California Regional Water Quality Control Board

Colorado River Basin Region

73-720 Fred Waring Drive, Suite 100, Palm Desert, CA 92260
(760) 346-7491 • Fax (760) 341-6820
http://www.waterboards.ca.gov

ORDER NO. R7-2006-0060

PACIFIC GAS & ELECTRIC COMPANY
PG&E TOPOCK COMPRESSOR STATION GROUNDWATER INJECTION
SOUTHEAST OF NEEDLES
SAN BERNARDINO COUNTY

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

Discharger	Pacific Gas and Electric Company
Name of Facility	PG&E Topock Groundwater Extraction and Treatment System – Underground Injection
Facility Address	I-40 and Park Moabi Road (15 miles Southeast of Needles, CA)
	San Bernardino County Assessors Parcel Number 0650-151-06
	San Bernardino County
Facility Contact and Phone Number	Curt Russell (760) 326-5582
Type of Facility	Industrial
Owner Mailing Address	Pacific Gas and Electric Company
	77 Beale Street
	San Francisco, CA 94105
Owner Contact and Phone Number	Yvonne Meeks (805) 546-5243

The Discharger is authorized to discharge from the following discharge points as set forth below:

Discharge Point	Effluent Quality	Discharge Point Latitude	Discharge Point Longitude	Hydrologic Unit
IW-2, IW-3	Treated Groundwater	34° 43’ 17” N	114° 24’ 45” W	Piute

This Order was adopted by the Regional Water Board on:	September 20, 2006
This Order shall become effective on:	September 20, 2006

TABLE OF CONTENTS

I. FACILITY INFORMATION

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

Discharger	Pacific Gas and Electric Company
Name of Facility	PG&E Topock Groundwater Extraction and Treatment System – Underground Injection
Facility Address	I-40 and Park Moabi Road (15 miles Southeast of Needles, CA)
	San Bernardino County Assessors Parcel Number 0650-151-06
	San Bernardino County
Facility Contact, Title, and Phone	Curt Russell, On-Site Project Manager, (760) 326-5582
Mailing Address	Pacific Gas and Electric Company 77 Beale Street San Francisco, CA 94105
Type of Facility	Industrial
Facility Design Flow	135 gallons per minute

II. FINDINGS

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

A. Background and Description of Existing Board Orders.

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), hereinafter Discharger, submitted a Report of Waste Discharge (ROWD), dated June 8, 2006**,** applying for a renewal of Board Order No. R7-2004-0103. Under the existing Board Order, PG&E currently discharges approximately 135 gallons per minute of treated groundwater by underground injection.

2. The Topock Compressor Station Class II surface impoundments, groundwater extraction wells and 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 blowdown water by reduction of hexavalent chromium (Chrome VI) to trivalent chromium (Chrome III) prior to discharge to the percolation beds. On August 14, 1969, the Regional Water 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 blowdown water by subsurface injection at well PGE-8.

5. On November 6, 1970, PG&E submitted a ROWD 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 Water 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 Water 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 Water 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 Water 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 permitted 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 Code of Federal Regulations Part 265 and Subchapter 15, Chapter 3, Title 23 of the California Code of Regulations.

13. On May 10, 1995, PG&E notified the Regional Water Board 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, 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 the Bat Cave Wash and is not associated with the current evaporation basins.

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

15. On February 26, 1996, the 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 the soils and groundwater. DTSC's jurisdiction to regulate PG&E and enter into the CACA is based on California Health and Safety Code Section 25187, which authorizes DTSC to issue an order when it determines that there is or has been a release or threatened release of hazardous waste or hazardous waste constituents into the environment from a hazardous waste facility. DTSC and PG&E entered into the CACA to provide a framework for carrying out the corrective actions specified in the CACA.

16. Under the terms of the CACA, PG&E agreed to conduct a RCRA Facility Investigation (RFI) and to implement corrective action measures. A draft RFI was submitted in April 2000, a second draft was submitted in February 2004. A third RFI draft was submitted in February 2005Results of the 2005 RFI indicated hexavalent chromium was present in a groundwater plume at concentrations up to 12,400 ppb at monitoring well cluster MW-20, which is located approximately 600 feet from the Colorado River.

17. On May 14, 1998, Board Order No. 88-30 was rescinded and Board Order No. 98-050 was adopted. Board Order No. 98-050 allowed discharge of cooling tower blowdown to the Class II surface impoundments.

18. On January 22, 2004, DTSC directed PG&E to prepare an Interim Measures Workplan in response to the detection of chromium (VI) in MW-34-80 during December 2003. Field investigation work, including installation of additional monitoring wells, which resulted from this workplan, was subsequently referred to as Interim Measure No. 1. On February 9, 2004, DTSC directed PG&E to immediately implement a second interim measure (Interim Measure No. 2) to begin pumping and transporting extracted groundwater to an off-site disposal facility. Interim Measure No. 2 pumping activities began in March 2004. 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.

19. 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) exemption requirements for an Emergency Project, California Code of Regulations, Title 14, Section 15269(c), which provides an exemption from CEQA review for necessary actions taken to prevent an emergency. 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."

20. On July 8, 2004, PG&E submitted a Summary of Proposed Project for Interim Measures No. 3–Revision 1 that provided a general summary of the proposed project. The summary describes the method of treatment to be used and the means of disposal of treated water and waste products 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 groundwater to the Colorado River under the National Pollutant Discharge Elimination System (NPDES).

21. On July 29, 2004, PG&E submitted to the Regional Water Board applications and ROWDs for permits to discharge treated groundwater by the three methods of disposal described in Finding No. 20. A separate application was submitted for each method.

