COMMUNITY INVOLVEMENT PLAN

PACIFIC GAS AND ELECTRIC
TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

U.S. Department of the Interior
September 1, 2012

(This CIP updates and supersedes the CIP issued in 2010)

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ACRONYMS AND ABBREVIATIONS

ACA	Administrative Consent Agreement
ADEQ	Arizona Department of Environmental Quality
AR	Administrative Record
AOC	Area of Concern
BLM	Bureau of Land Management
BOR	United States Bureau of Reclamation
CACA	Corrective Action Consent Agreement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIC	Community Involvement Coordinator
CIP	Community Involvement Plan
CMS	Corrective Measures Study
CMS/FS Report	Final Groundwater Corrective Measures Study/Feasibility Study Report for SWMU 1/AOC 1 and AOC 10
COP	Community Outreach Plan
Cr (VI)	Hexavalent chromium
CTF	Clearinghouse Task Force
CWG	Consultative Work Group
DOI	United States Department of the Interior
DTSC	California Department of Toxic Substances Control
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FS	Feasibility Study
FWS	United States Fish and Wildlife Service
GWRA	Final Human Health and Ecological Risk Assessment of Groundwater Impacted by Activities at SWMU 1/AOC 1 and SWMU 2
HNWR	Havasu National Wildlife Refuge
IM	Interim Measure

ACRONYMS AND ABBREVIATIONS

LHFO	Lake Havasu Field Office
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NHPA	National Historic Preservation Act
PA	Programmatic Agreement
PG&E	Pacific Gas and Electric Company
PPP	Public Participation Plan
PPS	Public Participation Specialist
RCRA	Resource Conservation and Recovery Act
RFA	Resource Conservation and Recovery Act Facility Assessment
RFI	Resource Conservation and Recovery Act Facility Investigation
RFI/RI Volume I Report	Revised Final RCRA Facility Investigation and Remedial Investigation Report, Volume 1 – Site Background and History
RFI/RI Volume II Report	Revised Final RCRA Facility Investigation and Remedial Investigation Report, Volume 2 - Hydrogeological Characterization and Results of Groundwater and Surface Water Investigations
RI	Remedial Investigation
ROD	Record of Decision
Site	PG&E Topock Compressor Site
SWMU	Solid Waste Management Unit
TLP	Topock Leadership Partnership

1 INTRODUCTION

The United States Department of the Interior (DOI), in conjunction with and on behalf of the U.S. Fish and Wildlife Service (FWS), the Bureau of Land Management (BLM), and the Bureau of Reclamation (BOR) (collectively "DOI and its bureaus") are issuing this Community Involvement Plan (CIP) to update the CIP issued by DOI in 2009. DOI is committed to encouraging public participation and providing opportunities for the affected community, including Tribal governments, interested stakeholders, and community residents to learn about and be involved with environmental investigation and *cleanup* activities at the Pacific Gas and Electric Company (PG&E) Topock Compressor *Site* (*Site*). This CIP outlines DOI's outreach activities to involve interested members of the public in a wide variety of *Site* issues, including characterizing the nature and extent of contamination, evaluating remedial alternatives, and selecting and implementing *cleanup* actions. The CIP will be reviewed and revised as necessary, until the *Site cleanup* is complete.

Hazardous substances were released from the Topock Compressor Station and have contaminated the surrounding environment. DOI is overseeing investigation and *cleanup* activities at the *Site* to determine the nature and extent of this contamination and to implement remedial actions to protect public health, welfare, and the environment. These activities are being conducted under the authority of the *Comprehensive Environmental Response, Compensation and Liability Act* (*CERCLA*), 42 U.S.C. §9601, *et seq.*, also known as the "Superfund" law. PG&E is performing these *Site* investigation and *cleanup* activities subject to the oversight of DOI. The California Department of Toxic Substances Control (DTSC) is also overseeing PG&E's activities under DTSC's state hazardous waste corrective action authorities.

For purposes of this investigation and *cleanup*, the *Site* has been divided into two "operable units." The first operable unit addresses groundwater contaminated with *hexavalent chromium* (*Cr [VI]*) and other hazardous substances. The second operable unit addresses contaminated soils. DOI has selected a *remedial action* to clean up contaminated groundwater, and PG&E will complete the design of the groundwater remedy in 2013 and begin remedy construction soon thereafter. PG&E is continuing an investigation to characterize the nature and extent of contaminated soil at the *Site*, and if necessary based on the results of this investigation, DOI expects to select a *remedial action* to address contaminated soil in 2015.

A glossary of *italicized* words in this document is presented in Appendix A.

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1.1 PURPOSE AND OBJECTIVES OF THE COMMUNITY INVOLVEMENT PLAN

The CIP has been prepared pursuant to *CERCLA* and its implementing regulations, the *National Oil and Hazardous Substances Pollution Contingency Plan* (*NCP*), 40 C.F.R. Part 300. The CIP serves as a guide for DOI to inform, include, and engage community residents, environmental groups, Tribal, State and local government officials, the media, and other interested parties in the investigation and *cleanup* activities at the *Site*. DOI will continue to coordinate these community involvement activities conducted under *CERCLA* and the *NCP* with the public participation activities that DTSC is conducting pursuant to DTSC's hazardous waste corrective action authority as detailed in DTSC's Public Participation Plan (PPP) and Addenda. These and other relevant *Site* documents are posted on DTSC's website at http://www.dtsc-topock.com. Coordination of DTSC and DOI community involvement efforts is further discussed in Section 4.2.3.

The key objectives of this CIP are:

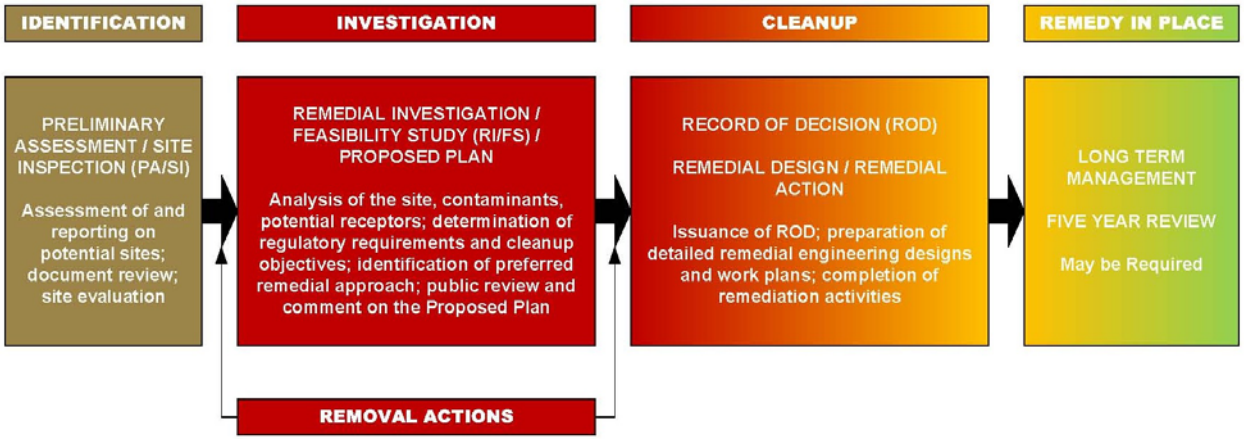
- ✓ Provide the public with timely, accurate, understandable, and meaningful information as the *Site cleanup* progresses;
- ✓ Assist the public in understanding the *Site cleanup* process and the community's role in that process;
- ✓ Ensure adequate time and opportunity for the public to provide informed and meaningful input;
- ✓ Respect and give full consideration to community input; and
- ✓ Enhance consultation with Tribal governments pursuant to government-to-government consultation requirements and Section 106 of the *National Historic Preservation Act* (*NHPA*) and consistent with the Topock *Programmatic Agreement* (*PA*) and the DOI Policy on Consultation with Indian *Tribes*. Nine *Tribes* are involved with the Topock project, including the Chemehuevi Indian Tribe, Cocopah Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe, Hualapai Tribe, Havasupai Tribe, Twenty-Nine Palms Band of Mission Indians, and the Yavapai-Prescott Indian Tribes (*Tribes*).

1.2 COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT

CERCLA, also known as "Superfund," was enacted by Congress in 1980 to address releases of *hazardous substances* into the environment. *CERCLA* gives the President broad authority to respond directly to releases or threatened releases of hazardous substance . This authority has been delegated to a number of federal departments and agencies, including DOI. PG&E is

implementing response actions at the *Site* on federal property under the oversight of the DOI and its bureaus pursuant to *CERCLA* and the *NCP*. Figure 1 details the *CERCLA* response process.

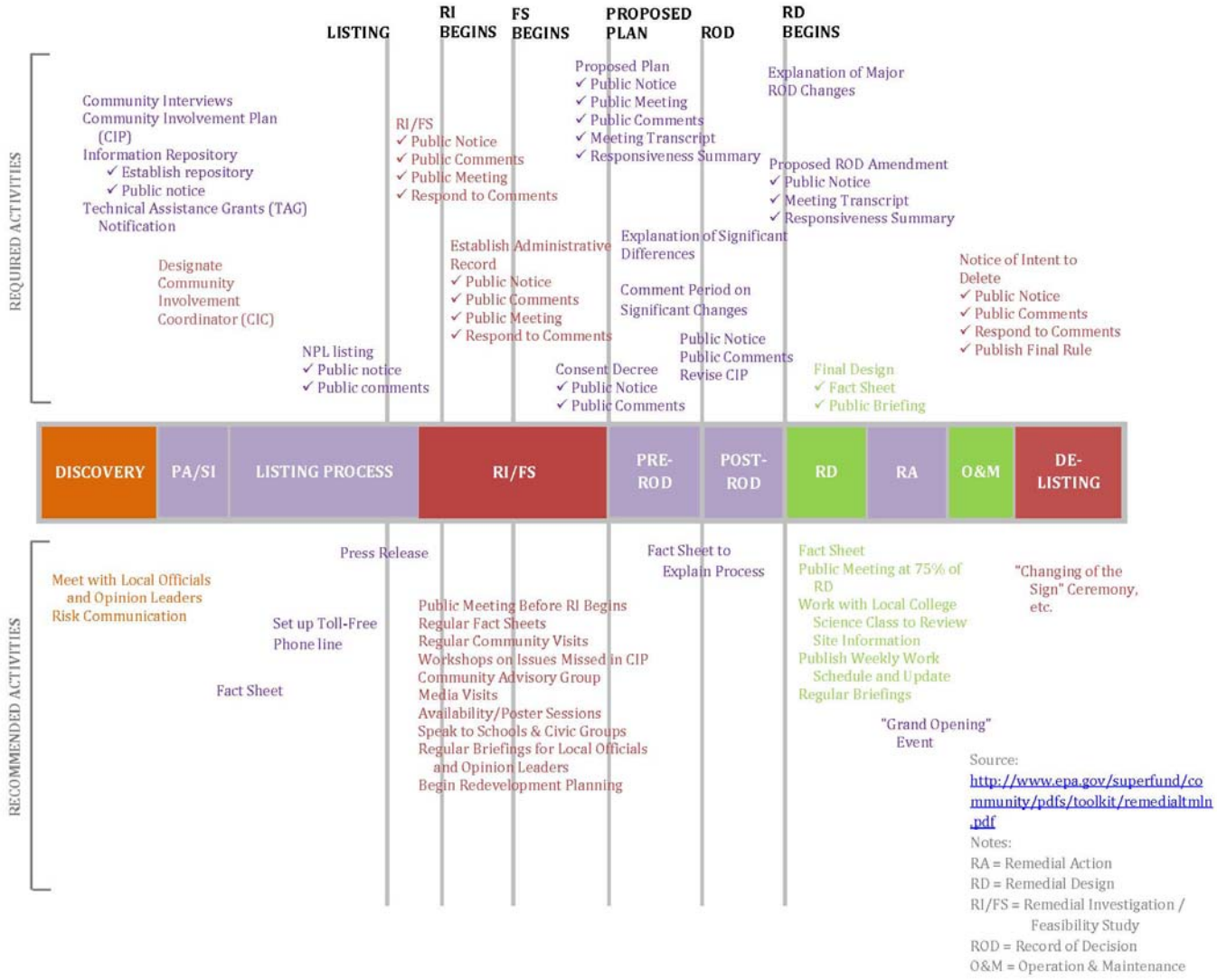
Figure 1. CERCLA Response Process



1.2.1 CERCLA Response Process and Associated Communication Activities

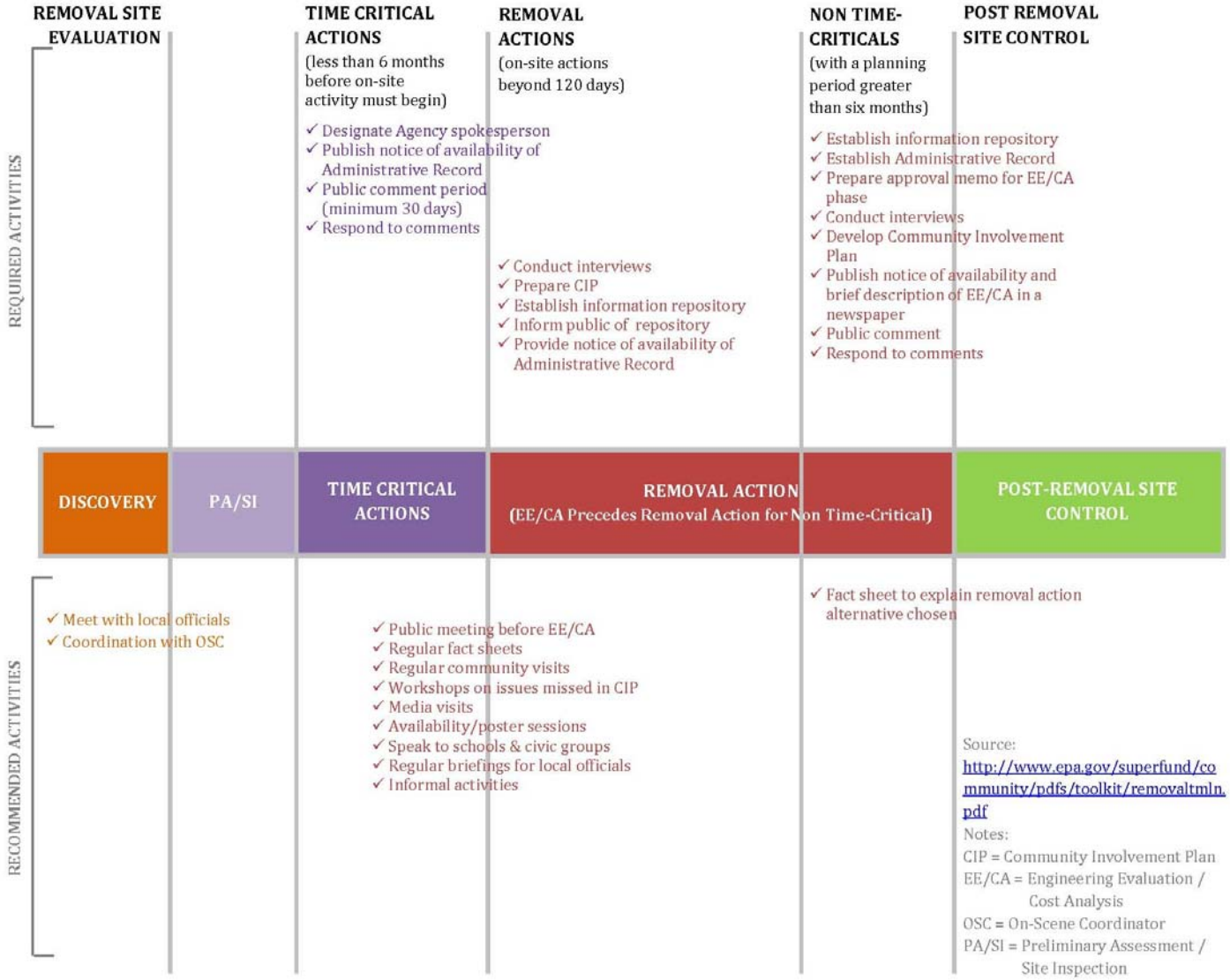
In enacting *CERCLA*, Congress provided opportunities for communities to actively participate in the *cleanup* process and to have a say in the decisions that affect their community. Community involvement activities vary based on the stage of the investigation and *cleanup* process and are often associated with significant decision documents. These activities include, for example, issuing public notices, establishing *information repositories*, distributing fact sheets, holding public meetings, and providing *public comment periods*. Table 1 identifies the community involvement activities applicable to remedial actions that are established by *CERCLA* and *NCP*, as well as where these activities are addressed in this CIP. Figures 2 and 3 illustrate when these community involvement activities are generally conducted during the *CERCLA* remedial and *removal action* processes, respectively. Specific steps to conduct these activities at the *Site* are further discussed in Section 4..

Figure 2. Community Involvement Activities Throughout the Superfund Remedial Process[1]



[1] http://www.epa.gov/superfund/community/pdfs/toolkit/remedialtmln.pdf

Figure 3. Community Involvement Activities Throughout the Superfund Removal Action Process[2]



[2] http://www.epa.gov/superfund/community/pdfs/toolkit/removaltmln.pdf

1.3 OVERVIEW OF THE COMMUNITY INVOLVEMENT PLAN

This CIP specifies the community involvement activities that DOI expects to undertake as the investigation and *cleanup* of the *Site* proceeds. This CIP is organized as follows:

Section 1: Introduction – A description of the purpose of the CIP.

Section 2: Project Background – An overview of *Site* history, *Site* description, and past and future environmental investigations.

Section 3: Community Background – A profile and description of the communities within a one mile radius of the *Site* boundary.

Section 4: Community Involvement – Outlines the community involvement activities that DOI intends to undertake and provides a discussion of communication methods and a schedule of the planned community involvement efforts to be undertaken.

Section 5: Community Feedback – Provides a summary of past community outreach efforts, including key community concerns, DOI responses to those concerns, and additional communication needs.

Section 6: References – Lists documents and other sources that were referenced during the preparation of this CIP.

The appendices include a glossary; a *Resource Conservation and Recovery Act* (*RCRA*)/*CERCLA* Comparison Table for Public Involvement; *Administrative Record* (*AR)* and *information repository* details and meeting locations; past community interview questions and interview responses, including DTSC's 2012 Community Survey results; Tribal Consultation Protocol; Topock Fact Sheets; and the Topock Mailing List.

