Renewal of Waste Discharge Requirements for Injection of Treated Groundwater

Initial Study and Proposed Negative Declaration

Colorado River Basin
Regional Water Quality Control Board

August 2006

PROPOSED
NEGATIVE DECLARATION

Name of Project: Renewal of Waste Discharge Requirements (WDRs) for Injection of Treated Groundwater

Lead Agency: Colorado River Basin Regional Water Quality Control Board (RWQCB), 73-720 Fred Waring Drive, Suite 100, Palm Desert, California 92260

Project Proponent: Pacific Gas and Electric (PG&E), P.O. Box 7442, San Francisco, California 94120

Project Location: The project is located in southeastern San Bernardino County approximately 15 miles southeast of Needles, California, near the PG&E Topock Compressor Station (see Figures 1 and 2).

Project Description: PG&E is conducting investigative and remedial activities at the Topock Compressor Station under the oversight of the California Environmental Protection Agency, Department of Toxic Substances Control, as well as the U. S. Department of the Interior, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, and U.S. Bureau of Reclamation. On-going remedial activities include Interim Measures (IM) No. 3, which involves the extraction, treatment, and management of groundwater with the objective of maintaining hydraulic control of a chromium plume in groundwater. Associated IM No. 3 facilities include groundwater extraction wells, a water treatment system, conveyance piping, injection wells, and monitoring well facilities (see Figure 3).

On-going operation of the IM No. 3 system since July 2005 includes the injection of treated water into injection well fields in accordance with the Waste Discharge Requirements (WDRs) issued by the Colorado River Basin Regional Water Quality Control Board (Regional Board). The WDRs were authorized by the Regional Board on October 13, 2004, and expire on January 31, 2007. Renewal of the permit would allow PG&E to continue to inject treated water. No additional facilities would be constructed or expanded as a result of renewal of the WDRs, and no change to existing operations is anticipated.

Finding: The Regional Board has prepared an Initial Study of the project described above and determined that the proposed renewal of the WDRs could not have a significant effect on the environment. A copy of the Initial Study that supports this finding is attached.

Mitigation Measures: Based on the conclusions provided in the attached Initial Study, the project could not have a significant effect on the environment. Therefore, no mitigation measures are required.

Signature _____ Date _____

CEQA Initial Study

Environmental Checklist Form

1. **Project title:**

   Renewal of Waste Discharge Requirements (WDRs) for injection of treated groundwater

2. **Lead agency name and address:**

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

3. **Contact person and phone number:**

   Robert Perdue; (760) 776-8938

4. **Project location:**

   The project is located in southeastern San Bernardino County approximately 15 miles southeast of Needles, California near the Pacific Gas and Electric (PG&E) Topock Compressor Station (Figure 1). Associated facilities occupy approximately 4 acres and extend over an area generally bounded by the Colorado River in the east, National Trails Highway in the north, the Burlington Northern-Santa Fe (BNSF) Railway in the south and open space to the west (Figure 2). The majority of the associated facilities are sited within a 100-acre parcel owned by PG&E; the remainder of the nearby area is owned and/or managed by the United States Bureau of Land Management (BLM).

   As shown on Figure 2, regional access to the project is provided by Interstate 40. Access is available from a western access road located several hundred feet north of Interstate 40 along Park Moabi Road. Alternate access is available by continuing north on Park Moabi Road, east on National Trails Highway and south on National Trails Highway to the eastern access road.

   Directly north of the National Trails Highway, at the underpass of the BNSF Railway, is an approximately 1-acre "bench" located above the Colorado River floodplain. This area is referred to as the MW-20 bench. Some associated facilities are sited on the MW-20 bench, including related trucking operations.

5. **Project sponsor's name and address:**

   Pacific Gas and Electric Company
   P.O. Box 7442
   San Francisco, CA 94120
   Contact: Barbara Benson; (415) 973-6634

6. **General plan designation:** Resource Conservation (RC)[1]
7. **Zoning:** RC
8. **Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)**

Background

PG&E is conducting investigative and remedial activities at the Topock Compressor Station under the oversight of the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), the United States Department of the Interior, BLM, United States Fish and Wildlife Service, and United States Bureau of Reclamation. These activities relate to historic operations of the Topock Compressor Station that involved the former use of hexavalent chromium in the compressor station cooling water. Subsequent discharge of the cooling water into Bat Cave Wash resulted in the hexavalent chromium [Cr(VI)] entering the groundwater aquifer.

