achievable Treatment Technology
Chromium (VI)	16	California Toxics Rule
Chromium (Total)	50	Best Practical Treatment Technology
Color	30 Color Units	Secondary MCL
Copper	36	California Toxics Rule
Fluoride	600	Best Practical Treatment Technology
Lead	4	Public Health Goal
Manganese	50	Secondary MCL
Molybdenum	20	Water Quality Goal for Agriculture
Nickel	24	Public Health Goal
Nitrate + Nitrate (as Nitrogen)	10,000	Primary MCL
Sulfate	250	Secondary MCL
Selenium	8	California Toxics Rule
Total Dissolved Solids (TDS)	723	Basin Plan Water Quality Objective
Iron	300	Secondary MCL
Turbidity	10	Secondary MCL
Zinc	160	Best Practical Treatment Technology

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

STANDARD PROVISIONS
FOR
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
OCTOBER 1990

FOR ALL PERMIT HOLDERS

1. Duty to Comply

   a. The discharger must comply with all of the conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. [40 CFR Part 122.41(a)]

   b. The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this permit has not been modified to incorporate the requirement. [40 CFR Part 122.41(a)(1)]

2. Duty to Reapply

   If the discharger wishes to continue an activity regulated by this permit after the expiration date of this permit, the discharger must apply for and obtain a new permit. [40 CFR Part 122.4(b)]

   a. Any publicly owned treatment works (POTW) with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Regional Board. (The Regional Board shall not grant permission for applications to be submitted later than the expiration date of the existing permit.) [40 CFR Part 122.41(d)(1)]

   b. All other dischargers with currently effective permits shall submit a new application 180 days before the existing permit expires except that:

      1. The Regional Administrator of the Environmental Protection Agency may grant permission to submit an application later than the deadline for submission otherwise applicable, but no later than the permit expiration date; and

      2. The Regional Administrator of the Environmental Protection Agency may grant permission to submit the information after the permit expiration date required by paragraphs (g)(7),(9), and (10) of 40 CFR Part 122.21.

3. Need to Halt or Reduce Activity Not a Defense

   It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [40 CFR Part 122.41(c)]

4. Duty to Mitigate

The discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. [40 CFR Part 122.41(d)]

5. Proper Operation and Maintenance

The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the discharger to achieve compliance with this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a discharger only when necessary to achieve compliance with the conditions of this permit. [40 CFR Part 122.41 (e)]

6. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit; or

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

c. A change in any condition that requires either a temporary or a permanent reduction or elimination of the authorized discharge; or

d. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

The Regional Board may also review and revise this permit at any time upon application of any person, or on the Regional Board's own motion. [CWC 13263(e)]

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant to this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the discharger so notified. [40CFR Part 122.41(f)] The filing of a request by the discharger for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit conditions. [40 CFR Part 122.4(f)]

7. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations. [40 CFR Part 122.41(g)]

8. Duty to Provide Information

The discharger shall furnish the Regional Board, State Board, or EPA, within a reasonable time, any information which the Regional Board, State Board, or EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating a permit or to determine compliance with a permit. The discharger shall also furnish to the Regional Board, upon request, copies of records to be kept by this permit. [40 CFR Part 122.41(h)]

The discharger shall conduct analysis on any sample provided by EPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to EPA's DMQA manager.

9. Inspection and Entry

The discharger shall allow the Regional Board, State Board, EPA, and/or other authorized representatives upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location. [40 CFR Part 122.41(i)]

10. Monitoring and Records

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. The discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 5 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board, State Board, or EPA at any time.

c. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;

2. The individual(s) who performed the sampling or measurements;

3. The date(s) analyses were performed;

4. The individual(s) who performed the analyses;

5. The analytical techniques or methods used; and

6. The results of such analyses.

d. Monitoring must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this permit.