2 PROJECT BACKGROUND

2.1 SITE DESCRIPTION AND LOCATION

The *Site* is located in the Mojave Desert, in eastern San Bernardino County about 15 miles southeast of Needles, California. The *Site* sits just south of Interstate 40, one-half mile west of the Colorado River (see Figure 4, *Site* Location Map). The *Site* is surrounded by federal land, including the FWS's Havasu National Wildlife Refuge (HNWR), and BOR lands managed by BLM. The area has cultural significance to native peoples and is part of their traditional lands (see Figure 5, Surrounding Properties). A more detailed description of nearby lands and communities is provided in Section 3.

2.2 SITE HISTORY

The PG&E Compressor Station, which began operation in 1951, is used to compress natural gas for transport through PG&E pipelines to customers in central and northern California. During this process, the gas temperature naturally increases; it is then cooled using cooling towers before it can continue through the pipelines.

From 1951 through 1985, PG&E used a chromium-based additive that included *hexavalent chromium* to prevent corrosion in its cooling towers. During the 1950s and 1960s, wastewater containing *hexavalent chromium* was discharged into *percolation beds* in Bat Cave Wash, a normally dry wash adjacent to the *Site*. Beginning in 1964, PG&E began treating the wastewater to remove *hexavalent chromium* and, starting in 1971, installed a series of lined evaporation ponds for wastewater disposal. In 1985, PG&E stopped using the chromium-based additive and switched to a phosphate-based solution.

In 1996, PG&E and DTSC entered into a *Corrective Action* Consent Agreement (CACA), pursuant to DTSC's *RCRA Corrective Action* Program, to more fully investigate the nature and extent of contamination at the Compressor Station and the surrounding area. Since 1996, there have been continued activities related to the investigation of the *Site*, including, but not limited to, groundwater well installation, groundwater and surface water sampling and monitoring, soil sampling and initiation of *Interim Measures* (*IM*s) at the *Site*. The related reports are discussed in more detail in Section 2.3.

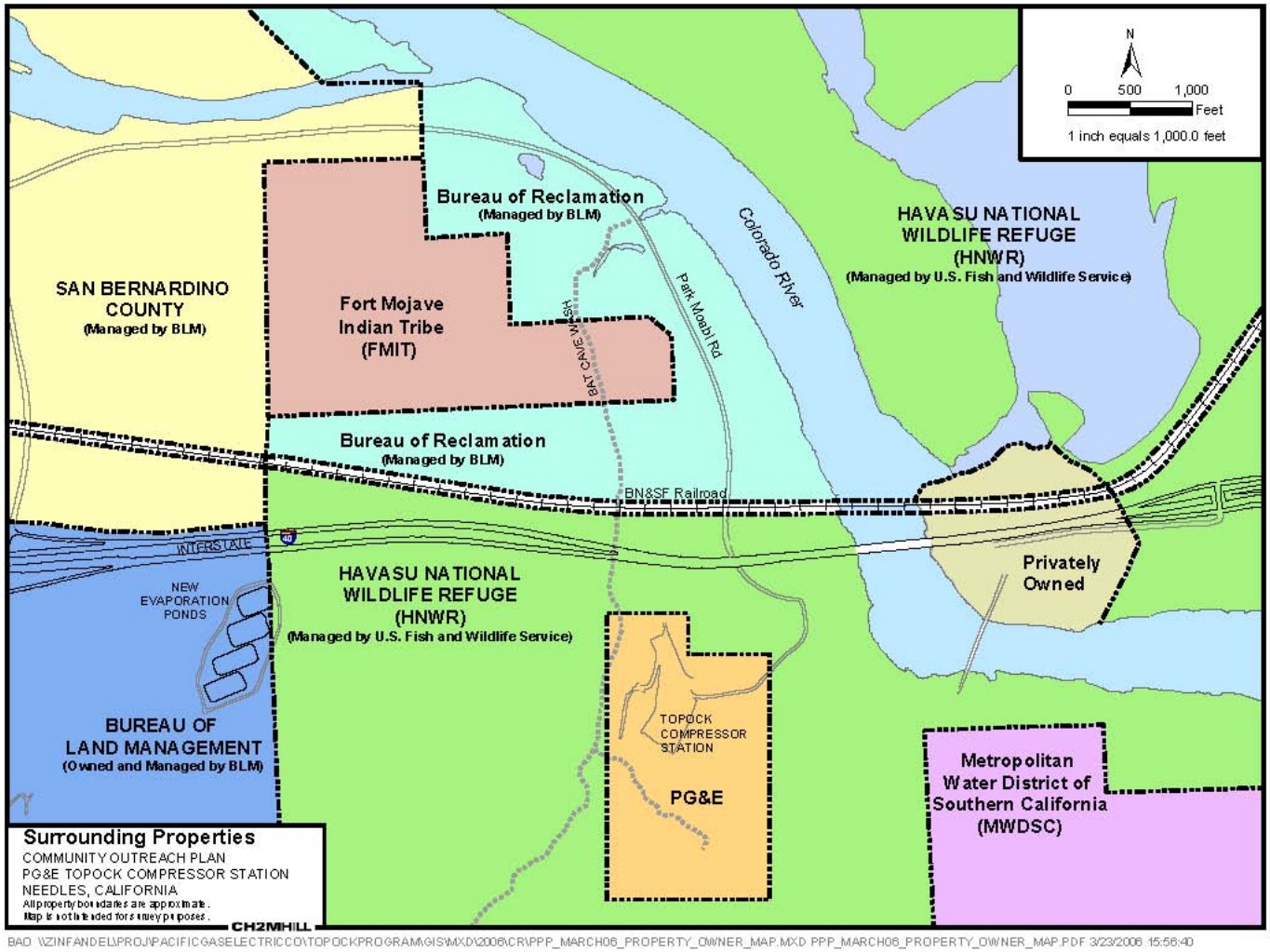
From 2003 to 2004, groundwater wells installed as part of the *RCRA* Facility Investigation (RFI) detected *hexavalent chromium* at levels above California drinking water standards within 60 feet of the Colorado River. PG&E began implementing *IM*s at the *Site* in March 2004 as a result of the CACA. Currently, PG&E is implementing *IM* Number 3 (*IM*-3). *IM*-3 consists of groundwater extraction from wells located in the floodplain and treatment of the water before it is re-injected. *IM*-3 will maintain hydraulic control of the groundwater plume and protect the

Colorado River until a final groundwater remedy is in place at the *Site*. In early 2004, DOI notified PG&E of its liability pursuant to *CERCLA* and began negotiations with PG&E regarding the performance of *CERCLA remedial action* at the *Site*.

Figure 4. Site Location Map[3]

[3] Community Outreach Plan (COP) (DTSC 2012)

Figure 5. Surrounding Properties[4]



[4] COP (DTSC 2012)

Throughout 2004, DTSC, pursuant to its delegated *RCRA* authority, and DOI, pursuant to its delegated *CERCLA* authority, directed PG&E to perform three *IM*s to prevent contaminated groundwater from reaching the Colorado River. These *IM*s were categorized as *Time-Critical Removal Actions* under *CERCLA*.

In July of 2005, PG&E entered into an *Administrative Consent Agreement* (ACA) with DOI and its bureaus to perform a *Remedial Investigation*/*Feasibility Study* (*RI/FS)* at the *Site* pursuant to *CERCLA* and the *NCP*. DOI and DTSC coordinated their oversight of PG&E's performance of the *RI*/*FS* under the ACA and PG&E's ongoing performance of the RFI/CMS under the CACA to avoid duplication of efforts and to ensure, to the extent possible, consistency in the direction provided to PG&E by the State and federal agencies.

2.3 PREVIOUS INVESTIGATIONS AND CLEANUP ACTIVITIES

Investigation and *cleanup* activities that have been conducted at the *Site*, to date, are described below and summarized in Table 2. Investigative and remedial activities at the *Site* date back to the 1980s with the identification of Solid Waste Management Units (SWMUs) through a *RCRA* facility assessment (RFA). Closure activities of former hazardous waste management facilities at the *Site* were performed from 1988 to 1993. The RFI began in 1996 when DTSC and PG&E executed a CACA; since that time additional data collection and evaluation has been performed at the *Site* to fully characterize the nature and extent of *Site* contamination and identify remedial alternatives.

PG&E completed the *Revised Final RCRA Facility Investigation and Remedial Investigation Report (RFI/RI), Volume 1 – Site Background and History* (RFI/*RI* Volume I Report) in August 2007 and DTSC and DOI approved it later in 2007. The RFI/*RI* Volume 1 Report contains information on *Site* operations; history; and descriptions of SWMUs, Areas of Concern (AOCs), and other undesignated areas.

The *Revised Final RCRA Facility Investigation and Remedial Investigation Report, Volume 2 - Hydrogeological Characterization and Results of Groundwater and Surface Water Investigations* (RFI/*RI* Volume II Report) was completed in February 2009 and was subsequently approved by DTSC and DOI. The RFI/*RI* Volume 2 Report contains information on the hydrogeologic characterization and results of groundwater, surface water, pore water, and river sediment investigations to evaluate and characterize the nature and extent of groundwater contamination resulting from the past discharge of wastewater from the *Site*.

In November 2009, PG&E completed the *Final Human Health and Ecological Risk Assessment of Groundwater Impacted by Activities at SWMU 1/AOC 1 and SWMU 2* (GWRA). The GWRA evaluated potential risks to human health and ecological receptors associated with groundwater affected by past discharges to supplement the RFI/*RI* Volume 2 Report. DTSC and DOI approved the GWRA in December 2009.

During soil investigations at the *Site*, hazardous substances located at AOC 4 on PG&E property were identified that posed a substantial threat of release onto the Havasu National Wildlife Refuge, managed by USFWS. AOC 4 is one of the waste *sites* identified for further investigation in the RFI/*RI* Volume 1 Report. On June 24, 2009, DOI issued an *Action Memorandum* entitled "Request for *Time-Critical Removal Action* Number 4 at AOC 4 Debris Ravine, Pacific Gas and Electric Topock Compressor Station." PG&E initiated removal activities at AOC 4 in January 2010. In general, the removal of contaminated fill material and debris began at the upper elevation of the ravine slope and progressed from the southeast (upstream) to the northwest (downstream), as practicable. Removed material was directly loaded into covered bins which were then moved to the waste staging area for transportation to off-site waste facilities. Over 11,000 cubic yards of material were removed from AOC 4.

In December 2009, PG&E completed the *Final Groundwater Corrective Measures Study/Feasibility Study Report for SWMU 1/AOC 1 and AOC 10* (CMS/*FS* Report). The purpose of the CMS/*FS* Report was to identify and evaluate groundwater remedial alternatives and to provide the basis for the identification of a preferred alternative to address the defined objectives for the groundwater remedial action.

Subsequent to the RFI/*RI* Volume 2 and Volume 2 Addendum, PG&E completed additional hydrogeologic and groundwater characterization activities in the East Ravine, the results of which have been incorporated into the conceptual *site* model for the selected remedy and included as an addendum to the CMS/*FS* Report.

The *Proposed Plan*, which presented the remedial alternatives evaluated in the CMS/*FS* and proposed a preferred *remedial action* alternative for a groundwater remedy, was issued for public review and comment on June 4, 2010. The *public comment period* was held from June 4, 2010 to July 19, 2010.

2.4 CURRENT AND FUTURE SITE ACTIVITIES

2.4.1 CERCLA Remedial Actions

The *Record of Decision* (*ROD)* for the final groundwater remedy was issued by DOI in January 2011, and a *Remedial Design Work Plan* for groundwater was completed in November 2011. The Selected Remedy for groundwater was identified as "Alternative E – *In Situ Treatment* with *Fresh Water Flushing*" in the CMS/*FS* report completed for the *Site*.

It is anticipated that the groundwater remedy design will be completed by the fall of 2013. After DTSC and DOI approve the design, implementation of the remedy will begin. Construction and start-up activities should take approximately two years each. These activities involve the installation of wells and pipelines, construction of storage and maintenance facilities and other related infrastructure, and testing of the system specified in the remedy selected to clean the Cr

(VI) contamination in the groundwater. The community involvement activities at this stage include reviewing the community relations plan to ensure that it continues to adequately provide for public involvement activities during the RD/RA, issuing a fact sheet after the completion of the engineering design, and providing a public briefing prior to the initiation of the remedial action.

Following completion of additional soil investigations at the *Site*, PG&E will prepare RFI/*RI* Volume 3. RFI/*RI* Volume 3 will include characterization of the nature and extent of soil and sediment contamination resulting from *Site* operations, as well as a risk assessment that evaluates potential risks to human and ecological receptors resulting from exposure to contaminants in soils and sediment.

It is anticipated that the *Proposed Plan* for the proposed soil remedy will be issued in 2015. Input received from the public on the *Proposed Plan* will be considered by DOI prior to issuing the *ROD*, which will describe the selected soil remedy. The *ROD* and supporting documentation, including responses to comments, will be placed in the *AR*. This will be followed by remedy design, if required.

DOI will conduct five-year reviews of the groundwater remedy, and later the soils remedy, in order to determine whether these remedies remain protective of human health and the environment. The first five-year review on the groundwater remedy will be initiated some time in 2018, depending on the start of construction. The first five-year review of the soils remedy will be conducted five years following initiation of the soil remedy(ies). DOI will conduct community involvement activities and ensure that recommendations and follow-up actions identified during five-year reviews are completed.

3 COMMUNITY BACKGROUND

Communities in this remote area are spread out along the Colorado River, often over large distances. DTSC and DOI are committed to communicating with all interested stakeholders, and, therefore, have been engaged with communities and *Tribes* located well beyond the one-quarter mile radius from the *Site* typically required for public outreach under *RCRA* and *CERCLA*.

The land within one mile of the *Site* boundary includes industrial, recreational, and wildlife management uses (see Figure 6, Colorado River Communities and Tribal Reservations). The industrial *sites* include the PG&E Topock Gas Compressor *Site*. Recreational facilities are located at the Topock/Golden Shores Marina and Moabi Regional Park. The HNWR surrounds the *Site*, along both the California and Arizona sides of the Colorado River. Other lands adjacent to the *Site* are managed by the BLM. Figure 5 shows the approximate boundaries and ownership of the properties surrounding the *Site*.

There are no hospitals, schools, or day care centers located near the *Site*. The closest hospital is located approximately 12 miles to the northwest in Needles, California, and the closest schools are located across the river and five miles to the northeast in Golden Shores, Arizona.

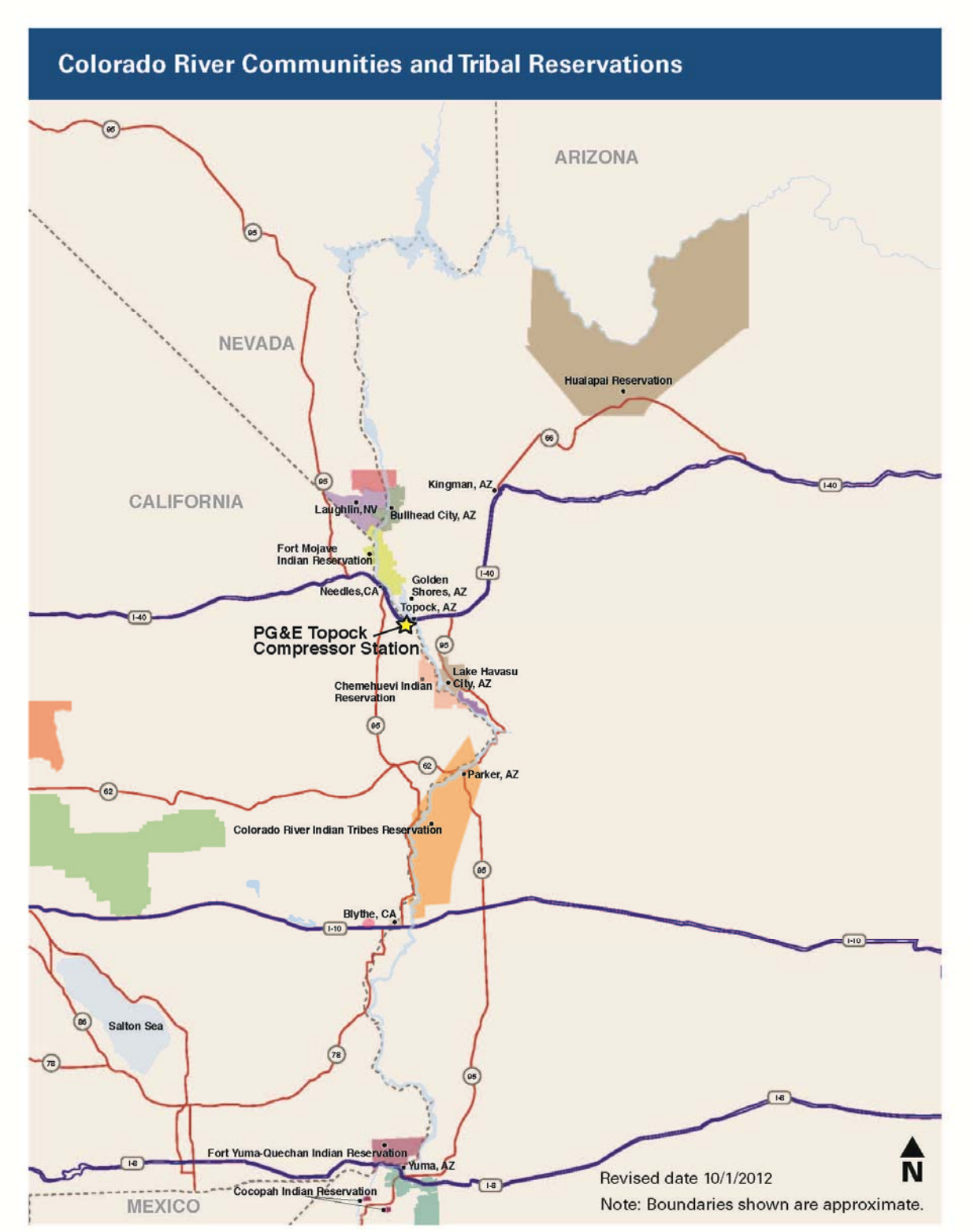
Descriptions of these communities are provided below.

3.1 COLORADO RIVER

The Colorado River spans 1,440 miles and provides water supply, hydroelectric power, recreation, and natural and cultural resources to the Pacific Southwest. Its drainage encompasses 244,000 square miles, and the river winds its way through seven states and Mexico. These seven states are identified as the Upper Basin states and the Lower Basin states. The Upper Basin states include Colorado, New Mexico, Utah, and Wyoming, and the Lower Basin states include Arizona, California, and Nevada.