22. On October 13, 2004, the Regional Water Board adopted Board Order Nos. R7-2004-0080, R7-2004-0100, and R7-2004-0103.

a. Board Order No. 98-050 was rescinded and R7-2004-0080 was adopted. Board Order No. R7-2004-0080 allows for the reuse of treated groundwater from the IM-3 treatment facility in the Compressor Station cooling tower and disposal of brine to the Class II surface impoundments. To date, no discharge of brine from the IM-3 treatment facility has occurred under this Board Order.

b. Board Order No. R7-2004-0100 permits discharge of treated groundwater to the Colorado River under the National Pollutant Discharge Elimination System (NPDES). Prohibition No. 1 of Board Order No. R7-2004-0100 states: "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 . . . ." To date, no discharge has occurred under this Board Order.

c. Board Order No. R7-2004-0103 allows for subsurface injection to one or more of three injection well fields. Discharge to groundwater under this Order began July 31, 2005.

23. In adopting Board Order No. R7-2004-0103, the Regional Water Board reviewed the NOE prepared by DTSC and stated in the order that it "concurs that an emergency condition exists because the flow of groundwater to the Colorado River had not yet been contained." While the duration of the Interim Measures was not determined at the time the three Orders described in Finding No. 22 were adopted, the Regional Water Board determined that it was appropriate to limit the term of specified waste streams in those Orders. The permits allowing discharge to the injection well field (R7-2004-0103) and the Colorado River (R7-2004-0100) expire January 31, 2007. The permit regulating the discharge of waste streams to the existing Class II surface impoundments (R7-2004-0080) prohibits the discharge after January 31, 2007, of Reverse Osmosis concentrate liquids from the IM-3 treatment system and cooling tower blowdown, if supply water to the cooling towers contains RO permeate from the IM-3 treatment system. The permit remains in effect, however, for all other waste streams discharged to the surface impoundments regulated under this Order.

B. Project Description.

1. The Discharger currently operates 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.

2. Influent to the treatment facility is composed of the following:

   a. Contaminated groundwater from extraction wells TW-2S, TW-2D, TW-3D, and PE-1.

   b. Purged groundwater and water generated in rinsing field equipment during sampling events from the area wide Groundwater Monitoring Program. During most groundwater monitoring events, the maximum amount of purge water that is added to the influent is 1,000 to 3,000 gallons per day, or about 1.6 percent of the IM-3 facility capacity.

   c. Groundwater generated during well installation, well development, and aquifer testing. Treatment of this water at the IM-3 facility will be coordinated to maintain total influent rates within the design capacity of the IM-3 system.

3. The Discharger is currently discharging a maximum of 135 gpm of treated groundwater under Board Order No. R7-2004-0103 into two injection wells, IW-2 and IW-3, located on San Bernardino County Assessor's Parcel No. 650-151-06. The final effluent is composed of Reverse Osmosis (RO) permeate that may be blended with RO concentrate or microfilter water from the treatment facility. It is discharged to the groundwater on the west side of Parcel No. 650-151-06.

4. The extracted groundwater is treated with chemical reduction, precipitation, and solids removal by gravity or clarifier. Ferrous chloride is used to reduce Cr (VI) to Cr (III). The precipitated solids containing Cr (III) and Fe (III) are removed by gravity settling and microfiltration. Reverse Osmosis (RO) is used as a polishing step for the treated water to reduce Total Dissolved Solids (TDS). Under this Order, RO concentrate and liquids may be discharged to an appropriate disposal facility. Residual solids will be disposed according to federal and state regulations.

5. The IM-3 groundwater injection system consists of two (2) injection wells, IW-2 and IW-3, and a network of both observation wells and compliance monitoring wells that surround the injection wells. Observation well clusters, OW-1, OW-2, and OW-5, make up the inner network of monitoring wells located approximately 50 to 100 feet from the injection wells. Each observation well cluster consists of three monitoring wells screened at shallow, medium, and deep (S/M/D) intervals. The estimated travel time for the injected groundwater to reach the observation wells is approximately two (2) to four (4) months. Compliance monitoring well clusters, CW-1, CW-2, CW-3, and CW-4, make up the outer network of monitoring wells. They are located approximately 300 to 550 feet from the injection wells. Each compliance monitoring well cluster consists of two monitoring wells (M/D) with 50-foot screened intervals. The estimated travel time for the injected groundwater to reach the compliance monitoring wells is approximately two (2) to four (4) years.

6. The Discharger currently uses the following chemicals for the treatment of extracted groundwater:

Chemical Name	Purpose
Ferrous Chloride	Chemical Reducing Reagent
Sodium Hydroxide	pH Control
Sulfuric Acid	pH Control
Anti-scalant 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

7. The Report of Waste Discharge application describes the historical influent and effluent constituents and their concentrations as follows:

		Influent		Effluent	
Constituent	Units	Average	Maximum	Average	Maximum
Nitrate as N	mg/L	4.69	5.69	3.36	4.18
Nitrite as N	mg/L	0.00878	0.0143	0.00822	0.0211
Fluoride	mg/L	2.54	3.07	1.91	2.31
Sulfate	mg/L	691	742	450	528
Specific Conductance	µS/cm	9290	11000	6810	8530
Turbidity	NTU	0.0834	0.219	0.0656	0.256
Total Organic Carbon	mg/L	0.32	1.25	NA	ND(0.3)
Total Suspended Solids	mg/L	NA	ND(10)	NA	ND(10)
Total Dissolved Solids	mg/L	5890	6360	3990	4810
Ammonia as N	mg/L	0.509	1.43	1.47	7.84
Flow	gpm		134.1		121.4
pH	pH units	7.51	7.72	7.88	8.14
Total Phosphorus	mg/L	0.054	0.219	0.139	0.258
Hexavalent Chromium	mg/L	3.77	4.27	0.000441	0.00046
Antimony	mg/L	NA	ND(0.003)	NA	ND(0.003)
Arsenic	mg/L	NA	ND(0.005)	NA	ND(0.005)
Aluminum	mg/L	NA	ND(0.052)	NA	ND(0.052)
Barium	mg/L	0.0919	0.027	0.0922	0.104
Boron	mg/L	1.40	1.66	1.33	1.62
Iron	mg/L	NA	ND(0.3)	NA	ND(0.3)
Magnesium	mg/L	21.4	23.2	11.1	14.7
Molybdenum	mg/L	0.0212	0.028	0.00885	0.0122
Manganese	mg/L	NA	ND(0.05)	NA	ND(0.05)
Chromium	mg/L	4.05	7.14	0.00106	0.0107
Lead	mg/L	0.00124	0.0024	0.00124	0.0024
Nickel	mg/L	0.00818	0.0079	0.00735	0.0093
Zinc	mg/L	0.039	0.197	0.0581	0.406
Copper	mg/L	0.0101	0.0313	0.01	0.0328

Note: Historical influent and effluent data based on operational data collected from August 2005 to April 2006 in accordance with Board Order No. R7-2004-0103.

C. Legal Authorities.

This Order serves as Waste Discharge Requirements (WDRs), which are being issued pursuant to Division 7, Chapter 4, Article 4 of the California Water Code (CWC) for discharges that are not subject to regulation under Clean Water Act (CWA) Section 402 (33 U.S.C. Section 1342).

D. Background and Rationale for Requirements.

The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and through special studies. Attachments A through C, which contain background information and rationale for Order requirements, are hereby incorporated into this Order and thus, constitute part of the Findings for this Order.

E. California Environmental Quality Act (CEQA).

In accordance with the California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000 et seq.) and implementing Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.), the Regional Water Board, acting as the Lead Agency, prepared an Initial Study and Negative Declaration for the renewal of Board Order No. R7-2004-0103, which would allow for the continued injection of treated water from the existing groundwater treatment system into injection wells IW-2 and IW-3. Based on the Initial Study, the Regional Water Board determined that the proposed renewal of the WDRs could not have a significant effect on the environment. The Regional Water Board's determination is reflected in the finding made in the proposed Negative Declaration. The Regional Water Board circulated the Initial Study and proposed Negative Declaration for a public comment period beginning August 2, 2006 and ending August 31, 2006. On September 20, 2006 the Regional Water Board filed a Notice of Determination (NOD, SCH#2006081005) with the State Clearinghouse regarding its adoption of resolutions approving the proposed Negative Declaration and Board Order No. R7-2006-0060 at its regularly scheduled meeting held on September 20, 2006. The Regional Water Board concludes in the NOD that the proposed project will not have a significant effect on the environment.

F. Water Quality Control Plans.

1. The Regional Water Board adopted a Water Quality Control Plan for the Colorado River Basin (hereinafter, Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. The IM-3 groundwater injection system is located within the Piute hydrologic unit.

   The Basin Plan states at page 2-19 that the beneficial uses of ground waters in the Piute hydrologic unit are as follows:

Discharge Point	Hydrologic Unit	Beneficial Use(s)
IW-2, IW-3	Piute	Existing: Municipal and domestic water supply (MUN) Industrial Supply (IND) Agricultural Supply (AGR)

Requirements of this Order specifically implement the Basin Plan.

2. 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 that 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.

3. The State Water Resources Control Board (State Water Board) 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.

G. Anti-degradation Policy.

The State Water Board established California's anti-degradation policy in State Water Board Resolution 68-16. Resolution 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The permitted discharge is consistent with the anti-degradation provision of State Water Board Resolution 68-16. The discharge is necessary to prevent potential water quality impacts on the Colorado River (a main water supply to Southern California) and prevent and mitigate further impacts on groundwater. Further, this water supply is of key economic importance to the State.

H. Monitoring and Reporting.

Section 13267 of the CWC authorizes the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment C.

I. Notification of Interested Parties.

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations.

J. Consideration of Public Comment.

The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted therein, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. Prohibitions

1. Discharge of waste classified as "hazardous" under Section 2521, Chapter 15 of Title 23 of the California Code of Regulations, or as "designated", as defined in CWC Section 13173, is prohibited.

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

3. The direct discharge of any wastewater to any surface waters or surface drainage courses is prohibited.

4. Bypass overflow, discharge or spill of untreated or partially treated wastewater is prohibited.

5. The discharge of waste to land not owned by or authorized for such use to the Discharger is prohibited.

6. The discharge shall not cause degradation of any water supply, as required by State Water Board Resolution No. 68-16.

7. The treatment or disposal of wastes from the facility shall not cause pollution or nuisance as defined in CWC Section 13050(l) – (m).

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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 groundwater shall be monitored at a location which is acceptable by the Regional Water Board's Executive Officer or his designee:

Constituent	Unit	Average Monthly Effluent Limit	Maximum Daily Effluent Limit
Flow	gpm[1]	135	-----
Chromium (VI)	µg/L[2]	8	16
Chromium (Total)	µg/L	25	50

2. The hydrogen ion (pH) of the effluent shall be maintained within the limits of 6.5 to 8.4.

[1] gallons per minute
[2] micrograms per Liter

B. Discharge Specifications

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

2. 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, injection wells, and monitoring wells. Extraction wells on the Colorado River floodplain within the 100-year floodplain are potentially subject to inundation. In the event that inundation occurs, the Discharger shall promptly restore the wells to their proper operating capacity and submit a summary report of the corrective actions taken to the Executive Officer of the Regional Water Board for his approval.

3. The Discharger shall prohibit public access to the injection wells through such means as well locks, security bolts or other alternatives acceptable to the Regional Water Board's Executive Officer.