11. Signatory Requirements

a. All permit applications, reports, or information submitted to the Regional Board, State Board, and/or EPA shall be signed as follows:

1. For a corporation: by a responsible corporate officer. For the purpose of this provision, a responsible corporate officer means: a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy-or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

3. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a Federal agency includes: the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA). [40 CFR Part 122.22(a)]

b. All reports required by this permit, other information requested by the Regional Board, State Board, or EPA, and all permit applications submitted for Group II stormwater discharges under 40 CFR Part 122.26(b)(3) shall be signed by a person described in paragraph a. of this provision, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described in paragraph a. of this provision;

2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

3. The written authorization is submitted to the Regional Board. [40 CFR Part 122.22(b)]

c. Changes to authorization. If an authorization under paragraph b. of this provision is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph b. of this provision must be submitted to the Regional Board prior to or together with any reports, information, or applications to be signed by an authorized representative. [40 CFR Part 122.22(c)]

d. Certification. Any person signing a document under paragraph a. or b. of this provision shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment of knowing violations." [40 CFR Part 122.22(d)]

e. The Clean Water Act 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 2 years per violation, or by both.

12. Reporting Requirements

a. Planned changes. The discharger shall give notice to the Regional Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR Part 122.29(b); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged.

b. Anticipated noncompliance. The discharger will give advance notice to the Regional Board of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

c. Transfers

1. This permit is not transferable to any person except after notice to the Regional Board. The Regional Board may require modification or revocation and reissuance of the permit to change the name of the discharger and incorporate such other requirements as may be necessary under the Clean Water Act and the Porter-Cologne Water Quality Control Act.

2. Transfer by modification. Except as provided in paragraph 3 below, a permit may be transferred by the discharger to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made to identify the new discharger and incorporate such other requirements as may be necessary under the Clean Water Act (CWA).

3. Automatic transfers. As an alternative to transfers under paragraph 2 of this provision, any NPDES may be automatically transferred to a new discharger if:

a. The current discharger notifies the Regional Board at least 30 days in advance of the proposed transfer date in paragraph 3.b. of this provision;

b. The notice includes a written agreement between the existing and new dischargers containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

c. The Regional Board does not notify the existing discharger and the proposed new discharger of its intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under 40 CFR Part 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 3. b. of this provision.

d. Definitions. The following definitions shall apply unless specified in this permit:

1. "Daily Discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the sampling day. "Daily discharge" shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during the sampling day.

2. "Daily Average" discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

3. "Daily Maximum" discharge limitations means the highest allowable average "daily discharge" during a calendar month.

e. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

1. Monitoring results must be reported on a Discharge Monitoring Report (DMR).

2. If the discharger monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

3. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

4. As required by 40 CFR Part 122.45(b)(2), if a non-POTW discharger has production-based limitation, then the discharger shall submit with the DMR the level of production that actually occurred during each month and the limitations, standards, or prohibitions applicable to that level of production.

f. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

g. Twenty-four-hour reporting. The discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided 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, 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 recurrence of the noncompliance.

The following shall be included as information that must be reported within 24 hours under this paragraph:

1. Any unanticipated bypass that exceeds any effluent limitation in the permit.

2. Any upset that exceeds any effluent limitation in the permit.

3. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Regional Board in this permit to be reported within 24 hours.

The Executive Officer may waive the above-required written report on a case-by-case basis for reports under this provision if the oral report has been received within 24 hours.

h. Other noncompliance. The discharger shall report all instances of noncompliance not reported under paragraphs a., e., f. and g. of this provision, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph g. of this provision.

i. Other information. Where the discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Board, the discharger shall promptly submit such facts or information. [40 CFR Part 122.41(1)]

13. Bypass

a. Definitions

1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

2. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass not exceeding limitations. The discharger may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it is essential maintenance to assure efficient operation. These bypasses are not subject to paragraphs c. and d. of this provision.

c. Notice

1. Anticipated bypass. If the discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.

2. Unanticipated bypass. The discharger shall submit notice of an unanticipated bypass as required in paragraph g. of provision 12 above (24-hour notice).

d. Prohibition of bypass. Bypass is prohibited, and the Regional Board may take enforcement action against the discharger for bypass, unless:

1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2. There were no feasible alternatives to the bypass, such as the use of auxilliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

3. The discharger submitted notices as required under paragraph c. of this provision.

e. Approval of anticipated bypass. The Regional Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Board determines that it will meet the three conditions listed above in paragraph d. of this provision. [40 CFR Part 122.41(m)]

14. Upset

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph c. of this provision are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administration action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A discharger that wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that the discharger can identify the cause(s) of the upset;