Ongoing remedial activities include Interim Measures (IM) No. 3, titled "Emergency Groundwater Extraction and Management" (IM No. 3), which provides for the extraction and treatment of groundwater with the objective of managing the chromium plume by maintaining hydraulic control through the selected placement and use of several extraction wells. IM No. 3 facilities include groundwater extraction wells, conveyance piping, treatment facilities, injection wells, and monitoring facilities (Figure 3). Construction of IM No. 3 facilities commenced on September 27, 2004. The facilities became operational on July 31, 2005. Ongoing operation of the IM No. 3 system involves the continued extraction of groundwater via the extraction wells, conveyance of the extracted groundwater through the piping system to the IM No. 3 treatment plant, treatment at the plant to remove chromium and total dissolved solids (TDS), and subsequent injection of the treated water back into the groundwater aquifer.

Prior to construction and operation of the IM No. 3 facilities, DTSC, acting as Lead Agency under the California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000 et seq.), was required to determine whether the proposed facilities were subject to environmental review under CEQA. DTSC determined that the IM No. 3 facilities were statutorily exempt from CEQA, concluding that the facilities fell within the statutory exemption for specific actions necessary to prevent or mitigate an emergency. (See California Public Resources Code Section 21080(b)(4); CEQA Guidelines, California Code of Regulations, Title 14, Section 15269(c).) Accordingly,

[1] The RC designation is applied to project lands under the jurisdiction of the County of San Bernardino and allows for the cultivation of crops, farm-related activities, and additional land uses that include hazardous waste operations. Portions of the IM No. 3 site fall under federal jurisdiction and are not subject to general plan policies or the zoning ordinance of the County of San Bernardino.

DTSC filed a Notice of Exemption with the State Clearinghouse on July 1, 2004,[2] which explained the basis for its determination that the proposed construction and operation of the IM No.3 facilities were exempt from CEQA.

Because portions of the IM No. 3 facilities are located on lands managed by the BLM, project implementation required approval from that federal agency. BLM gave its approval in an Action Memorandum, dated September 17, 2004, which it issued pursuant to its authority under Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. Section 9601 et seq.). The Action Memorandum required PG&E to implement several mitigation measures to mitigate the potential environmental impacts associated with the construction and operation of the proposed IM No. 3 facilities. The DTSC Notice of Exemption and BLM Action Memorandum are provided in Attachment A.

In addition to the BLM and DTSC approvals required, the injection of the treated groundwater from the IM No. 3 facilities also required the approval of the Colorado River Basin Regional Water Quality Control Board (Regional Board). The Regional Board provided that approval by adopting Waste Discharge Requirements Order No. R7-2004-0103 at its regularly-scheduled meeting held on October 13, 2004. The WDRs authorize and regulate treated water injection from the IM No. 3 facilities.

Prior to adopting the WDRs, however, the Regional Board was also required, as a Responsible Agency under CEQA, to independently review DTSC's Notice of Exemption and the basis for the emergency determination made by that agency. Following its review, the Regional Board concurred with DTSC's determination, explaining in the WDRs that "an emergency condition exists because the flow of groundwater to the Colorado River has not yet been contained," and "[i]t 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 to the river" (WDRs, Finding No. 37). The Regional Board added that "[w]hile the duration of the Interim Measures has not been determined, it is appropriate to limit the term of this Order [to January 31, 2007], by which time it is reasonable to conclude that DTSC will have undertaken an environmental analysis of all disposal alternatives." (*Ibid.*)

[2] In the Notice of Exemption, DTSC explained the basis of the emergency, stating that "[t]hese 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."

Subsequent injection of treated water from IM No. 3 has occurred in accordance with the WDRs with no reported violations. Because the WDRs expire on January 31, 2007, PG&E submitted a Report of Waste Discharge to the Regional Board, dated June 8, 2006, to renew the WDRs. The proposed WDRs would allow for the continued injection of treated water from the IM No. 3 treatment facilities.

In accordance with CEQA and implementing CEQA Guidelines, this Initial Study evaluates whether the proposed renewal of the WDRs, which would allow PG&E to continue to inject treated groundwater into the same injection well system (the project) at the same rate and with the same effluent limitations, may have a significant effect on the environment. As discussed further below, the results of the Initial Study will help the Regional Board, as Lead Agency for the project, to determine whether an Environmental Impact Report (EIR) or a Negative Declaration should be prepared. Although the project appears to qualify for four exemptions under CEQA and thus, be exempt from further CEQA review, the Regional Board has decided to prepare this Initial Study to ensure that any potentially significant environmental impacts associated with renewal of these WDRs are identified and considered.[3]

Associated Facilities

The IM No. 3 facilities include extraction wells, injection wells, monitoring wells, a water treatment plant, and several thousand feet of aboveground and subsurface pipelines. The IM No. 3 facilities are depicted on Figure 3. Construction of the IM No. 3 system was completed in July 2005. No additional facilities would be constructed or expanded as a result of renewal of the WDRs.

IM No. 3 extraction well facilities include TW-3D on the MW-20 bench and PE-1 on the Colorado River floodplain. Extraction wells TW-2D and TW-2S are also located on the MW-20 bench and are available as supplemental or alternative extraction wells.