4. The volume of additional groundwater introduced from the Groundwater Monitoring Program or other field activities shall not cause an exceedence of the effluent flow limits, as permitted under this Board Order. In the event that the IM-3 water treatment facility is required to operate at the maximum effluent flow limit for the purpose of hydraulic control of the chromium (VI) plume, all additional groundwater generated from the Groundwater Monitoring Program or other field activities shall be stored in tanks or taken to an appropriately permitted off-site disposal facility.

5. Groundwater generated from the Groundwater Monitoring Program or other field activities not suitable for treatment at the IM-3 facility shall be taken to an appropriately permitted off-site disposal facility.

6. Discharge of treated wastewater other than at the location and in the manner described below is prohibited:

    a. The discharge of treated groundwater shall be to one or both of the two injection well fields, IW-2 and IW-3, located on San Bernardino County Assessor's Parcel No. 650-151-06. The final effluent shall be composed of RO permeate that may be blended with RO concentrate or microfilter water from the treatment facility.

    b. The extracted groundwater shall be treated with chemical reduction, precipitation, and solids removal by gravity or clarifier. RO shall be used as a polishing step for the treated water as necessary to reduce Total Dissolved Solids (TDS).

    c. RO concentrate and liquids may be discharged to an appropriately permitted disposal facility.

    d. Solids waste treatment, handling and disposal shall be in a manner that is consistent with all State and Federal laws and regulations.

V. PROVISIONS

A. Regional Water Board Standard Provisions

1. The Discharger shall comply with the following provisions:

   a. The Discharger shall comply with all conditions of the Board Order. Noncompliance constitutes a violation of the Porter-Cologne Water Quality Control Act, and is grounds for enforcement action, Order termination, revocation and reissuance, modification of Waste Discharge Requirements, or denial of an Order renewal application.

   b. The Discharger shall ensure that all site-operating personnel are familiar with the contents of this Board Order, and shall maintain a copy of this Board Order on site.

   c. Consistent with CWC Section 13267(c), the Discharger shall allow the Regional Water Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law to:

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

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

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

      iv. 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.

   d. Prior to any change of 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 Water Board.

   e. Prior to any modifications in this facility, which would result in any 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 Water Board and obtain revised requirements before modifications are implemented.

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

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

   h. 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.

i. The Discharger shall at all times properly operate and maintain systems and components of the treatment system that 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 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 Water Board upon demand.

j. The Discharger shall report any noncompliance that may endanger human health or the environment. The Discharger shall immediately provide a verbal report of the noncompliance to the Regional Water Board office [(760) 346-7491] and the Office of Emergency Services [(800) 852-7550 or (916) 845-8911] 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. During non-business hours, the Discharger shall leave a message on the Regional Water Board voice recorder. A written report to the Regional Water Board 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 or collection system to the Regional Water Board offices in accordance with the above time limits.

k. The Discharger shall provide adequate notice to the Regional Water Board's Executive Officer of the following:

   i. Any substantial change in the volume or character of pollutants being introduced into any of the treatment facilities described in the Findings of this Board Order by an existing or new source.

   ii. Any planned physical alterations or additions to the facilities described in this Board Order, or changes planned in the Discharger's disposal practices, where such alterations, additions, or changes may justify the application of Board Order conditions that are different or absent in the existing Board Order, including notification of additional disposal sites not reported during the Board Order application process, or not reported pursuant to an approved land application plan.

B. Monitoring and Reporting Program Requirements

1. The Discharger shall comply with Monitoring and Reporting Program R7-2006-0060, and future revisions thereto, in Attachment C of this Order.

2. The monitoring and reporting requirements in Monitoring and Reporting Program R7-2006-0060 are necessary to determine compliance and to determine the underground injection project's impacts, if any, on groundwater.

3. The Discharger is the responsible party for the waste discharge requirements and the monitoring and reporting program for the underground injection project. The Discharger shall comply with all conditions of these waste discharge requirements. Violations may result in enforcement actions, including Regional Water Board Orders or court orders, requiring corrective action or imposing civil monetary liability, or in modification or revocation of these Waste Discharge Requirements by the Regional Water Board.

4. The Discharger shall furnish, under penalty of perjury, technical monitoring program reports, and such reports shall be submitted in accordance with the specification prepared by the Regional Water Board's Executive Officer. Such specifications are subject to periodic revisions as may be warranted.

5. Pursuant to 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 this Board Order, determine the impact on the receiving groundwater, and confirm that the discharge of treated ground water does not violate Waste Discharge Requirements.

6. The Discharger shall report any noncompliance in accordance with Provision V.A.1.j. Reports of noncompliance shall be submitted with the Discharger's next scheduled Self-Monitoring Report, or earlier if requested by the Regional Water Board's Executive Officer.

C. Special Provisions

1. The Discharger shall obtain all approvals required by the U.S. Bureau of Land Management and the U.S. Department of the Interior, if any, prior to the continued discharge of treated water from the IM No. 3 water treatment facility to injection wells IW-2 and IW-3.

2. The Discharger shall maintain a plan as to the method, treatment, handling and disposal of solid waste that is consistent with all State and Federal laws and regulations, including any prior approvals required by the U.S. Bureau of Land Management, and obtain prior written approval from the Regional Water Board specifying location and method of disposal, before disposing of treated or untreated solid waste. Revisions or modifications to the plan shall be submitted to the Regional Water Board office for the Executive Officer's approval.

3. The Discharger shall maintain a contingency plan detailing mitigation measures in the event of a plant upset. The plan shall provide an analysis of system failure, the effect of failure, and the proposed course of corrective action. Revisions or modifications to the plan shall be submitted to the Regional Water Board for the Executive Officer's approval.