2. The permitted facility was at the time being properly operated;

3. The discharger submitted notice of the upset as required in paragraph g. of provision 12 (24-hour notice); and

4. The discharger complied with any remedial measures required under provision 4.

d. Burden of proof. In any enforcement proceeding, the discharger seeking to establish the occurrence of an upset has the burden of proof. [40 CFR Part 122.41(n)]

15. Enforcement

The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed $25,000 per day of violation. Any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment of not more than 1 year, or both. Higher penalties may be imposed for knowing violations and for repeat offenders. The Porter-Cologne Water Quality Control Act provides for civil and criminal penalties comparable to, and in some cases greater than, those provided under the Clean Water Act.

EXISTNG MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL DISCHARGES

All existing manufacturing, commercial, mining and silvicultural dischargers must notify the Regional Board as soon as they know or have reason to believe:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this permit, if that discharge will exceed the highest of the following "notification levels":

a. One hundred micrograms per liter (100 µg/l);

b. Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and 2-methyl-4-6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR Part 122.21(g)(7); or

d. The level established by the Regional Board in accordance with 40 CFR Part 122.44(f). [40 CFR Part 122.42(a)(1)]

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

a. Five hundred micrograms per liter (500 µg/l);

b. One milligram per liter (1 mg/l for antimony);

c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR Part 122.21(g)(7); or

d. The level established by the Regional Board in accordance with 40 CFR Part 122.44(f). [40 CFR Part 122.42(a)(2)]

PUBLICLY OWNED TREATMENT WORKS (POTWs)

1. Notice of Changes

All POTWs must provide adequate notice to the Regional Board of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and

b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the provision.

For purposes of this provision, adequate notice shall include information on (1) the quality and quantity of effluent introduced into the POTW, and (2) any anticipated impacts on the quantity or quality of effluent to be discharged from the POTW. [40 CFR Part 122.42(b)]

2. Pretreatment

Any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 million gallons per day (mgd) and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to Pretreatment Standards will be required to establish a POTW Pretreatment Program. The Regional Board may require that a POTW with a design flow of 5 mgd or less develop a POTW Pretreatment Program if it finds that the nature or volume of the industrial influent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant in order to prevent interference with the POTW or Pass Through. [40 CFR Part 403.8]

3. National Pretreatment Standards: Prohibited Discharges

a. General Prohibitions. No source may introduce into a POTW any pollutant(s) which cause Pass Through or Interference. These general prohibitions and the specific prohibitions in paragraph b.

of this provision apply to all non-domestic sources introducing pollutants into a POTW whether or not the source is subject to other National Pretreatment Standards or any national, state, or local Pretreatment Requirements.

b. Specific prohibitions. In addition, the following pollutants shall not be introduced into a POTW:

1. Pollutants which create a fire or explosion hazard in the POTW, including but not limited to, waste streams with a closed cup flash point of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR Part 261.21;

2. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works is specifically designed to accommodate such discharges;

3. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;

4. Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW;

5. Heat in amounts which will inhibit biological activity in the POTW resulting in interference, but in no case heat in such quantities that the temperature at the POTW Treatment Plant exceeds 40°C (104°F) unless the Regional Board, upon request of the POTW, approves alternate temperature limits;

6. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

7. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and

8. Any trucked or hauled pollutants, except at discharge points designated by the POTW.

c. When specific limits must be developed by a POTW.

1. POTWs developing POTW Pretreatment Programs pursuant to 40 CFR Part 403.8 shall develop and enforce specific limits to implement the prohibitions listed in paragraphs a. and b. of this provision.

2. All POTWs shall, in cases where pollutant contributed by user(s) result in interference or pass through, and such violation is likely to recur, develop and enforce specific effluent limits for industrial user(s), and all other users, as appropriate, that, together with appropriate changes in the POTW treatment plant's facilities or operations, are necessary to ensure renewed and continued compliance with the POTW's NPDES permit, or sludge use, or disposal practices.

3. Specific effluent limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond.

d. Local limits. Where specific prohibitions or limits on pollutants or pollutant parameters are developed by a POTW in accordance with paragraph c. above, such limits shall be deemed Pretreatment Standards for the purposes of Section 307(d) of the Clean Water Act. [40 CFR Parts 403.5 (a) through (d)]