The Colorado River provides water to over 25 million people in the Pacific Southwest. In addition, a system of dams provides significant hydroelectric generation to the electric grid. The Colorado River is a recreational, economic, and spiritual resource. The river is an important part of the sacred ancestral territory for native peoples. Many Tribal, federal, State, and local organizations work to protect the valuable resources of the Colorado River.

Figure 6: Colorado River Communities and Tribal Reservations[5]



[5] Topock Project Orientation (PG&E 2012)

3.2 NEARBY COMMUNITIES

3.2.1 Moabi Regional Park, California

Located on a side channel of the Colorado River, Moabi Regional Park is a part of San Bernardino County's regional parks system. Moabi Regional Park is located approximately one mile west of the river's main channel, along the road used to access the *Site* from Interstate 40. Moabi Regional Park is primarily used as a recreational area for swimming and boating, and includes trailer homes, camping units, and a boat marina. The homes are used mainly as weekend residences.

3.2.2 City of Needles, California

The City of Needles, near the borders of three states (California, Arizona, and Nevada), has a population of approximately 5,300 people. Needles is located approximately 12 miles northwest of the *Site* on Interstate 40 and is on the west side of the Colorado River. Needles' economy relies on the operations of the Burlington Northern Santa Fe Railroad and tourism. Several small businesses are located in the area; these and related service industries provide jobs to residents of Needles and nearby communities. The city has a number of active civic associations and business organizations.

3.2.3 Topock, Arizona

Across the Colorado River, nearby communities include Topock, Golden Shores, Lake Havasu City, and Parker. Topock is a community of approximately four single family homes and approximately 20 people in a small, mobile home park near the Golden Shores Marina on the eastern bank of the Colorado River. The residents rely on Golden Shores and surrounding communities for their commercial and educational needs. Most of the residents are retired senior citizens who live in the area part of the year, from late fall through spring. Some of the residents travel to work in the neighboring communities.

3.2.4 Golden Shores, Arizona

Golden Shores is a small community of approximately 1,300 homes (population of about 1,800) in Mohave County, Arizona, approximately five miles northeast of the *Site* on the east side of the Colorado River. Its demographics are similar to those of Topock, Arizona. Golden Shores includes small businesses, a fire station, a post office, and an elementary school. High schools are located in the surrounding communities of Parker, Lake Havasu City, and Needles. Golden Shores has an active Chamber of Commerce and Women's Club. A civic center, built within the last 10 years, is the hub of community activity and houses the Chamber of Commerce and serves as a regular meeting *site* for several local associations.

3.2.5 Lake Havasu City, Arizona

Lake Havasu City is located on the east shore of Lake Havasu on the Colorado River, about 18 miles south of the *Site*. With a population of 52,527, it is the largest population center of southern Mohave County, one of the fastest growing counties in the United States. The city offers a broad range of community facilities including four parks, one movie theatre complex, a county/city library, tennis courts, several beaches, a bowling alley, and four golf courses. Additionally, there are state and commercially operated recreational facilities that include a marina, campsites, picnic grounds, trailer parks, boat slips, dry storage, boat repair, boat rentals, boat tours, swimming beaches, and fishing areas. Tourism and recreation are Lake Havasu City's principal economic activities.

3.2.6 Parker, Arizona

Parker is located in La Paz County, Arizona on the eastern side of the Colorado River, about 20 miles south of Lake Havasu City and about 40 miles south of the *Site*. Parker sits on a mesa overlooking the Colorado River at an elevation of approximately 450 feet above sea level. Parker is almost completely surrounded by the Colorado River Indian Tribes Reservation. Agriculture, tourism, and water recreation sports form the basis of the economy. The community of approximately 3,120 people has an elementary, junior high, and high school. It also maintains its own safety and fire services and operates a hospital. A community center/senior center serves as a regular meeting *site* for various activities and several local associations.

4 COMMUNITY INVOLVEMENT

4.1 COMMUNITY INVOLVEMENT ACTIVITIES

The intent of activities to involve the community is to ensure that the community has the opportunity to participate early and effectively during a *CERCLA cleanup*. *CERCLA* and the *NCP* require specific community involvement activities throughout the process, as presented below. Because each *CERCLA site* is unique, it is important to tailor a CIP to particular community needs and situations. Community involvement activities taken and to be undertaken for *Site* remedial actions are summarized in Tables 3 and 4 and discussed further in Section 4.2.

4.2 COMMUNICATION METHODS AND SITE-SPECIFIC CONSIDERATIONS

DOI has coordinated with DTSC on all community involvement activities related to the *Site* since 2004 and will continue this close coordination moving forward. The agencies believe this is the most efficient use of resources and the most effective means of communicating with the public about the combined State/Federal *cleanup* project underway at the *Site*. In particular, DOI participates with DTSC in the various stakeholder groups established by DTSC, as discussed in Section 4.2.3. These forums offer opportunities for ongoing communication and coordination on this complex project.

DOI will continue to provide opportunities for meaningful and active involvement by the community in the *cleanup* process. Described below are the community outreach activities that DOI is engaged in or expects to undertake as well as the community outreach activities that DOI is coordinating with DTSC.

4.2.1 Community Involvement Activities

DOI will engage in the following community involvement activities as the design and implementation of the groundwater remedy, and the investigation of soils contamination and selection and implementation of a soils remedy, proceed.

4.2.1.1 Community Involvement Coordinator

The Community Involvement Coordinator (CIC) is appointed early in the *cleanup* process and is responsible for implementing community involvement activities and recommending activities that will ensure the community has meaningful opportunities to be involved in the *cleanup* process. The CIC works with the project team to manage all community involvement activities, including community outreach, media relations, coordination with stakeholders, information dissemination, and CIP development. Once the CIP has been developed, the CIC and other members of the project team are responsible for ensuring that community involvement activities outlined in the CIP take place.

Pamela Innis, the DOI remedial project manager for the *Site*, serves as the DOI CIC and ensures close coordination with DTSCs community outreach activities. The BLM and BOR also have CICs that are utilized by DOI for the Topock project. DOI and its bureau CICs coordinate directly with the DTSC Public Participation Specialist (PPS) on all community outreach efforts associated with the *Site*. Contact information for the CICs, as well as the DTSC PPS is included below.

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Jeanne Matsumoto**,** Public Participation Specialist
California Department of Toxic Substances Control
(714) 484-5338
Toll free: (866) 495-5651
jmatsumo@dtsc.ca.gov

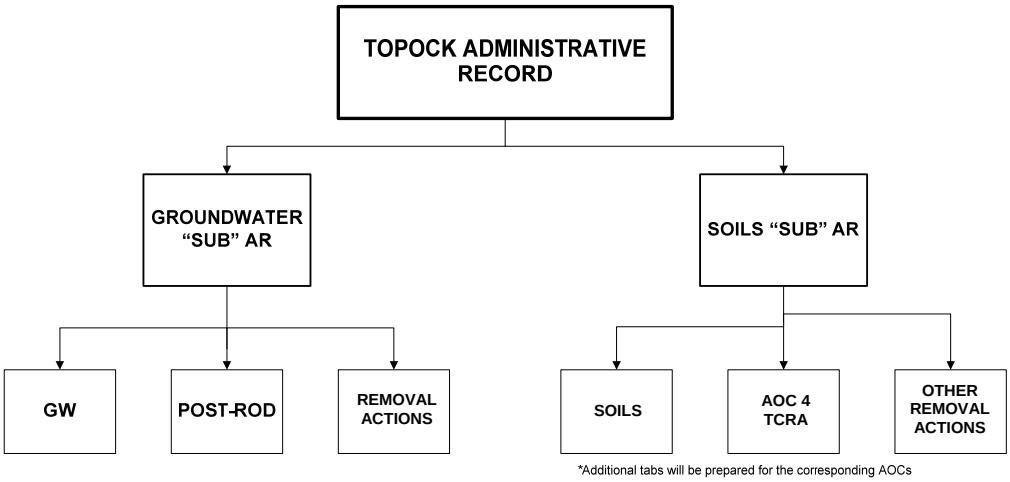
4.2.1.2 Administrative Record File and Information Repositories

The office in which the *AR* files for each response action selected by DOI are maintained and made available for public review is the BLM Lake Havasu Field Office (LHFO). The Topock *AR* is kept as a hard copy in the BLM file room and is also housed on the public computer . The Topock *AR* contains all documents which DOI considered or relied upon in selecting the groundwater *remedial action* and *removal actions*, including:

- ✓ Documents that form the basis for the selection of the response action (e.g. *ROD, AM*);
- ✓ Documents that provide information explaining the basis for the selection of a response action (e.g. fact sheets);
- ✓ Public comments and other documents identifying the public's opportunity for participation and comment, including responses to those comments; and
- ✓ Documents specific to Tribal consultation undertaken by DOI and the BLM.

The Topock *AR* is organized by separate Soil and Groundwater files, with sub-directories for individual *removal actions* and *remedial actions*, as displayed in Figure 7.

Figure 7. Topock Administrative Record Organization



The DOI updates the *AR* and uploads a new version of the *AR* to the LHFO public computer, as necessary. Location and contact information for the *AR* is included in Appendix C.

4.2.1.3 Surveys and Interviews

Community interviews may be conducted by DOI to assess and monitor the level of community interest in the response actions at the *Site* and provide feedback about the needs and concerns within the surrounding communities. Information collected in interviews also helps identify the best way for DOI to communicate with the members of the community. This information collection will ensure that the CIP is updated, as necessary, to address community concerns in an efficient and effective manner. Specific information collected from citizens or other interested parties during the interview process is strictly confidential; general content is summarized for the agencies' use in establishing best practices for community involvement.

A summary of the community interviews conducted in coordination with DTSC can be found in Appendix E.

4.2.1.4 Public Comment Periods and Responsiveness Summary

The *public comment period* allows community members an opportunity to review and comment on the proposed remedy and supporting documentation. Documents available for public comment will be posted on the project website (http://www.dtsc-topock.com) and included in the *AR* and the local *information repositories*. Comments will be accepted in writing by email and fax; via submittal from the project website; by phone; or in person during a public meeting or

other requested meeting. DOI will evaluate and consider all comments received before making a final decision on the *cleanup* plan (or other documents).

A *public comment period* of at least 30 days will be held following the completion of the *Proposed Plan* for the soil remedy. A *responsiveness summary* that responds to significant public comments received on the *Proposed Plan* will be prepared as part of the *ROD* and placed in the *AR* file.

4.2.1.5 Public Notices

Public notices provide basic information so that readers may make further inquiries. The notices are prepared to inform the community of upcoming DOI actions.

Following completion of the *Proposed Plan* for the soil remedy, a notice of public availability will be published in a local newspaper of general circulation. The notice will provide a brief description of the *Proposed Plan*; announce its availability for review; identify the dates for the 30-day *public comment period*; identify a contact person; list the locations where the *Proposed Plan* and supporting documentation, including the *RI*/*FS*, can be reviewed; and identify where written comments should be sent.

Public notices may be provided by various means, including:

- ✓ DTSC Topock website;
- ✓ Fact sheets;
- ✓ Postcards or emails to those on the interested parties list;
- ✓ Community meetings;
- ✓ Radio ads;
- ✓ Local publications and newspapers; and
- ✓ Work notices.

Community involvement activities during the five-year review will include notifying the community that the five-year review will be conducted, notifying the community that the five-year review has been completed, and providing the results of the review to the local *site* repository.

4.2.1.6 Opportunity for Public Meeting

DOI expects to hold public meetings to update the community on *site* developments and address community questions, concerns, ideas, and comments.

Following completion of the *Proposed Plan* for the soil remedy, DOI will provide an opportunity for one or more public meetings at or near the *Site*. Notice of such a meeting will be published in a local newspaper of general circulation at least one week prior to such meeting. Notice may

also be provided by other means such as mailing a courtesy copy of the notice of availability to those on the interested parties list and news releases.

After the completion of the soil remedial design, DOI will provide, as appropriate, a public briefing prior to the initiation of the remedial action.

4.2.1.7 Site Signage

Signage relevant to *Site* access restrictions will be posted as needed during investigation and *cleanup*.

4.2.1.8 Contact Information

Fact sheets, public notices, news releases, and other community involvement documents will provide a listing of DOI contacts to ensure that the public can access project information readily. DOI contact information is provided in Appendix H of this CIP.

4.2.1.9 Community Involvement Plan Revision

To remain flexible and respond to the evolving needs of the community and changes to the project, the CIP will be reviewed and revised as necessary until the *site cleanup* is complete. As the project progresses, DOI staff may identify and use additional means or activities to inform and engage the community.

4.2.2 CONSULTATION WITH TRIBAL GOVERNMENTS

DOI has and will continue to consult with the nine *Tribes* involved with the Topock Project - the Chemehuevi Indian Tribe, Cocopah Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe, Hualapai Tribe, Havasupai Tribe, Twenty-Nine Palms Band of Mission Indians, and the Yavapai-Prescott Indian Tribes – to fulfill its trust responsibilities for government-to-government consultation and the consultation requirement under Section 106 of the *NHPA*.

The BLM has the lead for conducting *NHPA* Section 106 Tribal consultation on behalf of DOI and its bureaus (the Federal Agencies) at the Topock *Site*. BLM initiated Section 106 consultation in 2004, and has consulted with the *Tribes* on each major milestone in the *cleanup* process since that time.

In 2008, BLM initiated consultation with the *Tribes*, the Advisory Council on Historic Preservation (Advisory Council), the California State Historic Preservation Office (SHPO), the Arizona SHPO, and PG&E to develop a *PA* for the proposed groundwater remedial action. In February and March, 2009, the Federal Agencies formally consulted with the *Tribes* on the CMS/*FS*, with written comments provided to DTSC and DOI. The Federal Agencies, through BLM, then held in-person consultation in April and May, 2009, with the Hualapai, Chemehuevi, Fort Mojave Indian Tribe, and Colorado River Indian Tribes. From March through July, 2010,

the Federal Agencies, through the BLM, formally consulted with the *Tribes* concerning DOI's *Proposed Plan* for groundwater remedial action. In October, 2010, BLM, on behalf of the Federal Agencies and following consultation with the *Tribes*, executed a *PA* with the California SHPO, the Arizona SHPO, and the Advisory Council identifying the stipulations and other measures to be undertaken in the design and implementation of *Site remedial action* to satisfy the substantive requirements of Section 106 of the *NHPA*.

With the *PA* now in place, BLM will continue to conduct consultation with the *Tribes*, the Advisory Council, and the SHPOs pursuant to the stipulations of the *PA*'s Consultation Protocol (Appendix F). Substantive mitigation measures identified in the *PA* and adopted by DOI through ongoing consultation to mitigate, minimize or avoid adverse effects of response actions on cultural and historic properties at the *Site*, will be attained through the design and implementation of the *CERCLA* response actions.

In addition, DOI will continue to engage in government-to-government consultation with the *Tribes* in advance of key decision points associated with the *CERCLA* clean-up which may have an adverse effect to the cultural resource properties. DOI also expects to appoint a Government Affairs Tribal Liaison, who will serve to maximize communication, understanding, and collaborative problem solving between DOI and the *Tribes* on issues related specifically to the Topock project. While this effort will not replace the consultation process (as formal government-to-government consultation is conducted by official federal representatives, not consultants or liaisons), DOI expects the Tribal Liaison will enhance communication, problem solving, trust, and ongoing relationships between DOI, its bureaus, and the *Tribes*. Specific responsibilities of the Government Affairs Tribal Liaison will include:

- ✓ Attending Tribal meetings and functions, as requested by the *Tribes*, and relaying any issues, concerns, perspectives, or requests for information or meetings back to the DOI Topock Project Manager.
- ✓ Maintaining current information and an understanding of Tribal issues and informing the DOI Topock Project Manager and the BLM of any potential impacts to the project or the consultation process.
- ✓ Consistently representing the position of DOI and its bureaus to all Tribal contacts.
- ✓ Serving as the principal coordination contact for Tribal communication, ensuring that two-way communication occurs between the *Tribes* and DOI and its bureaus, as it relates to the Topock project.
- ✓ Providing technical assistance to federal agency staff on Tribal interests related to the Topock project.

4.2.3 COORDINATION WITH DTSC'S COMMUNITY OUTREACH

A key goal of the CIP is to encourage coordinated communication between DOI and DTSC and members of the community, regarding the joint *CERCLA*/*RCRA cleanup* activities occurring at the *Site*. In addition to the community involvement activities detailed above, DOI will continue to coordinate with DTSC on the following *site*-specific community relations activities.

4.2.3.1 Consultative Workgroup (CWG)

DTSC initiated the CWG in 2000 as an outreach effort to regularly discuss with stakeholders activities and plans as the *Site* investigation continued. DOI has participated in the CWG since 2007. The CWG is made up of representatives from State, regional, federal, and Tribal governments (stakeholders) who have an important stake in the safety of the Colorado River and surrounding environment. The objective of the CWG is to facilitate participation of the stakeholders in the *Site cleanup* process.

4.2.3.2 Clearinghouse Task Force (CTF)

DTSC created the Clearinghouse Task Force in 2008 to develop and implement processes and tools to improve communications and enhance stakeholder understanding of the project's technical and regulatory information. DOI has been participating in the CTF since its inception. The goal is to foster timely and effective project management and decision making for the final remedy. The CTF communicates progress to the Topock Leadership Partnership (TLP) and the CWG, and integrates feedback and direction from these groups into future process improvement efforts.

4.2.3.3 Topock Leadership Partnership (TLP)

DTSC and DOI have implemented a process to reach out to senior leadership of the *Tribes* and key stakeholders at key decision points in the *RCRA*/*CERCLA cleanup* process. The purpose of the TLP is to exchange information relating to the development, evaluation, selection, and implementation of remedial and corrective action at the *Site*. The TLP is composed of senior officials (or their designated employees with authority to act on their behalf) acting in their official capacities.

4.2.3.4 Public Open House Meetings

DOI actively participates in the open house meetings hosted by DTSC to update the public on the status of ongoing work at the *Site*.

4.2.3.5 Site Tours

DTSC and PG&E began giving tours at the *Site* in January 2003. These tours provide an overview of the *cleanup* activities. *Site* tours have been a helpful communication tool used to brief elected officials, the CWG, and Tribal representatives on the project plans and stages of the

*IM*s and *CERCLA cleanup* process. DOI currently coordinates with DTSC and PG&E to make *site* tours available as requested or as needed.