4. Best Management Practices and Pollution Prevention.

    a. Storm water

        i. Federal regulations for storm water discharges require specific categories of facilities, which discharge storm water associated with industrial activity (storm water), 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.

ii. In the event that there are storm water discharges associated with industrial activities, the Discharger shall submit a Notice of Intent and/or maintain coverage under the General Storm Water Permit.

iii. 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.

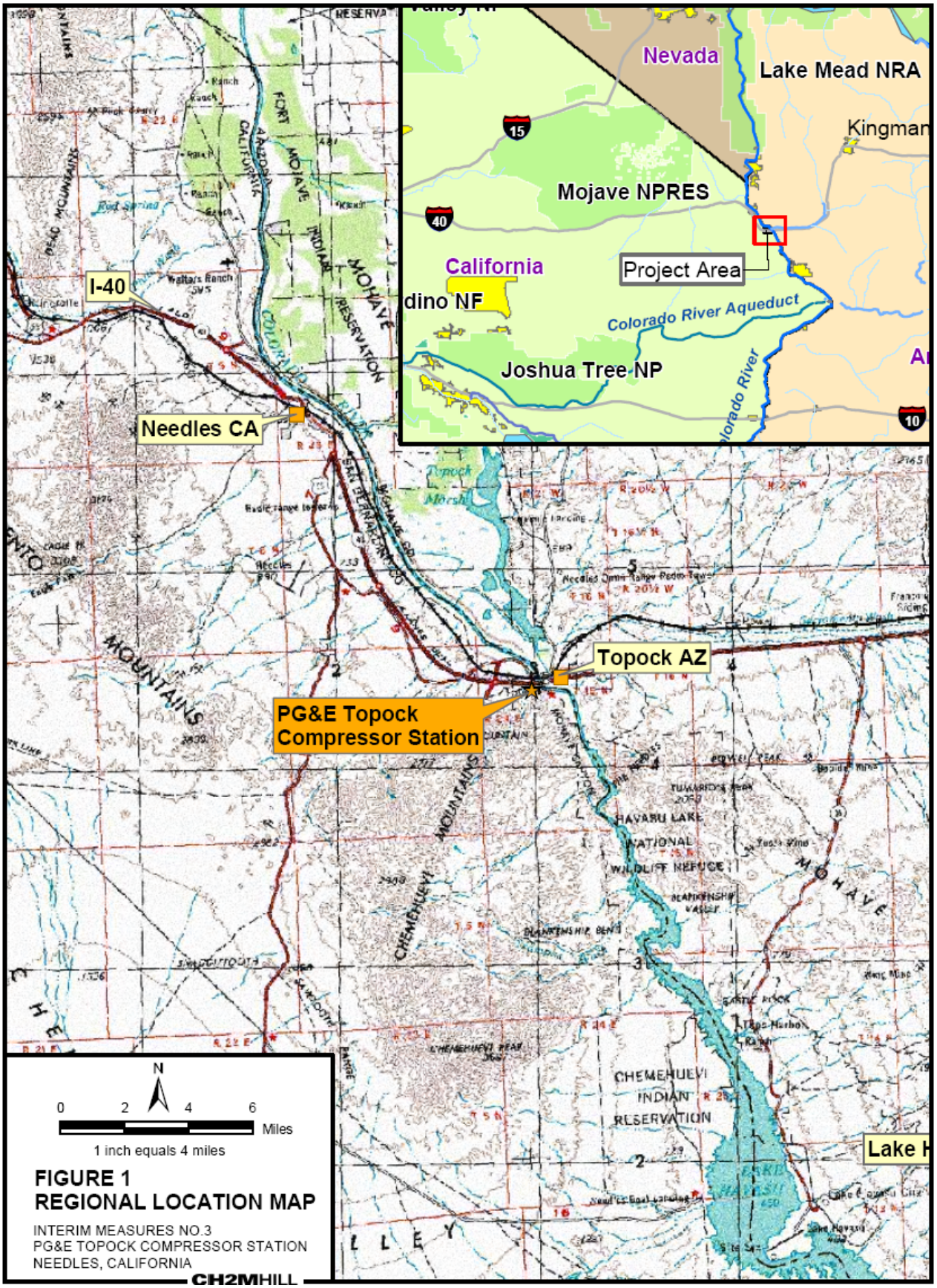
iv. Storm water discharges from the facility shall not cause or threaten to cause pollution or contamination.

v. 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.