Extracted water is conveyed via double-walled influent piping installed subsurface. Beginning at the PE-1 extraction well, influent piping extends below ground surface for approximately 500 feet across the Colorado River floodplain to the MW-20 bench. At the

[3] The four CEQA exemptions that appear to apply are described in the following CEQA Guidelines sections: (1) Section 15061(b)(3) (a proposed action is exempt from CEQA if "it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment"); (2) Section 15301 (the operation, repair, maintenance, permitting, or minor alteration of existing facilities involving negligible or no expansion of use beyond that existing); (3) Section 15307 (actions by regulatory agencies for protection of natural resources); and (4) Section 15308 (actions by regulatory agencies for protection of the environment). In addition to providing the factual basis for the proposed adoption of a negative declaration, this Initial Study also provides the factual basis for determining that the project is exempt from CEQA pursuant to these four exemptions and that the exceptions to these exemptions, set forth in CEQA Guidelines Section 15300.2, do not apply. As mentioned, even though these exemptions appear to apply, the Regional Board has nevertheless decided to prepare this Initial Study to ensure that any potentially significant environmental impacts associated with the WDR renewal are identified and considered.

MW-20 bench, the influent pipeline interconnects with the TW-3D extraction well piping and continues for approximately 3,000 feet to the IM No. 3 water treatment plant. As shown on Figure 3, the influent piping between the MW-20 bench and treatment plant generally follows existing access roads, extending north within the National Trails Highway alignment and up to the treatment plant within the unnamed eastern access road.

The IM No. 3 water treatment facilities occupy approximately 1 acre. Treated water is conveyed via an approximately 1,900-foot effluent pipeline extending west from the treatment plant along the shoulder of the eastern access road and extending north to the East Mesa injection well field. The East Mesa includes injection wells IW-2 and IW-3 and observation wells installed to monitor changes in water levels and water quality during operation of the injection wells. Four compliance monitoring well clusters (CW-1 through CW-4) generally surround the injection well field, as shown on Figure 3.

Access to the IM No. 3 treatment plant is provided by roads extending from the east and west off Park Moabi Road and National Trails Highway (Figure 2). These access roads have been improved to facilitate safe transportation to the treatment plant and to protect key cultural resources. To protect the historic roadway structure of former Route 66, which provides western access to the IM No. 3 treatment facilities, a protective fabric and approximately 5 inches of road base were placed on the roadway between Park Moabi Road to the west and the IM No. 3 treatment plant to the east. To minimize potential effects on cultural resources, including historic Route 66, ongoing project operations discussed below are subject to the *Cultural Resources Management Plan for the Topock Compressor Station Expanded Groundwater Extraction and Treatment System* (Applied Earthworks 2004), as well as the *Transportation Management Plan For Cultural Resources Protection for Interim Measures No. 3* (CH2M HILL 2004a).

Existing Operations

Operation of IM No. 3 commenced in July 2005. Up to 135 gallons per minute of groundwater are currently extracted and conveyed to the water treatment facility. Periodically, small volumes of purge water from groundwater well installation and monitoring activities are also treated within the IM No. 3 treatment system. The treatment system reduces hexavalent chromium to the less-soluble trivalent form [Cr(III)] by chemical reaction with ferrous chloride. Iron and Cr(III) solids are formed by precipitating the solution with sodium hydroxide and air. The majority of the precipitated solids are removed by gravity separation in a clarifier. Clarified water is passed through a microfilter to remove additional solids. TDS in the groundwater are reduced using reverse osmosis.

Treated water is conveyed along approximately 1,900 feet of pipeline to the East Mesa injection well field. Treatment residuals include brine (water with elevated TDS) and precipitated solids (sludge). The brine is conveyed via pipeline from the treatment plant to the MW-20 bench along the same alignment as the influent pipeline. Approximately

26 truckloads per week of brine waste are transported via tanker truck from the MW-20 bench to an appropriate permitted offsite disposal facility. The disposal facility currently in use is located in Los Angeles. Sludge is hauled directly from the treatment plant approximately twice per month to an appropriate permitted solid waste facility.

Ongoing IM No. 3 operations require one to two staff to manage and monitor IM No. 3 functions 24 hours per day, primarily at the IM No. 3 treatment plant. Operations personnel drive to the injection well area and the extraction well locations several times each day to monitor the condition of the wells and conveyance piping and to conduct any necessary maintenance activities on equipment. In addition to the operations staff, a security company employed by PG&E provides 24-hour-a-day patrol. IM No. 3 operations also involve supplemental staff conducting regular sampling and data collection at the observation and compliance monitoring wells.

Periodic maintenance activities include routine repairs, well maintenance, waste removal, and deliveries of supplies and treatment compounds. Delivery of supplies and materials occurs several times per week. Typical repair activities include recent repairs to the IM No. 3 access road, which involved installing culverts sized to convey stormwater below the roadway, and adding fill material to repair eroded sections.