4.2.3.6 Topock Website

DTSC maintains a project website for the PG&E Topock project. This website provides an overview of current *site* activities and other *site*-related information. Information that can be found on the website includes:

- ✓ Topock *site* location and history;
- ✓ Summaries of investigation and *cleanup* activities;
- ✓ A description of the corrective action process and other regulations governing the *cleanup*;
- ✓ Information on nearby communities;
- ✓ Outreach activities;
- ✓ Future plans; and
- ✓ Who to contact for information.

The Topock website is located at: http://www.dtsc-topock.com. Information about Topock may also be accessed through DTSC's main website at: http://www.dtsc.ca.gov/SiteCleanup/PGE_Topock/.

4.2.3.7 Fact Sheets

DTSC distributes fact sheets to update the public and other stakeholders on project developments, findings, and work activities. Fact sheets are also used to announce public meetings and the release of technical documents that require public review and comment. All fact sheets list the *information repositories* where the public can find copies of project documents and the locations, names, addresses, and phone numbers of people to contact. DTSC has established and currently maintains the following six i*nformation repositories* near the *Site*:

- ✓ Needles Public Library
- ✓ Chemehuevi Indian Reservation
- ✓ Golden Shores/Topock Library Station
- ✓ Lake Havasu City Library
- ✓ Colorado River Indian Tribes Public Library
- ✓ Parker Public Library

Copies of previously produced fact sheets are available in Appendix G.

4.2.3.8 Activity Schedule

Table 5 presents the DOI community involvement activities that are ongoing, as well as those associated with significant project milestones.

5 COMMUNITY FEEDBACK

DTSC initiated outreach activities at the *Site* in 1997, following the *CACA* and initiation of a formal RFI. DOI joined DTSC in the community outreach activities in 2004, following the signing of the *ACA* between DOI and PG&E and initiation of the *CERCLA* process.

A written survey of 112 individuals and organizations was conducted in 1997. To date, interviews with local residents and organizations have been conducted in 1997, January 2003, July 2004, September 2004, January 2009, and April through June 2012. The interviews and questionnaires were designed to inform nearby residents and stakeholders of the government's involvement in environmental investigations at the *Site*, measure awareness of the *Site* and the *cleanup* process, determine the level of interest in *cleanup* activities at the *Site*, and determine the best way for DOI and DTSC to keep nearby residents and stakeholders informed. Additional community outreach information has been obtained from DOI's review of *CERCLA* project documents, the internet, and discussions with project staff and the CWG.

Issues raised by feedback during these community outreach efforts can be broken down into five categories:

- ✓ Environmental Impacts
- ✓ Health Effects
- ✓ *Cleanup* Process
- ✓ Economics
- ✓ Adequate Communication

Copies of survey questionnaires can be found in Appendix D. A more detailed description of the feedback received from surveys and interviews is included in Appendix E.

5.1 KEY COMMUNITY CONCERNS

The key community concerns expressed in the most recent community survey (2012) are summarized below.

- ✓ Most local citizens have been aware of the Topock project since its initiation. They have received information in an array of forms, but prefer the DTSC fact sheets, because, even though they provide technical information, they are well written and easy to understand.
- ✓ Citizens who expressed a high degree of concern over the Topock project are primarily concerned about the health effects associated with the water, whether for drinking, bathing, or recreational use (i.e., residential pools). These concerns were expressed for the sake of their children or grandchildren, rather than for themselves.

- ✓ Citizens interviewed most recently were very confused about the various levels of total Chromium and *hexavalent chromuim* that they hear about during community discussions, read on the fact sheets, or see while conducting their own research. Several citizens simply want to know the cut-off for safe levels of total chromium or *hexavalent chromium*, so that they know what to look for in the test results of their own wells.
- ✓ Citizens feel that the community meetings have been very beneficial and would like to see more (and provided their opinion of the best locations and times). Nearly unanimously, citizens stated that meetings should occur in the fall or spring, as most residents relocated during the hot summer months.
- ✓ When asked if citizens understood the role of the various agencies, most did not understand the dynamics between DOI and DTSC or their corresponding roles in response to the *cleanup*.
- ✓ Most citizens were not aware of DTSC's website dedicated to Topock, despite the fact that most people regularly used the internet and checked their email frequently. Many interviewees even asked for an eventual transition to an email list as opposed to the mailings via their post office boxes.

Finally, elected officials, staff and citizens of downstream cities, and Tribal representatives have all consistently expressed a great concern over protection of the Colorado River, because a very large population relies on the river as a source of drinking water as well as a source of revenue from recreation, tourism, agriculture, and other pursuits.

5.2 RESPONSE TO COMMUNITY CONCERNS

DOI has received feedback from community members and stakeholders throughout the *cleanup* process through the various community outreach activities conducted to date. Input from community members, and the member agencies and organizations on the CWG, has shaped the project's direction and been reflected in technical decisions at every step in the process. Regardless of the outcome of *site* decisions, DOI responds to comments received during the formal *public comment periods* to maintain transparency of the agency's decision-making process. For example, responses to comments received for the Groundwater *ROD* are included in the Groundwater *ROD responsiveness summary*, which is available to the public in the *AR*.

5.3 SUMMARY OF COMMUNICATION NEEDS

Based on the results of the 2012 Community Survey, the community members interviewed identified some areas for desired improvement in agency communication with the public. First, citizens would like to better understand the roles and responsibilities of the various government agencies, the public's role in the *cleanup* process, and the relevant governing laws. Many interviewees did not understand why DOI was involved, while others recognized that DOI is the

manager of federal lands (i.e., BLM, BOR, and FWS). Further, some did not understand why EPA was not involved and did not completely understand DTSC's authority. Additionally, citizens who did not previously have concerns are confused about the differing *cleanup* levels, public health concerns, or other studies regarding *hexavalent chromium*.

DOI recognizes the need for clarification on the role of the various government agencies involved in the Topock project, as well as the public's role in the process. DOI will also work with DTSC to further explain contaminant levels driving the *cleanup* at the *Site*. Outreach activities may include discussion in the Topock Topics, fact sheets, and/or future public meetings.

6 REFERENCES

Documents

Department of Toxic Substances Control (DTSC). 2007. *Public Participation Plan, Pacific Gas and Electric's Topock Compressor Site, Needles, California*. February.

DTSC. 2009. *Public Participation Plan Addendum, Pacific Gas and Electric's Topock Compressor Site, Needles, California*. July.

DTSC. 2012. *Draft Community Outreach Plan, Pacific Gas and Electric's Topock Compressor Site, Needles, California*. September.

Pacific Gas & Electric. 2012. *Draft Topock Environmental Investigation and Cleanup Project Orientation Manual*. October.

U.S. Environmental Protection Agency (EPA). 1995. *Remedial Design/Remedial Action Handbook*. June.

EPA. 2005. *Superfund Community Involvement Handbook*. April.

Websites

PG&E Topock Compressor Site Project Website:
http://www.dtsc-topock.com/

EPA Website:
http://www.epa.gov/superfund/community/toolkit.htm

TABLES

Table 1. CERCLA/NCP Community Involvement Activities

Remedial Activity	Community Outreach Activity	Source	CIP Section(s)	CIP Page Number(s)
Remedial Actions				
Prior to Remedial Investigation (RI) -				
Community Interviews	Conduct interviews with local officials, public interest groups, and community members to solicit their concerns and information needs and to learn how and when people would like to be involved in the cleanup process.	*NCP* 40 CFR 300.430(c)(2)(i)	4.1. / 4.2.1.3 / 5.0 / Appendix D, E	4-1 / 4-3 / 5-1
CIP	Before commencing field work for the RI, Develop a complete CIP, based on community interviews and other relevant information, specifying the community involvement activities that the *lead agency* expects to undertake during the remedial response.	*NCP* 40 CFR 300.430(c)(2) (ii) (A-C)	1.1 / 4.1.	1-2 / 4-1
Information Repository	Establish at least one *information repository* at or near the location of the response action. Each *information repository* should contain a copy of items made available to the public, including the AR, make these items available for public inspection and copying, and inform interested citizens of the establishment of the *information repository*.	*CERCLA* 117(d) *NCP* 40 CFR 300.430(c)(2) (iii)	4.1. / 4.2.1.2 / Appendix C	4-1 / 4-2
Upon Commencement of RI -				
AR	Establish an *AR*, make it available for public inspection, and publish a notice of its availability.	*CERCLA* 113(k); *NCP* 40 CFR 300.815 (a)&(c)	4.1. / 4.2.1.2 / Appendix C	4-1 / 4-2
Upon Completion of Feasibility Study and Proposed Plan -				

Remedial Activity	Community Outreach Activity	Source	CIP Section(s)	CIP Page Number(s)
Remedial Investigation/Feasibility Study (*RI/FS*) and *Proposed Plan* Notification and Analysis	Publish a notice of availability of the *RI/FS* and *Proposed Plan*, including a brief analysis of the *Proposed Plan*, in a major local newspaper of general circulation.	*CERCLA* 117(a) and (d); *NCP* 40 CFR 300.430(f)(3)(i)(A)	4.1.	4-1
Public Comment Period on *RI/FS* and *Proposed Plan*	Provide at least 30 days for the submission of written and oral comments on the *Proposed Plan* and supporting information located in the *information repository*, including the *RI/FS*.	*CERCLA* 117(a)(2); *NCP* 40 CFR 300.430(f)(3)(i)(C)	4.1. / 4.2.1.4	4-1 / 4-3
Public Meeting	Provide an opportunity for a public meeting regarding the *Proposed Plan* and supporting information to be held at or near the site during the comment period.	*CERCLA* 113 and 117(a)(2); *NCP* 40 CFR 300.430(f)(3)(i)(D)	4.1. / 4.2.1.6	4-1 / 4-4
Meeting Transcript	Prepare a meeting transcript that is made available to the public.	*CERCLA* 117(a)(2); *NCP* 40 CFR 300.430(f)(3)(i)(E)	4.1. / 4.2.1.6	4-1 / 4-4
Notice and Comment Period for Settlement Agreements	Publish a notice of a proposed settlement in the *Federal Register* at least 30 days before the agreement becomes final.	*CERCLA* 122; *NCP* 40 CFR 300.430(c)(5)(i) and (ii)	4.1.	4-1
Pre Record of Decision Significant Changes - (if applicable)				
Responsiveness Summary	Prepare a response to significant comments, and new information submitted concerning the *Proposed Plan* and *RI/FS* and include this response in the *Record of Decision* (*ROD*).	*CERCLA* 113 and 117(b); *NCP* 40 CFR 300.430(f)(3)(i)(F)	4.1.	4-1
Discussion of Significant Changes	Include in the *ROD* a discussion of significant changes and the reasons for such changes, if new information is made	*NCP* 40 CFR 300.430(f)(3)(ii)(A)	4.1.	4-1

Remedial Activity	Community Outreach Activity	Source	CIP Section(s)	CIP Page Number(s)
	available that significantly changes the basic features of the remedy.			
After the ROD is Signed -				
ROD Availability and Notification	Make the *ROD* available for public inspection and copying at or near the site prior to the commencement of any *remedial action* and publish notice of the *ROD*'s availability in a major local newspaper of general circulation.	*NCP* 40 CFR 300,430(f)(6)	4.1.	4-1
Revision of the CIP	Prior to remedial design, review the CIP to determine whether it should be revised to describe additional public involvement activities that will be taken during remedial design/remedial action.	*NCP* 40 CFR 300.435(c)(1)	5.0 / Appendix D, E	5-1
Remedial Design -				
Fact Sheets and Public Briefings	Upon completion of the final engineering design, issue a fact sheet and provide a public briefing, as appropriate, prior to beginning *remedial action*.	*NCP* 40 CFR 300.435(c)(3)	4.2.1.6 / 4.2.3.7	4-4 / 4-8

Table 2. Previous Investigations and Cleanup Activities

Date	Activity
1980s	BLM installed a series of groundwater monitoring wells on BLM land, which lies adjacent to the Site. Sampling efforts revealed traces of hexavalent chromium in these BLM wells.
1987	Corrective action began with the preparation of an RFA conducted by the United States Environmental Protection Agency (EPA) in 1987. The RFA identified hazardous waste management units, or areas of potential contamination. Subsequently, several of these units were closed by PG&E.
1996	PG&E began to perform a multi-phased RFI pursuant to DTSC oversight under a CACA.
2003-2004	A floodplain well, installed on BLM-managed land during the performance of the RFI, located within 60 feet of the Colorado River showed intermittent detections of hexavalent chromium with one sample above the 50 parts per billion California drinking water standards. Although hexavalent chromium was not detected in the river, these intermittent detections prompted DTSC and DOI to determine immediate action was necessary as a precautionary measure to protect the Colorado River. At the direction of DTSC and in accordance with recommendations of the Colorado River Basin Regional Water Quality Control Board, PG&E agreed in August 2003 to conduct a pilot study of groundwater extraction and treatment.
February 2004	DOI notified PG&E of its potential liability under *CERCLA* and began discussions with PG&E regarding entering into an ACA under which PG&E would agree to perform response actions on DOI-managed lands and pay for DOI oversight on such work.
March 2004	DOI, through BLM, issued an Action Memorandum and directed PG&E to undertake a *Time-Critical Removal Action* (Removal Action #1) to begin pumping, transporting and disposing chromium contaminated groundwater offsite, and reverse the flow of groundwater toward the Colorado River. DOI coordinated this Time-Critical Removal Action with DTSC's *IM*-1, implemented PG&E pursuant to its CACA with DTSC.
April 2004	Tribal consultation pursuant to Section 106 of the *NHPA* on Removal Action #1 was completed.
May 2004	PG&E implemented Removal Action #1/*IM*-1 pursuant to directives from both DTSC and DOI.
May 2004	*DOI, through* BLM, issued an Action Memorandum and directed PG&E to undertake Removal Action #2 to reduce the volume of hazardous waste being transported offsite by treating pumped groundwater onsite.
June 2004	Tribal consultation pursuant to Section 106 of the *NHPA* on Removal Action #2 was completed.
September 2004	DOI, through BLM, issued an Action Memorandum selecting Removal Action #3 to reverse the flow of contaminated groundwater away from the Colorado River and maintain hydraulic control over the plume.

Date	Activity
July 2005	PG&E entered into an *ACA* with DOI under which PG&E performed the *CERCLA* RI/FS.
October 2005	Tribal consultation pursuant to Section 106 of the *NHPA* on Removal Action #3 was completed.
2005	The Draft 2005 RFI/*RI* report concluded that hexavalent chromium was discovered in soil and groundwater in the vicinity of the Site. The Final RFI/*RI* was later separated into three volumes: Volume 1 (Background/History), Volume 2(Groundwater), and Volume 3 (Soils) to efficiently manage the large amount of information associated with the RFI/*RI*, and to accelerate remediation of groundwater.
2007	Final *RI* Volume 1 (Background/History) is completed.
January 2009	In the course of investigating soil contamination, data collected from December 2008 to January 2009 indicated releases of *hazardous substances,* including arsenic, cadmium, hexavalent chromium, copper, lead, and dioxins, located on PG&E property at AOC 4 (also known as the debris ravine). Based on these data, DOI concluded that a *Time-Critical Removal Action was necessary* to address thethreat of release onto the HNWR. The 30-day *public comment period* for the initiation of the *Time-Critical Removal Action* at AOC 4 was held in January 2009. No comments were received.
June 2009	Pursuant to an *Action Memorandum*, signed on June 12, 2009, DOI selected Removal Action #4 and directed PG&E to conduct a *Time-Critical Removal* action to remove contaminated fill and debris, dispose of these materials in an appropriately permitted landfill, stabilize the excavated area, implement erosion control measures, and conduct post-excavation sampling to ensure that ongoing releases to HWNR property do not occur.
December 2009	PG&E implemented the Removal Action #4 at AOC 4 pursuant to directives from DOI.
June 2009	Final *RI* Volume 2 (Groundwater) is complete. An Addendum to this report contains additional data and information collected by PG&E between October 2007 and September 2008.
December 2009	Final *FS* for groundwater is completed.
October 2010	Tribal consultation pursuant to Section 106 of the *NHPA* on the Groundwater *Proposed Plan* is completed.
January 2011	DOI Groundwater *ROD* signed.
November 2011	Final *Remedial Design Work Plan* (*RDWP*) for groundwater is complete.