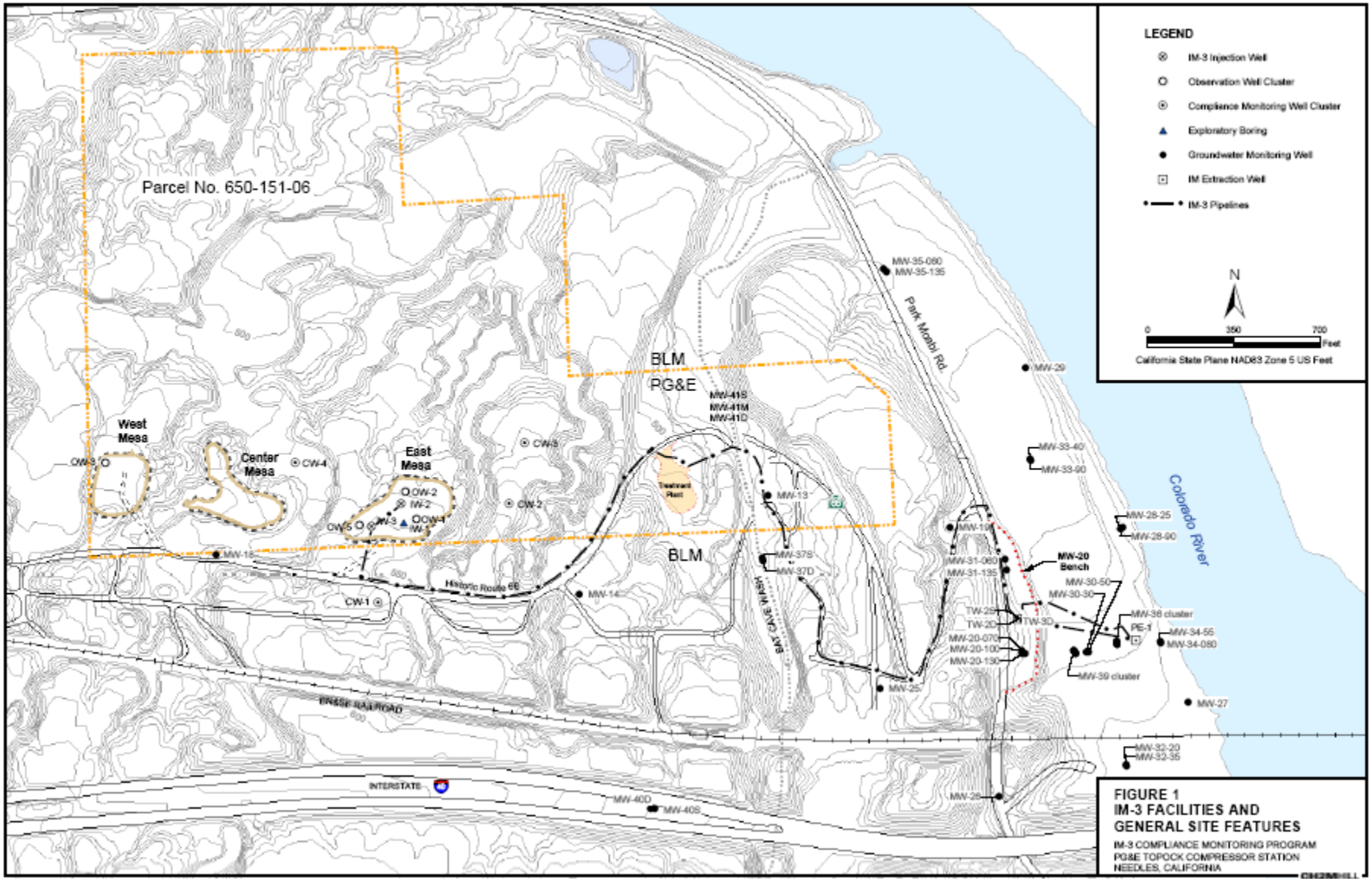
5. This Board Order expires upon the selection and implementation of the final remedy for the Topock site or September 20, 2011, whichever occurs first. If the final remedy includes the reinjection of treated groundwater, a new Report of Waste Discharge must be submitted and new Waste Discharge Requirements must be issued.

I, Robert Perdue, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Colorado River Region, on September 20, 2006.

ROBERT PERDUE
Executive Officer



Needles – San Bernardino County
Project Location - 34° 43’ 17” N Latitude and 114° 24’ 45” W Longitude


LEGEND
IM-3 Injection Well
Observation Well Cluster
Compliance Monitoring Well Cluster
Exploratory Boring
Groundwater Monitoring Well
IM Extraction Well
IM-3 Pipelines
N
0
350
700
Feet
California State Plane NAD83 Zone 5 US Feet
Parcel No. 650-151-06
BLM
PG&E
BLM
West Mesa
Center Mesa
East Mesa
Treatment Plant
Park Moabi Rd.
Colorado River
Historic Route 66
BAT CAVE WASH
INTERSTATE
MW-41S
MW-41M
MW-41D
MW-20 Bench
MW-36 cluster
MW-39 cluster
FIGURE 1
IM-3 FACILITIES AND
GENERAL SITE FEATURES
IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Attachment C – Monitoring and Reporting Program – Table of Contents

ATTACHMENT C – MONITORING AND REPORTING PROGRAM (MRP)

CWC Sections 13267 and 13383 authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements to implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Monitoring Provisions

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below. Monitoring locations, sampling frequencies, and monitored constituents shall not be changed without notification to, and having the approval of the Regional Water Board's Executive Officer.

2. Unless otherwise approved by the Regional Water Boards Executive Officer, all analysis shall be conducted at a laboratory certified for such analysis by the State Department of Health Services. All analysis shall be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants", (40 CFR Part 136) or equivalent methods promulgated by the United States Environmental Protection Agency (USEPA).

3. The collection, preservation and holding times of all samples shall be in accordance with USEPA approved procedures.

4. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and, as applicable, calibrated at least once per year to ensure continued accuracy of the devices.

5. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

6. 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:

        i. The individual(s) who performed the sampling or measurements.
        ii. The date(s) analyses were performed.
        iii. The individual(s) who performed the analysis.
        iv. The analytical techniques or methods used; and
        v. The results of such analysis.

II. MONITORING LOCATIONS

The Discharger shall monitor the treatment facility influent, effluent, groundwater, and sludge in accordance with the following table. Monitoring locations shall not be changed without notification to, and having the approval of, the Regional Water Board's Executive Officer.

Table C-1: Monitoring Locations

Monitoring Location Name	Monitoring Location Description	Monitoring Location Latitude	Monitoring Location Longitude
T-100	Influent point prior to treatment		
T-700	Effluent point after treatment		
T-701	Reverse Osmosis Waste stream		
OW-1S/M/D	Observation Well # 1		
OW-2S/M/D	Observation Well # 2		
OW-5S/M/D	Observation Well # 5		
CW-1M/D	Compliance Monitoring Well # 1		
CW-2M/D	Compliance Monitoring Well # 2		
CW-3M/D	Compliance Monitoring Well # 3		
CW-4M/D	Compliance Monitoring Well # 4		
Sludge	Sludge Composite Sample		

III. START UP MONITORING REQUIREMENTS

A. Facility Start Up Phase Monitoring and Reporting

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below. Monitoring locations shall not be changed without notification to, and having the approval of the Regional Water Board's Executive Officer.