9. **Surrounding land uses and setting: Briefly describe the project's surroundings:**

The project lies within an area of significant cultural and sacred tribal resources. Portions of the Topock Maze are located nearby. The maze is a geoglyph (ground marking) and is of extreme importance to the local Native American community. The project is within the traditional territory of the Aha Makav or Fort Mojave Indian Tribe. While the material remains of the past are important to these tribes, this area of traditional and spiritual use knows no boundaries for the Fort Mojave Indian Tribe.

The project is located within the Mojave Desert ecological and geographic province. The area is characterized by arid conditions with precipitation averaging less than 5 inches per year and high temperatures typical to the Mojave Desert. The landscape within the project area is considerably eroded by natural processes, which include wind and water erosion. The resulting landforms are characterized in part by alluvial terraces and incised drainage channels. One of the largest incised channels is Bat Cave Wash, which runs from the Chemehuevi Mountains in the south toward the Colorado River in the north. Terraces occurring onsite are homogeneous and comprise rocky soils with very sparse vegetation. Elevations in the project area range from about 550 feet above mean sea level (msl) at the compressor station to 450 feet above msl at the Colorado River floodplain.

Land uses near the project are predominantly open space, interspersed with industrial facilities, recreational uses, and transportation infrastructure. Open space at and nearby the project area is characterized primarily by desert vegetation, but also includes Bat Cave Wash and several unnamed washes that flow north across the project area to the confluence of the Colorado River. Open space on the Colorado River floodplain is

characterized by shifting sand dunes and associated riparian vegetation, primarily non-native tamarisk (salt cedar).

Developed land uses near the project include the existing IM No. 3 facilities, National Trails Highway, former Route 66, and various unnamed access roads. In addition, numerous groundwater well clusters are located throughout the area, related to the ongoing groundwater investigation activities. A major gas utility and transportation corridor is located directly south of the project. This corridor is developed with gas transmission pipelines, the BNSF Railway, and Interstate 40.

Directly south of the BNSF Railway is the Unites States Fish and Wildlife Service's Havasu National Wildlife Refuge (HNWR). The 37,515-acre HNWR extends for approximately 26 miles along the Colorado River, from Needles, California, to Lake Havasu City, Arizona. Further south of the railway is the Topock Compressor Station, located on an approximately 65-acre parcel owned by PG&E. Remaining lands surrounding the project include primarily open space owned or managed by the BLM. This includes the Moabi Regional Park located northwest of the project, which is leased by BLM to the County of San Bernardino. East of the project across the Colorado River is the Topock Marina and related water and recreational infrastructure.

The local geology consists of recent and older river deposits progressing westward to older alluvial deposits associated with the local mountains. Sand, gravel, and cobblestone dominate these deposits, comprising the principal groundwater aquifer at the site. Surface water drainage at the project site flows to Bat Cave Wash and a large unnamed desert wash to the west. These ephemeral desert washes are dry most of the year, but during heavy precipitation events the washes can have surface flow.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)**

Beyond renewal of the WDRs by the Regional Board, no other approvals are required to continue the injection of treated water from the IM No. 3 water treatment system. Prior approvals obtained from the DTSC, BLM, and County of San Bernardino remain in effect. IM No. 3 implementation was also subject to various ministerial approvals, including issuance of the Authority to Construct and Permit to Operate by the Mojave Desert Air Quality Management District (MDAQMD).

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology /Soils
☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality	☐ Land Use / Planning
☐ Mineral Resources	☐ Noise	☐ Population / Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities / Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☑ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☑
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☑

Setting

The visual environment of the project area is characterized primarily by open space over topographically varied terrain, interspersed with industrial facilities and transportation infrastructure. Elevations at the site range from approximately 450 msl at the Colorado River to just over 550 feet msl at the Topock Compressor Station; the Chemehuevi Mountains rise abruptly south of the project area. The overall landscape within the study area is considerably eroded, as characterized by the terraces and incised drainage channels throughout the project area. The terraces are comprised of rocky soils with very sparse vegetation. The largest incised channel is Bat Cave Wash, which runs from the Chemehuevi Mountains in the south toward the Colorado River in the north.

Prominent visual features near the project and vicinity include the Colorado River and adjacent floodplain, which traverse the northern and eastern portions of the site. The IM No. 3 water treatment plant occupies approximately 1 acre and is located directly west of Bat Cave Wash. The Interstate 40 and the BNSF Railway corridors traverse the southern portion of the area in an east-west fashion. The paved two-lane Park Moabi Road and National Trails Highway extend across the northern and eastern portion of the area. Several unpaved roadways also traverse the area. Various groundwater wells have been installed throughout the area. The groundwater wells are not visually prominent; many are flush-mounted to the ground and not visible from a distance.