Table 3. Community Involvement Activities Taken and to be Taken for Site Remedial Actions

Activity	Source	Status
Establish *AR* file and *Information Repository*.	*NCP* §300.820(a)(1); *NCP* §300.430(c)(2)(iii)	Completed – June 2005. The *AR* for the Groundwater remedial action is available for public review at the BLM LHFO.
Publish notice of availability of *AR* file in major local newspaper.	*NCP* §300.815(a)	Completed – June 2005. The public notice of availability of the AR for the Groundwater remedial action was posted in local newspapers and can be found in the *AR*.
Conduct community interviews prior to completion of CIP.	*NCP* §300.430(c)(2)(i)	Completed – 1997 to 2012.
Prepare CIP	*NCP* §300.430(c)(2)(ii)	Initial CIP Issued – 2009. CIP Revised - 2012.
Publish notice of availability and brief description of *Proposed Plan* in a major local newspaper.	*NCP* §300.430(f)(3)(i)(A)	For the groundwater remedial action *Proposed Plan*, the public notice of availability was posted in local newspapers on June 4, 2010. Notice of availability will be posted when the soil remedy *Proposed Plan* is ready for public review. The Final Soil *RI* is anticipated in 2014 and the Final Soil *FS* is anticipated in 2015.
Make *Proposed Plan* and supporting analysis available in the *AR*.	*NCP* §300.430(f)(3)(i)(B)	The *RI*/*FS* and *Proposed Plan* for groundwater remedial action are currently available in the *AR*. *RI* was last updated in August 2007. *FS* was last updated in January 2011. The RI/FS and for the soil remedial action will be made available in the AR when they are finalized. *Proposed Plan*
Public Comment period for *Proposed Plan* – 30 day minimum.	*NCP* §300.430(f)(3)(i)(C)	The *public comment period* for the *PP* for groundwater was conducted from June 4 to July 19, 2010. The public comment period for the soil remedy *Proposed Plan*

Activity	Source	Status
		will be initiated when it is ready for public review.
Provide opportunity for public meeting to be held during the *public comment period* at or near the site.	*NCP* §300.430(f)(3)(i)(D)	Public meetings were conducted during comment period for *Proposed Plan* for groundwater remedy on June 22 at the Parker Community/Senior Center in Parker, AZ; on June 23 at the Lake Havasu Aquatic Center in Lake Havasu City, Arizona; on June 29 at Needles High School in Needles, California; and on June 30 at Topock Elementary in Topock, Arizona. Public meetings will occur during comment period for the soil remedy *Proposed Plan*.
Keep a transcript of any public meeting(s) on the *Proposed Plan* held during comment period and place in *AR*.	*NCP* §300.430(f)(3)(i)(E)	Transcripts from public meetings held for the *Proposed Plan* are currently available in the *AR*. Transcripts will be created and made available in the AR during the comment period for the soil remedy *Proposed Plan* .
The level of community acceptance of the remedy detailed in the *Proposed Plan* will affect whether the remedy is modified prior to issuance of *ROD*, which details the remedy selected by DOI.	*NCP* §300.430(e)(9)(iii)(I)	No modifications to the *Proposed Plan* for groundwater were issued. If necessary, any modifications will occur after input from the public is received on the soil remedy *Proposed Plan*.
If after the *Proposed Plan* is made publicly available and prior to adoption of a remedy in a *ROD*, significant changes to the basic features of the remedy are made, DOI will either: (A) Include a discussion of the changes in the *AR*; or (B) Seek additional public comment on a revised *Proposed Plan* in accordance with	*NCP* §§300.430(f)(3)(ii)(A) and (B)	If this occurs, it happens after the publication of a *Proposed Plan* and prior to issuance of a *ROD*. No modifications to the *Proposed Plan* for groundwater were issued. If necessary, will occur after input from the public is received on the soil remedy *Proposed*

Activity	Source	Status
§300.430(f)(3)(i).		*Plan*.
Publish notice of availability of the *ROD* and make *ROD* available to the public before *remedial action*. *ROD* shall include a responsiveness summary for significant comments submitted during the comment period for the *Proposed Plan*.	*CERCLA* §117 and *NCP* §300.430(f)(3)(i)(F)	The *ROD* for the final groundwater remedy was signed in January 2011 and a notice of availability was published on the Topock project website. Comments and comment responses are currently available in the *AR*. Notice of availability will be published when the *ROD* for the soil remedy is ready for public review.
Prior to initiation of the remedial design, DOI will review the CIP to determine if it needs to be revised.	*NCP* §300.435(c)(1)	CIP Revised in June 2012
If, after *ROD* is adopted, the remedial or enforcement action differs significantly from the remedy selected in the *ROD* but does not change the remedy's basic features with respect to scope, performance or cost, DOI will publish a notice of availability that *Explanation of Significant Differences* (*ESD*) is available in the *AR*.	*NCP* §300.435(c)(2)(i)	If this occurs with respect to either the groundwater or soil RODs DOI will issue an ESD and a public notice.
If, after *ROD* is adopted, the remedial or enforcement action differs significantly from the remedy selected in the *ROD* and changes the basic features of the remedy with respect to scope, performance or cost, DOI will propose a *ROD Amendment*, and follow the required public comment protocol.	*NCP* §300.435(c)(2)(ii)	If this occurs, DOI will issue a proposed ROD Amendment highlighting the proposed changes and follow the established public comment protocol.

Table 4. Community Involvement Activities Taken for Time-Critical Removal Action at AOC 4

Requirement	Requirement Source	Status
Establish *AR* file and *Information Repository.*	*NCP* §300.415(n)(3)(iii)	Completed for the AOC 4 *time-critical removal action* in June 2009. The *AR* is available for public access through the public computer at the BLM LHFO.
DOI will designate a spokesperson to provide information regarding *removal actions.*	*NCP* §300.415(n)(1)	Completed for the AOC 4 *time-critical removal action* in January 2010. Pam Innis, DOI Project Manager, was the spokesperson for this *removal action*.
Public comment period for *Time Critical Removal Action*— provide, as appropriate, at least 30 days.	*NCP* §300.415(n)(2)(ii)	Completed for the AOC 4 *time-critical removal action* in January 2010.
Responsiveness Summary – prepare a written response to significant comments and make document available in the *AR* file.	*NCP* §300.415(n)(2)(iii)	No comments received for the AOC 4 *time-critical removal action*.

Table 5. Community Involvement Activity Schedule

Ongoing Activities	Respond to citizen inquiries and requests
	Maintain *AR/Information Repositories*
	Maintain project mailing list (Appendix H)
Completion of *IM*-1 Time-Critical *Removal Action*	***Prior to Initiation of Removal Action -***
	Established *AR*
	Designated spokesperson
	After Initiation of Removal Action -
	News release regarding initiation of action
	30-day comment period
	Response to significant comments placed in *AR*
	As appropriate, if *removal action* will last more than 120 days, conduct community interviews
Completion of Groundwater Remedy	***After Completion of Proposed Plan for Groundwater Remedy -***
	News release regarding 30 day *public comment period*
	Send to mailing list (Appendix H)
	During 30-day Public Comment Period -
	Provide opportunity for public meeting
	Keep transcript of any public meeting
	Place transcript in *AR*
	After 30-day Public Comment Period -
	News release regarding *ROD*, which includes responses to significant comments
	Review CIP for potential update
	ACTIVITIES LISTED ABOVE ARE COMPLETE
	After Final ROD but Prior to Onsite Remedial Action -
	If necessary, place *ESD* in *AR*
	Additional 30-day *public comment period* if *ROD Amendment* proposed
	Provide opportunity for public meeting
	After Implementation of Remedial Action -
	News release regarding five-year review evaluation
Completion of Soils Remedy	***After Completion of Proposed Plan for Soils Remedy -***
	News release regarding 30 day *public comment period*
	Send to mailing list (Appendix H)
	During 30-day Public Comment Period -
	Provide opportunity for public meeting
	Keep transcript of any public meeting
	Place transcript in *AR*
	After 30-day Public Comment Period -
	News release regarding *ROD*, which includes responses to significant comments
	Review CIP for potential update
	After Final ROD but Prior to Onsite Remedial Action -
	If necessary, place *ESD* in *AR*

	Additional 30-day *public comment period* if *ROD Amendment* proposed
	Provide opportunity for public meeting
	After Implementation of Remedial Action -
	News release regarding five-year review evaluation

APPENDICES

APPENDIX A
GLOSSARY OF TERMS

GLOSSARY OF TERMS

Action Memorandum: A decision document that describes and authorizes the chosen removal action alternative under CERCLA and the NCP.

Administrative Consent Agreement: A voluntary agreement under which a private party agrees to perform CERCLA response actions on land under the jurisdiction, custody, or control of DOI and pursuant to DOI oversight.

Administrative Record: The complete body of documents that contains all information considered or relied upon by the lead agency to make its decision on the selection of a response action (i.e., cleanup) under CERCLA and the NCP.

Area of Potential Effect (APE): A term used in Section 106 to describe the area in which historic resources may be affected by a federal undertaking.

California Environmental Quality Act (CEQA): This state law requires that government decision-makers and public agencies study the environmental effects of proposed activities, and that significant adverse effects be avoided or reduced where feasible. CEQA also requires that the public and stakeholders be informed and given an opportunity to provide input prior to the decision of the lead public agency, subject to certain exemptions.

Cleanup: Actions undertaken during a removal or remedial response to physically remove or treat a hazardous substance that poses a threat or potential threat to human health and welfare and the environment and/or real and personal property.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law, commonly known as “Superfund”, which was enacted in 1980 and amended in 1986. The law provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment; provides for liability of persons responsible for such releases; and establishes a framework for evaluating and cleaning up releases and threatened releases of hazardous substances.

Corrective Action: Cleanup of hazardous waste contamination at RCRA sites.

Engineering Evaluation/Cost Analysis (EE/CA): A study conducted as part of a non-time-critical removal action. An EE/CA includes characterization of the contamination for a removal action, identification and comparison of removal alternatives and a recommended removal action alternative under CERCLA and the NCP.

Explanation of Significant Differences (ESD): This is required for post-ROD changes in scope, performance or cost of remedy that do not fundamentally alter the basic features of the selected remedy.

Feasibility Study (FS): The FS includes development, screening and analysis of CERCLA remedial alternatives so that relevant information concerning the remedial action options can be evaluated and an appropriate remedy selected.

Fresh Water Flushing: In-situ treatment method performed by injecting fresh water into a groundwater aquifer to migrate contaminated groundwater towards and/or through an in-situ groundwater remediation system for treatment.

Hazardous substances: A hazardous substance is any substance that when released to the environment in an uncontrolled or unpermitted fashion becomes subject to the reporting and possibly response provisions of the Clean Water Act, Clean Air Act, Solid Waste Disposal Act, Toxic Substances Control Act, and CERCLA.

Hexavalent Chromium, Chromium VI, Cr (VI): A heavy metal that is commonly found at low levels in drinking water. It can occur naturally but can also enter drinking water sources by historic leaks from industrial plants' hazardous waste sites. Chromium 6 is the more-toxic form of chromium.

Information Repository: A location open to members of the general public where they may review a collection of documents relevant to a particular CERCLA Site. See Appendix B for further information on the Topock Compressor Site Information Repositories.

In-Situ Treatment: Destruction, alteration, immobilization, or separation of contaminants via treatment methods that do not require excavation or removal of the contaminated media (e.g. soil or groundwater).

Interim Actions or Interim Measures (IMs): Cleanup actions taken to protect public health and the environment while long-term solutions are being developed.

Lead agency: The government agency with the primary authority to plan and implement a cleanup action under CERCLA and the NCP at a particular site.

National Historic Preservation Act (NHPA): The National Historic Preservation Act (NHPA), signed into law on October 15, 1966, is legislation intended to preserve historical and archaeological sites in the United States. The act created the National Register of Historic Places, the list of National Historic Landmarks, and the State Historic Preservation Offices. Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): More commonly called the National Contingency Plan or NCP, it outlines the responsibilities and authorities for responding to releases into the environment of hazardous substances and other pollutants and contaminants under the statutory authority of CERCLA and section 311 of the Clean Water Act.

Non-Time-Critical Removal Action: A type of removal action responding to releases or the threatened release of one or more hazardous substances where at least a six-month period exists for planning the cleanup activities after the lead agency determines that a removal action is appropriate.

Percolation Beds: A widely-spread near surface or subsurface zone of highly permeable material such as crushed rock that improves the absorption of water into the soil and facilitates groundwater recharge.

Programmatic Agreement (PA): A document in the NHPA Section 106 process that records the terms and conditions agreed upon by state and federal agencies. A PA establishes a process for consultation, review, and compliance with one or more federal laws, most often with those federal laws concerning historic preservation.

Potentially Responsible Party: An individual(s) or company(ies) (such as owners, operators, transporters, or generators) potentially responsible for, or contributing to, the contamination problems at a CERCLA site.

Proposed Plan: A document for public review that describes the preferred cleanup strategy, the rationale for the preference, reviews the alternatives presented in the detailed analysis of the remedial investigation/feasibility study.

Public Comment Period: A period during which the public can formally review and comment on various documents and proposed DOI actions.

Record of Decision (ROD): A decision document that describes the chosen remedial action alternative. The ROD is based on information and technical analysis generated during the RI/FS and consideration of public comments and community concerns.

Remedial Action: A term generally used to refer to longer-term cleanup actions to address the release or threatened release of hazardous substances under CERCLA as specified in a ROD.

Remedial Design (RD): The technical analysis and procedures which follow the selection of remedy for a site and result in a detailed set of plans and specifications for implementation of the remedial action.

Remedial Design/Remedial Action Consent Decree: A judicial decree expressing a voluntary agreement between PG&E and the United States, on behalf of the DOI, BLM, FWS, and BOR, resolving certain specified claims of the Federal agencies under CERCLA and requiring PG&E to pay all Federal response costs incurred in overseeing remedy implementation. The consent decree describes actions that PG&E is required to perform.

Remedial Design Work Plan: Document that presents the framework and schedule for implementation of the selected remedy. This document is prepared following completion of the ROD.

Remedial Investigation (RI): The process by which the lead agency determines the nature and extent of contamination for a longer-term cleanup action under CERCLA and the NCP. After the completion of the RI, an FS is conducted.

Removal Action: A term generally used to refer to shorter-term cleanup actions to address the release or threatened release of hazardous substances under CERCLA.

Responsiveness Summary: A summary of oral and/or written public comments received during a comment period on key CERCLA documents, and the lead agencies responses to those comments. It is a key part of the ROD, highlighting community concerns for DOI decision-makers.

Resource Conservation and Recovery Act (RCRA): A federal law, enacted in 1980 and amended in 1984, which regulates generators of hazardous waste and hazardous waste treatment, storage and disposal facilities. The corrective action process requires the cleanup or remediation of hazardous releases (i.e., contamination) at facilities that are governed by RCRA. Enforcement authority under RCRA has been delegated to certain states, including California.

ROD Amendment: This is required for post-ROD changes in scope, performance or cost of remedy that fundamentally alter the basic features of the selected remedy.

Site: The land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity (from 40 CFR 265.1081).

Time-Critical Removal Action: A type of removal action responding to releases or the threatened release of one or more hazardous substances where less than a six-month period for planning the cleanup activities after the lead agency determines that a removal action is appropriate.

Traditional Cultural Property (TCP): Property associated with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community.

Tribes: Nine Tribes are involved with the Topock project, including the Chemehuevi Indian Tribe, Cocopah Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe, Hualapai Tribe, Havasupai Tribe, Twenty-Nine Palms Band of Mission Indians, and the Yavapai-Prescott Indian Tribes.

APPENDIX B

CERCLA / RCRA Comparison Table for Community Involvement

Community outreach guidance can be accessed in the following locations:

The DTSC Web site: http://165.235.111.242/LawsRegsPolicies/Policies/PPP/PublicParticipationManual.cfm

The EPA RCRA Web site: http://www.epa.gov/publicinvolvement/

The EPA CERCLA Web site: http://www.epa.gov/superfund/action/community/index.htm

The table included below provides a comparison between the community involvement activities conducted in accordance with CERCLA and the NCP, with the public outreach activities conducted in accordance with RCRA and DTSC guidelines. The table also provides a quick reference to compare the differences in the document titles between the two regulatory programs.

General Activity	CERCLA Action	CERCLA Community Involvement Activities (per EPA guidelines)	RCRA Action	RCRA Public Outreach Activities (per DTSC guidelines)	Comments
Evidence of Contamination Discovered or Reported	Establish a lead agency		Establish a lead agency for corrective action		
Evaluate Contamination	Preliminary Assessment/ Site Investigation (PA/SI)	1. Publish Public Notice* 2. Propose Listing in Federal Register on National Priorities List (NPL) 3. Public Comment Period (if proposed for listing on the NPL)	RCRA Facility Assessment (RFA)	1. Publish Public Notice in newspaper* 2. Public Comment Period*	The Topock site is not proposed for listing on the federal NPL
Evaluate Community Interest	Community Involvement Plan (CIP)	1. Publish CIP 2. Conduct interviews of key community members and organizations 3. Establish Repository 4. Publish Fact Sheet* 5. Public Meeting*	Public Participation Plan (PPP)	1. Publish PPP 2. Conduct interviews of key community members and organizations 3. Establish Repository for Public Documents 4. Publish Fact Sheet* 5. Public Meeting*	Use PPP or CIP to specify community involvement procedures
Investigate the Nature	Remedial Investigation	1. Publish Public	RCRA Facility	1. Publish Public	RI and FS are often

General Activity	CERCLA Action	CERCLA Community Involvement Activities (per EPA guidelines)	RCRA Action	RCRA Public Outreach Activities (per DTSC guidelines)	Comments
and Extent of Contamination	(RI)	Notice* 2. Publish Fact Sheet* 3. Public Comment Period* 4. Public Meeting*	Investigation (RFI)	Notice* 2. Publish Fact Sheet* 3. Public Comment Period* 4. Public Meeting*	combined in one (RI/FS) document
Identify and Analyze Alternative Actions to Address Site Contamination	Feasibility Study (FS)	1. Publish Public Notice* 2. Publish Fact Sheet* 3. Public Comment Period* 4. Public Meeting*	Corrective Measure Study (CMS)	1. Publish Public Notice* 2. Publish Fact Sheet* 3. Public Comment Period* 4. Public Meeting*	Consider primary remedy and alternative remedies (including 'no action')
Propose a Final Remedy	Proposed Plan	1. Publish Public Notice* 2. Publish Fact Sheet* 3. Public Comment Period* 4. Public Meeting*	Proposed Remedy Selection	1. Publish Public Notice* 2. Publish Fact Sheet* 3. Public Comment Period* 4. Public Meeting*	
Select Final Remedy	Record of Decision (ROD)	1. Publish Public Notice of ROD	Statement of Basis	1. Publish Notification of Final Decision	
Revisions to Final Remedy (if necessary)	Post-ROD Significant Changes Explanation of Significant Differences (ESD) Revised Proposed Plan* ROD Amendment	1. Publish Public Notice* 2. Publish Fact Sheet* 3. Public Comment Period* 4. Public Meeting*	Revise Statement of Basis	1. Publish Public Notice* 2. Publish Fact Sheet* 3. Public Comment Period* 4. Public Meeting*	
Conduct Cleanup Operations	Remedial Design and Remedial Action (RD/RA)	Publish Fact Sheet on Final Engineering Design	Corrective Measures Implementation (CMI)	1. Publish Fact Sheet* 2. Add Remedial Design Plans to Repository	
Evaluate Effectiveness of Final Remedy	5-Year Review(s)	Publish Public Notice			
When Cleanup Goals are Achieved	Site Closeout Report NPL De-listing (if applicable)		Certification of Remedy Completion		

General Activity	CERCLA Action	CERCLA Community Involvement Activities (per EPA guidelines)	RCRA Action	RCRA Public Outreach Activities (per DTSC guidelines)	Comments
** if necessary, as determined by the Public Participation or Community Involvement Specialist*					

APPENDIX C

Administrative Record/Information Repositories and Meeting Locations

Information Repositories

U.S. Department of Interior
BLM Lake Havasu Office
2610 Sweetwater Avenue
Lake Havasu City, AZ 86406
Contact: Catherine L. Wolff-White
(928) 505-1309
8am – 4:30pm, Monday – Friday
Must submit written request prior to visit

Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
Contact: Julie Johnson
(714) 484-5337
9am – 4pm, Monday – Friday
Must submit written request prior to visit

Golden Shores/Topock Library Station
13136 Golden Shores Parkway
Topock, AZ 86436
Contact: Kim Stoddard
(928) 768-2235
9am – 2pm, Tuesday and Thursday
2pm – 5pm, Wednesday
9am – 1pm, Saturday

Needles Public Library
1111 Bailey Avenue
Needles, CA 92363
Contact: Eva Webster
(760) 326-9255
11am – 7pm, Monday through Wednesday
11am – 6pm, Thursday
Closed on Friday
9am – 5pm, Saturday

Lake Havasu City Library
1770 McCulloch Boulevard
Lake Havasu City, AZ 86403
Contact: Cindy Amador
(928) 453-0718
9am – 6pm, Mon. and Wed.
9am – 8pm, Tuesday and Thursday
9am – 5pm, Friday and Saturday

Parker Public Library
1001 Navajo Avenue
Parker, AZ 85344
Contact: Ruth Davis (928) 669-2622
9am – 7pm, Monday – Thursday

Chemehuevi Indian Reservation
Environmental Protection Office
2000 Chemehuevi Trail
Havasu Lake, CA 92363
Contact: David Todd (760) 858-1140
7:30am – 4pm, Monday – Friday

Colorado River Indian Tribes Public Library
2nd Avenue and Mohave Road
Parker, AZ 85344
Contact: Amelia Flores (928) 669-1285
8am – noon, 1pm – 5pm, Monday – Friday

Meeting Locations

For open houses and public meetings suitable locations will be determined based on public input. The following are meeting sites recommended by residents and stakeholders during interviews and project meetings.