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 (1^{st}) and third (3^{rd}) days of operation.

   a. On the 1^{st} 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 1^{st} day analysis show that the effluent is in compliance with the effluent limitations set forth in Board Order R7-2006-0060.

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 injection wells 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 injection wells. 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.

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 Water 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 treatment system.

5. Upon completion of the start up phase, the Discharger shall begin normal monitoring and reporting for the daily operation and maintenance of the treatment system. Monitoring and Reporting shall be performed as required in the following sections.

IV. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Requirements: T-100

1. The Treatment System Influent shall be analyzed for the following constituents immediately prior to treatment:

Constituents	Units	Type of Sample	Sampling Frequenc	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
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

[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

Constituents	Units	Type of Sample	Sampling Frequenc	Reporting Frequency
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

V. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Requirements: T-700

1. The Treatment System Effluent shall be analyzed for the following constituents immediately after treatment:

Constituents	Units	Type of Sample	Sampling Frequenc	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
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.

VI. REVERSE OSMOSIS CONCENTRATE MONITORING REQUIREMENTS

A. Monitoring Requirements: T-701

1. The Treatment System reverse osmosis concentrate shall be analyzed for the following constituents immediately after treatment:

Constituents	Units	Type of Sample	Sampling Frequenc	Reporting Frequency
Flow	gpm	Metered	Continuous	Monthly
TDS	mg/L	Grab	See Footnote[8]	Monthly
Specific Conductance	µmhos/cm	Grab	See Footnote[8]	Monthly
pH	pH units	Grab	See Footnote[8]	Monthly
Total Chromium	mg/L	Grab	See Footnote[8]	Monthly
Chromium VI	mg/L	Grab	See Footnote[8]	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

VII. GROUNDWATER MONITORING REQUIREMENTS

A. Monitoring Requirements: OW-1S/M/D, OW-2S/M/D, OW-5S/M/D

1. The groundwater observation monitoring wells shall be monitored at the shallow, middle, and deep casings for the following constituents:

Constituents	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Groundwater Elevation	feet	Calculation	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Turbidity	NTU	Grab	Quarterly	Quarterly
Specific Conductance	µmhos/cm	Grab	Quarterly	Quarterly
pH	pH units	Grab	Quarterly	Quarterly
Fluoride	mg/L	Grab	Quarterly	Quarterly

[8] 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.

Constituents	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Ammonia (as N)	mg/L	Grab	Semi-Annually	Semi-Annually
Nitrate/Nitrite (as N)	mg/L	Grab	Quarterly	Quarterly
Sulfate	mg/L	Grab	Quarterly	Quarterly
Chloride	mg/L	Grab	Quarterly	Quarterly
Total Iron	mg/L	Grab	Semi-Annually	Semi-Annually
Boron	mg/L	Grab	Quarterly	Quarterly
Calcium	mg/L	Grab	Semi-Annually	Semi-Annually
Magnesium	mg/L	Grab	Semi-Annually	Semi-Annually
Potassium	mg/L	Grab	Semi-Annually	Semi-Annually
Sodium	mg/L	Grab	Semi-Annually	Semi-Annually
Alkalinity (as CaCO3)	mg/L	Grab	Semi-Annually	Semi-Annually
Aluminum	µg/L	Grab	Semi-Annually	Semi-Annually
Antimony	µg/L	Grab	Semi-Annually	Semi-Annually
Arsenic	µg/L	Grab	Semi-Annually	Semi-Annually
Barium	µg/L	Grab	Semi-Annually	Semi-Annually
Beryllium	µg/L	Grab	Semi-Annually	Semi-Annually
Cadmium	µg/L	Grab	Semi-Annually	Semi-Annually
Cobalt	µg/L	Grab	Semi-Annually	Semi-Annually
Total Chromium	µg/L	Grab	Quarterly	Quarterly
Chromium VI	µg/L	Grab	Quarterly	Quarterly
Copper	µg/L	Grab	Semi-Annually	Semi-Annually
Lead	µg/L	Grab	Semi-Annually	Semi-Annually
Manganese	µg/L	Grab	Semi-Annually	Semi-Annually
Mercury	µg/L	Grab	Semi-Annually	Semi-Annually
Molybdenum	µg/L	Grab	Semi-Annually	Semi-Annually
Nickel	µg/L	Grab	Semi-Annually	Semi-Annually
Selenium	µg/L	Grab	Semi-Annually	Semi-Annually
Silver	µg/L	Grab	Semi-Annually	Semi-Annually
Thallium	µg/L	Grab	Semi-Annually	Semi-Annually
Vanadium	µg/L	Grab	Semi-Annually	Semi-Annually
Zinc	µg/L	Grab	Semi-Annually	Semi-Annually

B. Monitoring Requirements: CW-1M/D, CW-2M/D, CW-3M/D, CW-4M/D

1. The groundwater compliance monitoring wells shall be monitored at the middle and deep casings for the following constituents:

Constituents	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Groundwater Elevation	feet	Calculation	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Grab	Semi-Annually	Semi-Annually
Turbidity	NTU	Grab	Semi-Annually	Semi-Annually
Specific Conductance	µmhos/cm	Grab	Semi-Annually	Semi-Annually
pH	pH units	Grab	Semi-Annually	Semi-Annually
Fluoride	mg/L	Grab	Semi-Annually	Semi-Annually
Ammonia (as N)	mg/L	Grab	Semi-Annually	Semi-Annually
Nitrate/Nitrite (as N)	mg/L	Grab	Semi-Annually	Semi-Annually
Sulfate	mg/L	Grab	Semi-Annually	Semi-Annually
Chloride	mg/L	Grab	Semi-Annually	Semi-Annually