Needles, California

Needles Council Chamber
1111 Bailey Avenue
Needles, CA 82363
(760) 326-2113
Meeting Capacity: 50 people

Needles High School
1600 Washington Avenue
Needles, CA 82363
(760) 326-2191
Meeting Capacity: Approximately 1500 people

Topock/Golden Shores Area

Topock Civic Association Building
13136 Golden Shores Parkway
Topock, AZ 86436
(928) 768-2421
Meeting Capacity: Approximately 200 people

Topock Elementary/Middle School
5083 Tule Drive
Topock, AZ 86436
(928) 768-3344
Meeting Capacity: 200 people

Lake Havasu City, Arizona

Lake Havasu School District
2200 Havasupai Boulevard
Lake Havasu City, AZ 86403
(928) 505-6900
Meeting Capacity: 80 people

Lake Havasu Parks and Recreation
Aquatic Center
100 Park Avenue
Lake Havasu City, AZ 86403
(928) 453-8686
Meeting Capacity: Over 150 people

Parker, AZ

Parker Community/Senior Center
1115 West 12th Street
Parker, AZ 85344
(928) 669-9514
Meeting Capacity:

Tribal Reservations

Chemehuevi Community Center
1980 Valley Mesa
Havasu Lake, CA 92363
(760) 858-5104
(760) 858-4219 Main Administration
Meeting Capacity: Over 150 people

Colorado River Indian Reservation and
Parker, AZ
Bluewater Resort and Casino
11300 Resort Drive
Parker, AZ 85344
(928) 669-7777
(888) 243-3360 Toll-free

Fort Mojave Indian Reservation
Avi Resort and Casino
10000 Aha Macav Pkwy
Laughlin, NV 89029
(702) 535-5555
(800) 284-2946 Toll-free

APPENDIX D
Community Interview Questions

January 2003 and July 2004 Community Interview Questionnaire

Pacific Gas and Electric Company
Topock Compressor Station
Approximately 15 miles southeast of Needles
Needles, California
(Near Moabi Park/Colorado River)

1. How long have you lived or worked in the area?
_____ 0-5 years _____ 12-20 years
_____ 6-12 years _____ 21 or more years

2. Prior to receiving any recent information, were you aware of the existence of potential environmental impacts at the Pacific Gas and Electric Topock Facility?
_____ Yes _____ No

3. What is your current level of concern about this project, if any?
_____ No concern _____ Low to moderate _____ High concern

4. Do you have any concerns about specific environmental health impacts in your area? Yes/No? (If yes, please describe)
_____
_____
_____

5. Are there any concerns or issues you feel need to be addressed regarding this project? If so, what are those concerns?
_____
_____

6. What officials, groups, organization or individuals should we contact regarding this project?
_____
_____

7. Are you aware that there is a new project manager for this project? (This question was not asked July 2004.) _____

8. Are you aware that PG&E has extended the investigation? _____

9. Are you aware of additional work to be performed in January 2003? (This question was not asked July 2004.) _____

10. Are you aware of plans for a fact sheet at the end of RCRA Facility Investigation (RFI—anticipated completion in June 2003)? (The anticipated completion date was not mentioned in the July 2004 interviews.)

_____

11. Do you believe a public meeting in the future would be
___ necessary ___ beneficial ___ helpful ___ not helpful? (Check one)

12. In your opinion, are Information Repositories well located? Do you have alternative suggestions?

_____
_____

13. What about the best locations for public meetings?

_____
_____

14. What do you believe are preferred radio and television station(s) and newspapers that cover the community?

_____
_____

15. Is Spanish translation or translation into another language needed? Please specify the language.

_____

16. Do you have any additional comments:

_____
_____
_____

17. Would you like to be on our mailing list: _____ Yes _____ No (please remove my name)
Name: _____
Address: _____
City/State/Zip Code: _____

September 2004 Community Interview Questionnaire

Pacific Gas and Electric Company
Topock Compressor Station project
Approximately 15 miles southeast of Needles
Needles, California
(Near Moabi Park/Colorado River)

1. How long have you lived or worked in the area?
_____ 0-5 years _____ 12-20 years
_____ 6-12 years _____ 21 or more years

2. Prior to receiving any recent information, were you aware of the existence of potential environmental impacts at the Pacific Gas and Electric Topock Facility?
_____ Yes _____ No

3. What is your current level of concern about this project, if any?
_____ No concern _____ Low to moderate _____ High concern

4. Do you have any concerns about specific environmental health impacts (from the Topock Station project) in your area? Yes/No? (If yes, please describe)
_____
_____

5. Are there any concerns or issues you feel need to be addressed regarding this project? If so, what are those concerns?
_____
_____

6. What officials, groups, organization or individuals should we contact regarding this project?
_____
_____

7. Are you aware that PG&E is conducting ongoing environmental investigations and sampling at the site?
_____

8. Are you aware of the Interim Measures work taking place this summer and fall (2004)?
_____

9. Are you aware that the final RCRA Facility Investigation report is due at the end of this year (December 2004)? Would you like to be notified?
_____

_____

10. Are you aware that fact sheets are published by DTSC about this site? Would you like to receive one?

_____

11. In your opinion, are Information Repositories well located? Do you have alternative suggestions?

_____

_____

12. Do you believe a public meeting in the future would be
___ necessary ___ beneficial ___ helpful ___ not helpful? (Check one)

13. What about the best locations for public meetings?

_____

_____

14. What do you believe are preferred radio and television station(s) and newspapers that cover the community?

_____

_____

15. Is Spanish translation or translation into another language needed? Please specify the language. _____

16. Do you have any additional comments:

_____

_____

_____

17. Would you like to be on our mailing list: _____ Yes _____ No (please remove my name)
Name: _____
Address: _____
City/State/Zip Code: _____

January 2009 Community Survey

California Environmental Protection Agency
Department of Toxic Substances Control
Pacific Gas &Electric Company (PG&E)
Topock Compressor Station Site
I-40 and Park Moabi Road, Needles, CA 93623
Community Survey -- Help us improve!

This survey is intended to get your feedback on whether you feel you have had adequate opportunity to be involved in the environmental investigation and cleanup of the PG&E Topock Compressor Station site. Your comments will help us to improve our process and interactions with you and the community. The Public Participation Program within the California Department of Toxic Substances Control (DTSC) is responsible for ensuring communities have an opportunity to actively participate in our decision-making process.

Please return this survey by January 26, 2009 in the envelope provided to Jeanne Matsumoto, Public Participation Specialist, 5796 Corporate Ave. Cypress, CA 90630, or by email to jmatsumo@dtsc.ca.gov, phone: 714-484-5338.

1) Are you aware that an environmental investigation and cleanup effort is taking place at the PG&E Topock Compressor Station site?
_____ YES _____ NO

2) How long have you lived or worked in the area?
_____ 0-5 years _____ 6-12 years _____ 13-20 years _____ 21 or more years

3) What is your current level of concern about or interest in the PG&E Topock Compressor Station site, if any?
____ None ____ Low ____ Moderate ____ High

4) Do you have any specific concerns about the PG&E Topock Compressor Station site? If so, please describe:
_____
_____
_____
_____
_____
_____

5) Have your received fact sheets from DTSC about the PG&E Topock Compressor Station site?
_____ YES _____ NO
How Many? ____ 1-2 ____ 3-4 _____ 5 or more

IF YES, please rate your experience.	**Strongly Disagree**			**Strongly Agree**	
Was the fact sheet easy to understand?	1	2	3	4	5
Was the document well organized?	1	2	3	4	5
Did the document provide important information?	1	2	3	4	5
Were technical terms and procedures clearly explained?	1	2	3	4	5
Were Public Participation opportunities clearly explained?	1	2	3	4	5

6) Do you have internet access?
_____ YES _____ NO IF YES, what type? _____ Cable _____ DSL _____ Dial-up

7) Would you prefer to receive information via email?
_____ YES, Name _____ and Email address: _____
_____ NO

8) Have you been to the DTSC Main Website www.dtsc.ca.gov? _____ YES _____ NO

9) Or the PG&E Topock Compressor Station project website www.dtsc-topock.com? _____ YES _____ NO

IF YES, please rate your experience below.		**Strongly Disagree**			**Strongly Agree**	
Was the website easy to navigate/find information?	DTSC Main Website	1	2	3	4	5
	Topock Project Website	1	2	3	4	5
Did website provide important information?	DTSC Main Website	1	2	3	4	5
	Topock Project Website	1	2	3	4	5
Was it easy to view or download project documents?	DTSC Main Website	1	2	3	4	5
	Topock Project Website	1	2	3	4	5
Would you visit it again to get Site info?	DTSC Main Website	1	2	3	4	5
	Topock Project Website	1	2	3	4	5

10) What other ways have you received information about the Topock Site?
____ Newspapers ____ TV ____ Radio ____ Friends/Relatives ____ Employees/Former employees of the facility ____ Elected Officials ____
Other_____

11) If a public meeting about the project were held in your community, would you attend? __ YES __ NO

12) What days and times are best for a community meeting?
_____ Mon _____ Tue _____ Wed _____ Thurs _____ Fri _____ Sat _____ Sun
_____ Daytime 8 am – 5 pm _____ Evenings 6 pm – 10 pm

13) What is the best site or location in your community for holding a community meeting?
_____
_____
_____

14) What languages are spoken in your community?_____

If you named a language besides English, do you feel that future communication to community members regarding this Site should be written in that language? _____ YES _____ NO

Do you have any additional thoughts on how we can improve?
_____
_____
_____

Would you like to be added or removed from the mailing list? ___YES (fill in info below)
____ NO
Please let us know how to contact you (optional)
Name
E-mail Address
Phone
City, State, ZIP

May we contact you in the future to interview about your opinion or for additional information regarding your responses to
this survey? □ Yes □ No

Thank you for your participation! We appreciate the time you have taken to complete this survey.

If you have any questions or concerns regarding this site, please call us at (866) 495-5651, or Jeanne Matsumoto at 714-484-5338.

2012 Community Interview Questionnaire

April-June 2012 Community Interview Questions
Pacific Gas and Electric Company
Topock Compressor Station Project
Needles, California

1. Prior to receiving the recent DTSC fact sheet and community survey, were you aware of the cleanup work taking place related to the Pacific Gas and Electric Topock facility?

2. Where have you received most of your information about the PG&E Topock Compressor Station Project?

3. Do you feel the information that you received was understandable?

4. What is your current level of concern about this project, if any?

   _____No Concern _____Low to Moderate _____High Concern

5. Are there any aspects of the Topock project or Site cleanup that concern you? If so, please explain.

6. Do you understand the role that DTSC and other regulatory agencies play in the cleanup?

7. What officials, groups, organizations or individuals should we contact regarding this project?

8. Do you believe a public meeting in the future would be

_____ Necessary _____Beneficial _____Helpful _____Not Helpful

9. What do you suggest is the best location(s) and time for community meetings?

10. On a scale of 1 to 10 (with 10 being great and 1 being bad) how would you rate communications and outreach efforts related to this project?

11. What is the best way to provide you with information about the PG&E Topock Compressor Station Project? What would be your order of preference?

____ Fact Sheets _____E-mail _____Work Notices

____Public Notices _____Postcard_____Publications

____DTSC Topock Website _____Radio ad _____Others?

____Community Meetings

12. Are there any other comments, suggestions or concerns you would like to add?

APPENDIX E

Summary of Community Interview / Survey Responses

1997 Community Assessment

The first community assessment, conducted by DTSC and PG&E in 1997, included both survey questionnaires and interviews. The survey letter and questionnaire were mailed to 112 individuals and organizations. These included residents; property owners; Native American tribes; news media; water agencies; local, state, and federal agencies; and elected officials. DTSC held five follow-up interviews. Interviewees were asked to rate their level of concern about the site as "no concern," "low to moderate concern," or "high concern." Based on the information collected from the questionnaires and during these interviews, DTSC and PG&E understood that there was a moderate to high level of concern about the Corrective Action Program at the PG&E site.

During this first assessment, those surveyed and interviewed expressed a desire to be kept informed of site activities, particularly if they might impact the health of the community. Nearly all who responded to the questionnaire or were interviewed were concerned about the possible effects of water contamination, either in groundwater or surface water.

2002 Community Assessment and January 2003 Interviews

In June 2002, DTSC and PG&E initiated a second community assessment. PG&E mailed letters to 74 individuals and organizations on the Topock key contacts mailing list. Eight individuals requested to be interviewed. These interviews were conducted during the month of January 2003.

Issues raised can be broken down into five categories, which are discussed below:

- ✓ Environmental Impacts
- ✓ Health Effects
- ✓ Cleanup Process
- ✓ Economics
- ✓ Adequate Communication

Environmental Impacts and Health Effects

Most interviewees asked to be informed about the levels of hexavalent chromium released to the environment and what happened to the chromium over time. Some asked about potential impacts to human health and wildlife habitat, whether air impacts had been measured, and results of additional studies that were suggested at one time, such as the sediment sampling and added monitoring wells. Others raised questions regarding analytical findings, such as whether tests were finding iron and manganese in the soil or water and how hexavalent chromium breaks down into trivalent chromium. One interviewee asked about the outcome of the study that looked at other potential sources at the Station.

Cleanup Process

One interviewee said several people in the community would be concerned about the remedy selection process and would want to know what remedy would be selected. For instance, the interviewee pointed out, in the event of excavation of affected soils, the community would want to know what transportation routes would be used to transport the soil to a landfill and what

kinds of emergency response and preparedness plans would be in place. Another interviewee wondered if PG&E's filing for Chapter 11 bankruptcy would impact the cleanup.

Economics
Several interviewees highlighted that a perception about the plume might damage local economics. For example, one person said that a media scare could cause a drop in park attendance and subsequently a loss in revenue. Several tribal representatives pointed out that any pollution of tribal waters was of critical importance to the tribes, since the Colorado River represents an important part of their economy. It is a recreational resource, an agricultural resource and, for some, a drinking water source. The tribes also expressed concern that they were unable to afford the more expensive analytical tests that would detect chromium at lower levels or to test more often than once a year. They asked if funds were available to help them do their own sampling.

July and September 2004 Interviews

On July 30, 2004, DTSC conducted three additional interviews; two interviewees were Golden Shores residents and one was a Topock business owner. On September 24 and 27, 2004, DTSC collaborated with ADEQ to conduct eight additional interviews with residents, volunteers of civic organizations and city staff from Lake Havasu City, Golden Shores, and Topock, Arizona and Needles, California. Interviewees were asked to rate their level of concern about the project. One out of eight interviewees rated his/her level of concern as very high if chromium was found in the river; otherwise, the concern level would be moderate.

Health Effects
Three interviewees mentioned that they had concerns about what effect hexavalent chromium might have on the body. One interviewee said that he understood that chromium could be a carcinogen. One interviewee asked if there were any possible airborne constituents from the current plant operations that could affect her daughter's asthma or thyroid. Several interviewees only had knowledge of potential health effects from what they had seen in the movies or media. One interviewee said that he did not believe that drinking the water would make him sick; however, he felt that the contamination should be cleaned up. One interviewee previously received calls from a resident who was concerned that a lot of people she knew were getting cancer, and she wanted to know if hexavalent chromium could be causing it. This interviewee felt that it was important to get information out to the public to educate them on details regarding hexavalent chromium.

Environmental Impact and Economics
Almost all of the interviewees expressed concern that hexavalent chromium might get into the river. Most of the interviewees were concerned about the impact this might have on tourism and recreation, which supports the local economies of the communities that border the river. One interviewee felt that the pollution getting into the river from the overuse of jet skis was worse than what might get into the river from the site. Interviewees in Lake Havasu City mentioned that there is a Superfund site at the former McCullock Chain Saw Factory in Lake Havasu where hexavalent chromium has been found in soil and groundwater. These interviewees thought that educating the public regarding hexavalent chromium was important given the proximity of these

two sites. One interviewee worried that misinformation about what might be getting into the river could have the potential to scare a lot of people, and felt that it was important to get the right information disseminated.

Adequate Communication

Interviewees from July 2004 felt that the information repositories were well located and provided good coverage for those seeking information.

Those interviewees who had received recent fact sheets were more aware than others of the cleanup work being performed at the site. Several interviewees said they only were aware of what they had read in the paper or seen on the news. One interviewee was very well informed, having attended a site tour in the spring of 2004. One interviewee was concerned that pumping groundwater may be successful in the short-term, but that it seemed too costly for the company to do "forever." This person wondered whether other options might need to be part of the long-term cleanup plan. All of the interviewees were interested in learning more about what had been found and in being kept informed as the project progressed.

Most of the interviewees were not aware of the existence of the information repositories or their locations. Once informed, one interviewee said that she felt better knowing that information about the site was publicly available at the local library, should she wish to seek it out. All the interviewees felt that the current locations of the information repositories provided good coverage for those who might be interested in the project. However, two interviewees asked if the Fort Mojave Indian Tribe had been considered for a repository.

All of the interviewees expressed the desire for there to be more information made available to the public regarding the site and the cleanup activities taking place. All interviewees requested to be added to the mailing list and said that they would like to receive fact sheets when published. Most of the interviewees suggested that the internet be used to disseminate information. Some interviewees suggested that fact sheets and other information could be posted on governmental websites, others took down the website address for DTSC and for ADEQ, where current fact sheets are posted. DTSC indicated that they are working on creating a website to house project information.

Several of the interviewees recommended keeping local civic organizations, such as the Chamber of Commerce, local Civic Association, Lions Club, or Rotary Club, informed. Several indicated that these groups might be interested in having a speaker come and share information about the project. Most of the interviewees asked if local elected officials were being kept informed; one or two had already spoken with their County Supervisor about the project. All of the interviewees felt that a public meeting would be beneficial, although some expressed concern that the general public does not always attend these types of meetings and turn out could be low. Meeting locations suggested by these and previous interviewees are listed in Appendix E of this Plan.

2009 DTSC Community Survey Results

On January 8, 2009, 2,243 community surveys were mailed to the surrounding community, interested parties, and stakeholders. 161 surveys were completed and returned. A majority (approximately 75%) of the respondents were aware of the environmental investigation and cleanup efforts taking place at the PG&E Topock Compressor Station and were moderately to highly concerned or interested in the site. Specific community questions/concerns about the site included water supply and drinking water quality, Colorado River and wildlife protection, groundwater plume treatment, cleanup duration and expense, chemicals of concern, health affects, and cultural resources.

Water Supply/Well Water and Drinking Water Quality

Many interviewees were concerned that their water supply/water well would be contaminated and were unclear about the associated health effects. Citizens were also concerned that the contamination would reach the Colorado River and negatively impact the Lake Havasu water supply and millions of citizens in California and Arizona. One respondent was concerned that chromium in soil would affect plants and trees, while another expressed concern that factual information would be withheld from citizens. A few citizens were concerned about decreasing property value due to soil and groundwater contamination.

Colorado River and Wildlife

Many interviewees were concerned that contamination of the Colorado River would impact local recreation, including fishing and other wildlife effects, beaches and swimming, and the overall beauty of the area. One interviewee was concerned that no dumping of pollutants into the river was occurring, while another was not clear if the Topock Marsh could be negatively affected.

Treatment/Mitigation/Plume

Several respondents expressed interest in more specifics about the groundwater treatment process, including the plume dimensions, treatment process and associated sampling, and disposal of treated water. One respondent was unclear on the chemical of concern while another wanted clarification on the toxicity of hexavalent chromium. A couple interviewees were unclear who was responsible for overseeing the cleanup process and wanted assurance that the overseeing agency was doing its job. One citizen commended the cleanup effort, responding "you're doing a great job."

Cleanup Duration

Multiple interviewees wanted a timeline for completion of the cleanup and a few expressed concern that the cleanup was taking too long.

Expense

A few interviewees were concerned that the monetary expense for the cleanup was too much and a waste of taxpayer money. One citizen responded that the environmental dangers from this site are way over rated, and the cleanup expenditures are largely a waste of time and money.

Health issues/concerns

A few interviewees commented that they had personally experienced unexplained health problems since moving to the area, including migraine headaches and cancer. They were concerned that nothing would be done to mitigate the health concerns until people die. One respondent was unclear what effects to their school site, a pre-K to 8th grade school, could be expected.

Cultural concerns

Two respondents were concerned that the Topock Maze had been desecrated from site contamination and cleanup efforts.

Miscellaneous

Other miscellaneous concerns included timely and accurate publication of community meetings, lack of knowledge all together of activities at the site, PG&E's negative history in dealing with health hazards, restricted site access for the public.

Adequate Communication

Most respondents reported receiving fact sheets about Topock and the cleanup process and agreed that the fact sheets were well organized, easy to understand, provided important information and clearly explained technical terms and procedures. Most also agreed that public participation opportunities were clearly explained. A majority of respondents reported having internet access but very few (approximately 8%) had visited the main DTSC website (www.dtsc.ca.gov) and fewer had visited the Topock project website (www.dtsc-topock.com). The majority interviewees that had visited either website reported that the websites were easy to navigate and find information, provided important information, was easy to view or download project documents, and would visit the websites again.

Respondents reported that they had also received project information via newspapers, television, radio, friends/relatives, current or former Topock Compressor Station employees, elected officials, or tribal affiliates. A few citizens (approximately 15%) preferred to receive project information via mail.

Approximately 80% of respondents indicated that they would attend a public meeting held in their community. Most also indicated that weeknight meetings (Monday thru Friday, 6pm to 10pm) were best, followed by weekday meetings (Monday thru Friday, 8am to 5pm). Most

respondents reported that their local community center was the best location for holding a public meeting.

2012 DTSC Community Survey Results

From April 25th to May 11th of 2012, DTSC conducted interviews in person and on the phone for the citizens and public officials of Golden Shores, AZ and the surrounding areas. There were a total of 24 interviews conducted within this time frame. Half of the interviewees felt a high level of concern for the Topock Project. Only three citizens were unaware of the cleanup efforts before seeing the fact sheets that DTSC distributed.

Water Supply/Well Water and Drinking Water Quality

Many interviewees were concerned that their water supply/water well would be contaminated and were unclear about the associated health effects. Citizens were also concerned that the contamination would reach the Colorado River and negatively impact the Lake Havasu water supply and millions of citizens in California and Arizona. A few citizens were concerned about the summer heat because they are afraid to fill their pools. Water suppliers are concerned for their companies because people are not using the water.

Colorado River and Wildlife

Many interviewees were concerned that contamination of the Colorado River would impact local recreation, including fishing and other wildlife effects. Many were also concerned that the Chromium will spread further.

Treatment/Mitigation

Most interviewees were unclear who was responsible for overseeing the cleanup process and wanted assurance that the overseeing agency was doing its job. Most thought that DTSC was working with DTSC rather than overseeing their cleanup operations. However, citizens still feel that appropriate actions are being taken.

Cleanup Duration

A few citizens expressed concern that the cleanup was taking too long.

Expense

A few interviewees expressed concerns that the burden of the cleanup will fall on the taxpayers. They expressed that PG&E should be monetarily responsible for the cleanup as well.

Health issues/concerns

A few interviewees commented that they had personally experienced unexplained health problems since moving to the area, including migraine headaches and cancer. One in particular had cancer three times. Most people are concerned about the health effects of their children and grandchildren.

Miscellaneous

Other miscellaneous concerns included staying informed with more updates about the project and mistrust. Many interviewees expressed that they feel the government is not being truthful about how serious the risks are in the area.

Adequate Communication

Interviewees almost unanimously stated that the Fact Sheets were the best form of communication regarding the project. They felt that the fact sheets were well organized, easy to understand, provided important information and clearly explained technical terms and procedures. Topock Topics was a close second in the form of communication. This is a publication that goes around the area. It is very popular and the people find it very informative.

Interestingly, the DTSC website was very low on the list of resources. Many people did not have internet or did not know about the website.

Respondents reported that they also received information from email, postcards, community meetings, newspaper, phone, mail, and the library. Most prefer the DTSC Fact Sheets as their main source of information.

Many interviewees felt that a public meeting would be beneficial to the community. Most agreed that weeknight meetings (Monday thru Friday, 6pm) were best. Most respondents reported that their local community center was the best location for holding a public meeting.

APPENDIX F
Tribal Consultation Protocol

CONSULTATION PROTOCOL FOR THE TOPOCK REMEDIATION PROJECT

I. PURPOSE

The purpose of this Protocol is to define how the Signatories and Invited Signatories to this Programmatic Agreement (PA) will engage in consultation. The Federal Agencies are the U.S. Department of Interior (DOI), the U.S. Bureau of Reclamation (USBR), the Bureau of Land Management (BLM), the Advisory Council on Historic Preservation (ACHP), and the U.S. Fish and Wildlife Service (USFWS). State Agencies include the California State Historic Preservation Officer (CA SHPO), the Arizona State Historic Preservation Officer (AZ SHPO), the California Department of Toxic Substances Control (DTSC). These agencies will consult with the Pacific Gas and Electric Company and the Chemehuevi Indian Tribe, Cocopah Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe, Hualapai Tribe, Havasupai Tribe, Twenty-Nine Palms Band of Mission Indians, and the Yavapai-Prescott Indian Tribe (hereinafter the Tribes), in carrying out the Topock Remediation Project. This Consultation Protocol describes the manner in which the BLM and other Federal and State Agencies will consult with Signatories, Tribes, and Invited Signatories during the execution of the PA for the Undertaking.

II. GENERAL GOVERNMENT-TO-GOVERNMENT AND SECTION 106 CONSULTATION RESPONSIBILITIES

Federally recognized Tribes are sovereign nations entitled to a government-to-government relationship with the U.S. Government. The Tribes have a unique legal relationship with the United States Government as set forth in the Constitution of the United States, treaties, statues, and court decisions. This consultation protocol is one expression of that relationship, and serves to structure how that relationship will be maintained, respected and implemented in the course of Federal Agency planning, decision-making, and other activities. The BLM Lake Havasu Field Office (LHFO) is the Designated Federal Official responsible for implementation of this protocol and related policies and requirements. Federal Agencies have a trust responsibility to the Tribes, which obligates the Agencies to protect the Trust interests of the Tribe to the maximum extent feasible for resources held in trust by the U.S. Government for the Tribes.

The BLM, mindful of its government-to-government responsibilities, as lead Federal Agency for Section 106 review and implementation of this Undertaking, shall continue to consult with all Tribes who have participated in the Undertaking's consultation process whether or not the Tribes sign this PA.

Consultation refers to meaningful and timely discussion in an understandable language with Tribal governments and their designated representatives. Tribal consultation is a process, not a single meeting, a notification, or an exchange of correspondence. Consultation may require multiple formal and/or informal meetings and other forms of interaction. Consultation involves seeking, discussing, and considering the views of the various parties involved, seeking ways to resolve disagreements or conflicts, and seeking agreement on how to proceed with a given activity, project, program, or decision. The intent is to ensure that the interests and concerns about the area referred to as Topock, the Topock Maze, and the Topock TCP associated with the Area of Potential Effect (APE) are identified and addressed during Agency planning, decision-making, and other activities.

The Agencies recognize the right of self-determination for Indian Tribal governments. The DOI and the BLM are committed to working with Indian Tribal governments in this unique relationship, respecting Tribal sovereignty and self-determination. Tribal consultation will use the process described below, or will use the provisions of the BLM 8120 Series Manual guidance (Tribal Consultation), unless the BLM and a Tribe mutually agree to another procedure or method. Staff level Tribal consultation will take place

primarily on a face-to-face level between BLM staff and Tribal staff. Government-to-government consultation is considered to take place between Tribal Chairs and the BLM Field Office Manager and/or DOI management officials, and may not necessarily be face-to-face.

III. **CONSULTATION PROCESS**

A. Points of Contact (POCs) shall be established for all Consulting Parties; all parties to this PA agree that all communications between all Consulting Parties shall be channeled through the POCs, and the BLM shall provide all Consulting Parties an up-to-date list of all POCs, with a frequency of at least every other month after the initial POC list is established. Provision of information to the POC(s) provided for a Consulting Party will constitute sufficient distribution of information for purposes of consultation under this agreement.

B. The BLM shall establish an email list and U.S. mail distribution list for all POCs for the purposes of information exchange, including the transmission of information from various meetings, unanticipated discoveries, and other information related to consultation for Section 106.

C. This consultation protocol applies to all of the following associated with the Undertaking and occurring after the date this PA is executed:

1. Work-plans and Action Memoranda for ground disturbing activities, including rehabilitation.

2. Milestone project documents to be prepared under CERCLA that are identified by DOI to require consultation.

3. Various cultural resource management plans and documents including, but not limited to, the Area of Potential Effect (APE), APE revision, The Cultural Resources Management Plan (CRMP), The Cultural and Historic Properties Management Plan (CHPMP), the Treatment Plan, National Register of Historic Places properties identification, discoveries, monitoring, confidentiality, curation, professional and tribal qualifications, and any other consultations associated with Section 106 compliance.

D. Consultation regarding potential effects on cultural and historic properties shall proceed as follows:

1. The following actions shall be determined to have “no effect” or “no adverse effect,” when undertaken in connection with the Undertaking and may proceed without further consultation:

a. Pre-construction surveys;

b. Marking (including fencing) of identified Cultural and Historic Properties, provided that such activities do not require mechanical disturbance or vegetation removal;

c. Monitoring;

d. Sampling of existing wells;

e. Operation and maintenance of existing and future approved facilities required for the Topock Remediation Project, including transportation associated with such operation and maintenance provided that such activities do not introduce additional visual or audio elements to a previously approved facility;

f. Avoidance of Cultural and/or Historic Properties in areas already surveyed; and

g. Actions taken in areas of the APE, as delineated by the Appendix A map, which have previously been used or disturbed in connection with Time Critical Removal Actions or other actions related to the Topock Remediation Project, including but not limited to staging areas, roads or pipelines, or for other activities including but not limited to soil or groundwater sampling.

E. If the BLM, in consultation with the AZ SHPO , CA SHPO, and Tribes finds that a cultural and/or historic property (or properties) will not be adversely affected by a proposed action, then no further consultations will take place, and all Signatories, Tribes, and Invited Signatories, will be notified of the determination. If the BLM determines that there is an adverse effect to cultural and /or historic properties, BLM shall provide materials describing the proposed actions that have potential to adversely affect cultural and/or historic properties to all Signatories, Tribes, and Invited Signatories within ten (10) days of the determination of adverse effect by the BLM. All Signatories, Tribes, and Invited Signatories will have 30 days to provide comments to BLM concerning the effects of proposed actions on cultural and/or historic properties. If no comments are received from a particular consulted individual or group within 30 days of notification by the BLM, the BLM will assume that party has no comments and may proceed.

F. The BLM has 15 days from the close of the 30-day comment period described in E. above, to take all comments into account and reach a decision on how to best avoid, mitigate, or minimize any adverse effects. The BLM will notify all Signatories, Tribes, and Invited Signatories of any such decision within the 15 day period, and may proceed to implement the decision after notifying the other Consulting Parties.

G. BLM shall meet with Signatories, Tribes, and Invited Signatories on a bi-annual basis , at a time and place agreeable to the majority of participants. Additional meetings may be requested by the Signatories, Tribes, or Invited Signatories may request the BLM to hold additional or supplemental meetings if the need arises. . The hosting of such meetings will be determined on a meeting-by-meeting basis. The BLM will inform all POCs of the proposed meeting date(s) and location(s) no less than 30 days prior to the proposed meeting, to allow for adequate time in scheduling. Such meetings will provide an opportunity for all Signatories, Tribes, and Invited Signatories to express any concerns related to the Undertaking and its effect on historic properties. The annual meeting should be considered an opportunity to discuss content for each annual report.

H. Consultation meetings may contribute towards discussion and explanation regarding implementation of this protocol, and/or, any problems or opportunities that have arisen with regard to planning, decision making, and/or other aspects of the Undertaking.

I. The BLM retains all responsibility for conducting government-to- government consultation with Tribes, including consultation not directly related to Section 106.

J. In addition to the bi-annual consultation provided for above, agency executives will consult with Tribal Chairs when requested.

K. Within 30 days after the election of a new Tribal Chair or the designation of a new BLM Field Office Manager, the relevant Tribal Chair(s) and the Field Office Manager will endeavor to meet to review this agreement and ensure continuity in its implementation. To the extent feasible, the outgoing Tribal Chair and/or Field Office Manager will take part in such meetings.

L. Staff level consultations between the BLM and Tribes may occur as needed and determined necessary by staff. Staff may include the BLM LHFO archaeologist, Tribal liaison, BLM AZ State Office cultural resources management staff and other natural and cultural resource managers. Tribal

staff may include Tribal cultural resources management staff, Tribal Historic Preservation Officers, traditional religious leaders, elders, Tribal chairmen/chairwomen, and other council members, and other Tribal staff that may be concerned, such as law enforcement officials or wildlife specialists.

1. The professional staff of the Tribes will represent the Tribes in consultation with BLM about actions reviewed under this agreement, unless a Tribal Chair otherwise specifies or delegates review authority to other or additional individuals.

2. Unless modified by written agreement between a Tribal Chair and the BLM, consultation between Tribal staff and BLM staff will be in accord with the following procedures:

    a. Informal routine interaction and ongoing communication are encouraged, provided the topics of all meetings and discussions are clearly defined in advance to the extent practicable, and that such discussions are understood to be informal, and not to constitute official findings or determinations.

    b. Tribal officials and the BLM senior staff may be involved as needed.

    c. In advance of meetings or other consultative activities, the BLM will provide the Tribes with documents, maps, photographs, and other information pertinent to the subject of consultation, to the extent practicable. Whenever possible, these materials will be included with the initiation of consultation notice specified in IV (C) 4 of this Protocol. Tribes will have 30 (thirty) days from the initiation of consultation notice to respond to the BLM. If the BLM does not receive a response from an individual Tribe within that period, the BLM will assume the Tribe has no comment, document this result to the administrative record, and proceed. The BLM will be responsible for documenting to the administrative record the dates of transmission to each Tribe of individual notices of initiation of consultation.

    d. Signatories, Tribes, and Invited Signatories, may involve other parties in consultation, including as applicable, other Tribes, applicable State Historic Preservation Officers, other federal and state agencies, local governments, and other interested parties.

    e. Tribes, due to their sovereign status, have special consultative rights that BLM will respect in the conduct of consultation, which may include consultation on technical, policy and other issues of a proposal.

    f. To the extent feasible, Signatories, Tribes, and Invited Signatories will follow the guidelines of this Protocol in the event of emergency situations and situations, such as where discoveries require immediate action. It is understood, however, that such situations may require that consultation be expedited, and in extreme cases may restrict BLM’s ability to consult.

APPENDIX G
Fact Sheets

Department of Toxic Substances Control

The mission of DTSC is to protect California's people and environment from harmful effects of toxic substances through the restoration of contaminated resources, enforcement, regulation and pollution prevention.