Constituents	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Total Iron	mg/L	Grab	Semi-Annually	Semi-Annually
Boron	mg/L	Grab	Semi-Annually	Semi-Annually
Calcium	mg/L	Grab	Semi-Annually	Semi-Annually
Magnesium	mg/L	Grab	Semi-Annually	Semi-Annually
Potassium	mg/L	Grab	Semi-Annually	Semi-Annually
Sodium	mg/L	Grab	Semi-Annually	Semi-Annually
Alkalinity (as CaCO3)	mg/L	Grab	Semi-Annually	Semi-Annually
Aluminum	µg/L	Grab	Semi-Annually	Semi-Annually
Antimony	µg/L	Grab	Semi-Annually	Semi-Annually
Arsenic	µg/L	Grab	Semi-Annually	Semi-Annually
Barium	µg/L	Grab	Semi-Annually	Semi-Annually
Beryllium	µg/L	Grab	Semi-Annually	Semi-Annually
Cadmium	µg/L	Grab	Semi-Annually	Semi-Annually
Cobalt	µg/L	Grab	Semi-Annually	Semi-Annually
Total Chromium	µg/L	Grab	Semi-Annually	Semi-Annually
Chromium VI	µg/L	Grab	Semi-Annually	Semi-Annually
Copper	µg/L	Grab	Semi-Annually	Semi-Annually
Lead	µg/L	Grab	Semi-Annually	Semi-Annually
Manganese	µg/L	Grab	Semi-Annually	Semi-Annually
Mercury	µg/L	Grab	Semi-Annually	Semi-Annually
Molybdenum	µg/L	Grab	Semi-Annually	Semi-Annually
Nickel	µg/L	Grab	Semi-Annually	Semi-Annually
Selenium	µg/L	Grab	Semi-Annually	Semi-Annually
Silver	µg/L	Grab	Semi-Annually	Semi-Annually
Thallium	µg/L	Grab	Semi-Annually	Semi-Annually
Vanadium	µg/L	Grab	Semi-Annually	Semi-Annually
Zinc	µg/L	Grab	Semi-Annually	Semi-Annually

VIII. SLUDGE MONITORING REQUIREMENTS

A. Monitoring Requirements

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

2. 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 Water Board's Executive Officer.

3. Representative composite sludge samples shall be taken from each phase separator container 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[9]	Composite	See Footnote[10]	Monthly
Total Chromium	mg/kg	Composite	See Footnote[10]	Monthly
Chromium VI	mg/kg	Composite	See Footnote[10]	Monthly
Antimony	mg/kg	Composite	See Footnote[10]	Monthly
Arsenic	mg/kg	Composite	See Footnote[10]	Monthly
Barium	mg/kg	Composite	See Footnote[10]	Monthly
Beryllium	mg/kg	Composite	See Footnote[10]	Monthly
Cadmium	mg/kg	Composite	See Footnote[10]	Monthly
Cobalt	mg/kg	Composite	See Footnote[10]	Monthly
Copper	mg/kg	Composite	See Footnote[10]	Monthly
Lead	mg/kg	Composite	See Footnote[10]	Monthly
Mercury	mg/kg	Composite	See Footnote[10]	Monthly
Molybdenum	mg/kg	Composite	See Footnote[10]	Monthly
Nickel	mg/kg	Composite	See Footnote[10]	Monthly
Selenium	mg/kg	Composite	See Footnote[10]	Monthly
Silver	mg/kg	Composite	See Footnote[10]	Monthly
Thallium	mg/kg	Composite	See Footnote[10]	Monthly
Vanadium	mg/kg	Composite	See Footnote[10]	Monthly
Zinc	mg/kg	Composite	See Footnote[10]	Monthly
Bioassay			See Footnote[11]	Quarterly

IX. REPORTING REQUIREMENTS

A. General Reporting Requirements

1. 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 Water Board.

2. Groundwater contour maps for all groundwater zones shall be provided for each monitoring frequency.

3. If the facility is not in operation, or there is no discharge during a required reporting period, the Discharger shall forward a letter to the Regional Water Board indicating that there has been no activity during the required reporting period.

4. Reporting of a failure in the facility shall be made in accordance with Provision V.A.1.j of the Order to the Regional Water Board office. 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.

[9] milligrams per kilogram
[10] Each time sludge is transported offsite, unless sludge is transported offsite more frequently than monthly, in which case the sampling frequency shall be monthly.
[11] Each time sludge is transported offsite, unless sludge is transported offsite more frequently than quarterly, in which case the sampling frequency shall be quarterly.

B. 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 Water Board Office twice-annually.

C. Self-Monitoring Reports

1. The Discharger shall submit monthly and quarterly Self-Monitoring Reports (SMRs) including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Monthly reports shall be due on the 15th day of the month following the end of each calendar month; Quarterly reports shall be due on January 15th, April 15th, July 15th, and October 15th following each calendar quarter. Semi-Annual reports shall be due January 15th and July 15th.

2. The Discharger shall report with each sample result the Reporting Limit (RL), applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

3. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with discharge specifications.

4. The Discharger shall attach a cover letter to the SMRs. 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 for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

5. A duly authorized representative of the Discharger may sign the documents if:

   a. The authorization is made in writing by the Discharger;
   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 Water Board's Executive Officer.

6. 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".

7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the MRPs (Attachment C), to the address listed below:

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