State of California

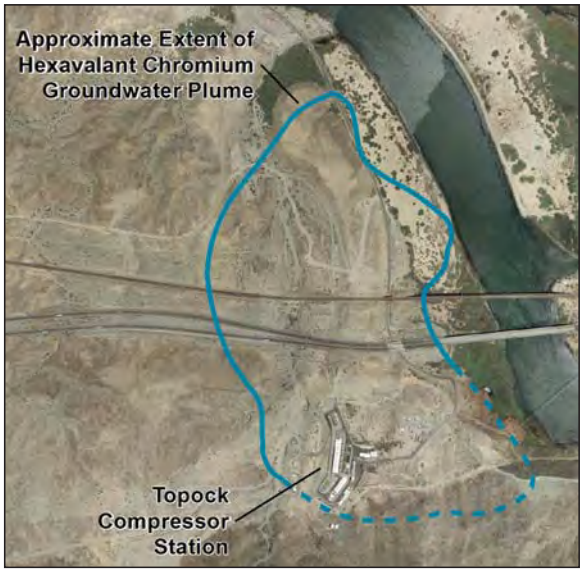
California Environmental Protection Agency

FACT SHEET – January 2012

PG&E Topock Environmental Investigation Update

Introduction

The California **Department of Toxic Substances Control (DTSC)** is the lead state agency overseeing the soil and **groundwater** investigation and cleanup (also known as **remediation**) at the Pacific Gas and Electric Company (PG&E) Topock Compressor Station (Station) and adjacent land, collectively known as the Topock Site (Site) in San Bernardino County, California.



Map of Topock project site and approximate affected groundwater plume boundary

Topock site location map showing the compressor station and surrounding communities

Site Background and History

The Station is located in eastern San Bernardino County, California. It is located approximately 12 miles southeast of Needles, California, south of Interstate 40.

In 1951, the Station began compressing natural gas for transportation through pipelines to PG&E's service area in central and northern California. As natural gas is compressed, its temperature increases and the compressed gas must be cooled. From 1951 to 1985, PG&E added chromium to the water used in the cooling towers and other equipment to prevent corrosion of the cooling tower equipment. During parts of those years, cooling tower wastewater containing **hexavalent chromium** was discharged into a natural wash adjacent to the Station. Over time, the hexavalent chromium seeped into the groundwater and created a plume that extends from below the Station towards the Colorado River. Based on results from periodic testing of the river water, the hexavalent chromium plume is not impacting the quality of the river water.

In 1996, PG&E signed an agreement with DTSC to conduct investigations to identify and clean up past environmental contamination. In 2005, PG&E signed a similar agreement with the United States **Department of the Interior (DOI)** as the federal

Words in **bold** *appear in the glossary on Page 4 of the fact sheet.*

lead agency to protect lands owned by the federal government. Environmental investigations since this time have shown groundwater at the site contains elevated levels of chemicals, including **total chromium**, hexavalent chromium, **molybdenum**, **selenium**, and **nitrates**.

Groundwater Remedy Adopted

DTSC selected a final groundwater remedy approach for the site and certified the Topock **Environmental Impact Report (EIR)** on January 31, 2011. The selected remedy involves **in-situ treatment** with freshwater flushing. The concept of the remedy is to install injection and extraction wells along a road approximately 600 feet west of the Colorado River. This water stimulates the growth of harmless, but helpful, naturally occurring bacteria which then create geochemical conditions that remove hexavalent chromium from groundwater by converting it to non-soluble **trivalent chromium**. Extraction wells near the river act as a barrier to prevent contamination from reaching the river. Additional injection wells located around the plume inject fresh water and groundwater, removed from locations near the river, to push the plume toward the treatment zone. DTSC identified mitigation measures in the EIR to minimize the potential environmental impacts associated with the remedy during its construction, operation and maintenance. PG&E will implement these measures as required by the EIR as part of the remedy.

Groundwater Remedy Implementation Timeline

Groundwater Remedy Design

Efforts are currently underway on the design of the approved groundwater remedy. PG&E anticipates the design to be completed by November 2012. After DTSC and DOI approve the design, construction and start–up of the remedy will occur. Operation and maintenance of the groundwater remedy will continue until the cleanup goals are achieved. PG&E estimates cleanup will be complete in approximately 30 years.

Focused Groundwater Evaluation

Groundwater investigation at the Site revealed contamination under the Station and in an adjacent area called East Ravine. Additional data is being collected in these areas to assist in the design of the remedy. Throughout 2011, PG&E installed 11 new wells in these areas and collected monthly groundwater samples during the ongoing groundwater investigation. This additional information will be used to refine the **groundwater conceptual model**, or the understanding of groundwater conditions, in the vicinity of the East Ravine/ Station and will be incorporated in the Site-wide **Groundwater Monitoring Program**.

Well drilling in the East Ravine Area

Soil Investigation is Being Planned

PG&E is working with DTSC and DOI in planning and preparing a soil investigations **work plan**. The soil work plan will guide the field work in gathering data to assess any potential adverse impacts to the land that may have resulted from PG&E's historical operations. The work plan will investigate:

- Nine areas outside the Station which may have had historical activities
- Twenty five areas inside the Station
- Perimeter adjacent to the Station
- Onsite storm drains and their offsite outfalls

It is anticipated that the soil work plan will be approved by Summer 2012. After the completion

Site location map showing the PG&E Topock Compressor Station and East Ravine Area

of field work, PG&E will use the collected data to evaluate and recommend a cleanup action, if necessary. All the soil investigation data will be presented in the soil work plan in Summer 2012.

Community Outreach

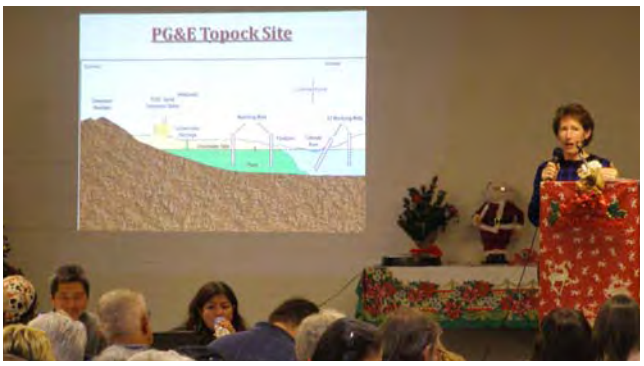
Community outreach continues to remain an integral and interactive part of the project. DTSC actively engages with stakeholders to obtain input and share information with tribes, communities, individuals and groups. In December 2011, DTSC convened a meeting to provide a project update for the Golden Shores Community and listen to community concerns. DTSC also continues to provide periodic updates and convene meetings with stakeholders including agencies, tribal leadership and representatives. As part of our outreach, we are working on updates to our community outreach strategy to be outlined in a Community Outreach Plan.

This Community Outreach Plan will be a revision of the June 9, 1998 Public Participation Plan, which was updated in February 2007 and appended in July 2009. The current plan can be found on the project website at www.dtsc-topock.com or at any of the information repositories listed on page 5 of this fact sheet. This plan uses a variety of communication tools to share information and to gain input from the community including surveys, fact sheets, meetings, written and electronic documents. We anticipate completing the Community Outreach Plan by September 2012.

The purpose of the Community Outreach Plan is to keep the community informed in a timely fashion, to formally document community perspectives regarding the environmental investigation and remediation at the Station, and to identify specific community outreach activities to be conducted to ensure community involvement in the agency decision-making process.

Part of the Community Outreach process is conducting a community survey, which is included with this fact sheet. There are two options for completing the survey: you can log on to www.dtsc-topock.com/survey to complete the survey online or you can fill out and return the enclosed hard copy by mail.

By completing this survey, you will share with us your knowledge of the investigation and remediation activities at the Station, your perspectives, your level of participation, and how best to keep you updated about Site activities. Your response within 30 days will help us to improve our process and interactions with you and the community. If you have any questions regarding the completion of this survey please contact Mona Bontty. Please see the “DTSC Welcomes Your Feedback” section of this fact sheet on page 5.



Karen Baker, Chief of DTSC’s Office of Geology, presents a project update at the Golden Shores Community Meeting held December 12, 2011.

Glossary of Terms

Department of the Interior (DOI): The principal conservation agency of the United States, responsible for stewardship of land, water, recreation, Native American lands and needs, and energy needs. The department is composed of member bureaus such as the Bureaus of Indian Affairs, Land Management, and Reclamation, among others.

Department of Toxic Substances Control (DTSC): A department within the California Environmental Protection Agency in charge of the regulation of hazardous waste from generation to final disposal, DTSC oversees the investigation and cleanup of hazardous waste sites.

Environmental Impact Report (EIR): A detailed review of a proposed project, its potential adverse impacts on the environment, measures that may avoid or reduce those impacts, and alternatives to the proposed project.

Final Design: The final design for the groundwater remedy.

Groundwater: Water beneath the Earth's surface that flows through soil and rock openings (aquifers).

Groundwater Conceptual Model: A description of how groundwater flows throughout the site and surrounding areas that has been developed using a combination of regional and site-specific data, as well as expert judgment based on site conditions.

Groundwater Monitoring Program: A network of groundwater wells installed to periodically test for different chemicals to assess the long-term site conditions.

Hexavalent Chromium: A form of chromium. Chromium is a metal naturally found in rocks, soil and the tissue of plants and animals. Hexavalent chromium is used in industrial products and processes and is a known carcinogen when inhaled (i.e., through breathing).

In-situ Treatment: Treatment of the contaminated groundwater in place (below the ground surface).

Molybdenum: A metallic element widely distributed in the Earth's crust that is used in industrial products and processes.

Nitrate: Nitrates and nitrites are nitrogen-oxygen chemical compounds which combine with various organic and inorganic compounds.

Plume: A body of contaminated groundwater. The movement of a groundwater plume can be influenced by such factors as local groundwater flow patterns, the character of the aquifer in which the groundwater is contained, and the density of contaminants.

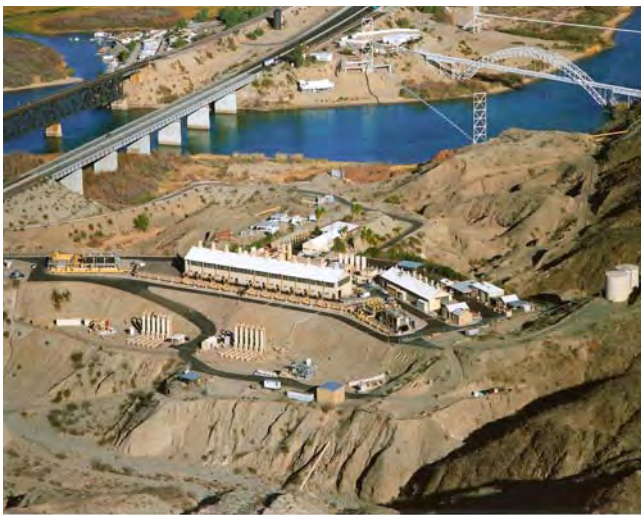
Remediation: Actions taken to remove or contain a toxic spill or a release of hazardous substances at a site.

Selenium: A non-metallic element abundant in the Earth's crust that is used in industrial products and processes.

Total Chromium: The additive of concentrations from all forms of chromium, mainly comprising hexavalent and trivalent forms. The California drinking water standard for total chromium is 50 micrograms per liter (or parts per billion), while the Federal standard is 100 micrograms per liter.

Trivalent Chromium: A form of chromium, a metal naturally found in rocks, soil and the tissue of plants and animals. Trivalent chromium is considered an essential nutrient and is relatively harmless. It does not dissolve in groundwater and tends to bind to soil; thus it does not travel readily in the environment.

Work Plan: A document that presents key elements of the approach for a proposed action. These may include health and safety, waste management, data collection, construction activities and methods, the schedule, approvals, a reporting plan and reporting schedule.



Topock Compressor Station and Surrounding Area

Where to find Project Information

Project reports, fact sheets, and other project documents can be found at the Information Repositories listed below:

On the Internet
www.dtsc-topock.com
www.dtsc.ca.gov

Needles Branch Library
1111 Bailey Avenue
Needles, CA 92363
Contact: Kristin Mouton, 760.326.9255
11am – 7pm, Monday through Wednesday
10am – 6pm, Thursday
Closed, Friday
9am – 5pm, Saturday

Golden Shores/Topock Station Library
13136 Golden Shores Parkway
Topock, AZ 86436
Contact: Kim Stoddard, 928.768.2235
9am – 1pm, Tuesday, Thursday, Saturday
2pm – 5pm, Wednesday

Chemehuevi Indian Reservation Environmental Protection Office
2000 Chemehuevi Trail
Havasu Lake, CA 92363
Contact: Tom Pradetto, 760.858.1140
8am – 4pm, Monday – Friday

Lake Havasu City Library
1770 McCulloch Boulevard
Lake Havasu City, AZ 86403
Contact: Cindy Amador, 928.453.0718
9am – 6pm, Monday and Wednesday
9am – 8pm, Tuesday and Thursday
9am – 5pm, Friday and Saturday

Colorado River Indian Tribes Library
2nd Avenue and Mohave Road
Parker, AZ 85344
Contact: Elvira Bailey-Holgate, 928.669.1332
8am – noon, 1pm – 5pm, Monday – Friday

Parker Public Library
1001 Navajo Avenue
Parker, AZ 85344
Contact: Jeannie Smith, 928.669.2622
9am – 7pm, Monday – Thursday

California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
Contact: Julie Johnson, 714.484.5337
9 am–noon, 1 pm–4 pm, Monday–Friday
Please call for an appointment.

Alternate Format: *All documents made available to the public by DTSC can be made available in an alternative format (Braille, large format print, etc.) or in another language as appropriate, in accordance with state and federal law. Please contact Mona Bontty for assistance.*

DTSC Welcomes Your Feedback

If you have questions, comments, or would like to be added to the mailing list for the Topock Site, please contact the DTSC representatives listed below.

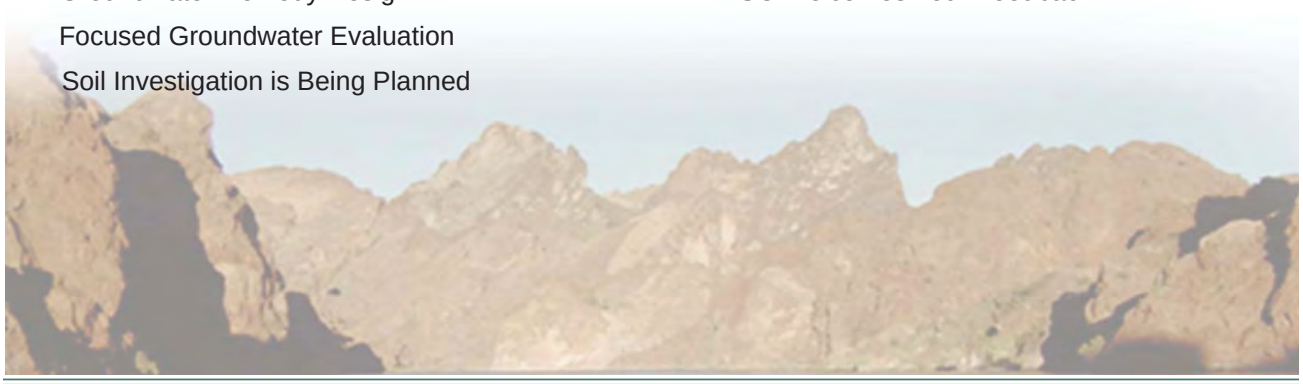
Aaron Yue
DTSC Project Manager
5796 Corporate Avenue
Cypress, CA 90630
714.484.5439
AYue@dtsc.ca.gov

Mona Bontty
DTSC Community Outreach Supervisor
5796 Corporate Avenue
Cypress, CA 90630
714.816.1978 or Toll Free: 866.495.5651 (press 5 and 1)
MBontty@dtsc.ca.gov

For Media Inquiries Contact
Jeanne Garcia, DTSC Public Information Officer
9211 Oakdale Avenue
Chatsworth, CA 91311
818.717.6573
JGarcia1@dtsc.ca.gov

Notice to Hearing-Impaired Individuals
You can obtain additional information about the Topock Compressor Station Site by using the California State Relay Service at 888.877.5378 (TDD). Ask them to contact Mona Bontty at 714.816.1978.

In This Fact Sheet



Mona Bontty
DTSC Community Outreach Supervisor
5796 Corporate Avenue,
Cypress, CA 90630-4732

Matthew Rodriquez
Secretary for
Environmental Protection

Department of Toxic Substances Control
Debbie Raphael
Director
5796 Corporate Avenue
Cypress, CA 90630

Edmund G. Brown Jr.
Governor

January 31, 2012

Community Survey for PG&E's Topock Compressor Station Site

Dear Community Member:

We encourage you to complete and return this community survey designed to evaluate your interest in the environmental investigation and cleanup for the PG&E Topock Compressor Station Site. Your responses to this survey will help us understand your concerns, plan future outreach activities, and keep you informed.

The Department of Toxic Substances Control, a department within the California Environmental Protection Agency, is responsible for overseeing the investigation and ensuring that mitigation and cleanup activities are conducted in accordance with state and federal laws and regulations.

Thank you for taking the time to respond to this community survey. **Please fill out and return the attached survey by March 1, 2012.**

There are three ways to return this survey:
1. Electronically by filling it out online at www.dtsc-topock.com/survey.
2. Mailing the completed survey in the postage-paid envelope provided to Mona Bontty, DTSC Community Outreach Supervisor at 5796 Corporate Ave. Cypress, CA 90630-4732.
3. By email to Mona Bontty, DTSC Community Outreach Supervisor at mbontty@dtsc.ca.gov.

If you have any questions about the environmental investigation or the attached survey, please call me at (714) 816-1978 or toll-free at (866) 495-5651 (press 5 and 1) or e-mail me at mbontty@dtsc.ca.gov.

Sincerely,

Mona Bontty

Mona Bontty
DTSC Community Outreach Supervisor

Enclosed – Community Survey and postage-paid return envelope.

Thank you for your time participating in this survey!

If you have any questions or need a copy of this survey, please call us at (866) 495-5651 (press 5 and 1), or Mona Bontty, Community Outreach Supervisor, directly at (714) 816-1978.

California Environmental Protection Agency
Department of Toxic Substances Control

Pacific Gas & Electric Company's (PG&E's)
Topock Compressor Station Site
I-40 and National Trails Highway, Needles, CA 93623

Community Survey

We want your feedback. Please return this survey by March 1, 2012.

There are three ways to return this survey:

1. Electronically by filling it out online at **www.dtsc-topock.com/Survey**.
2. Mailing hard copy in the pre-paid envelope.
3. By email to Mona Bontty, Community Outreach Supervisor at **mbontty@dtsc.ca.gov.**

9) Have you been to the PG&E Topock Compressor Station Project website www.dtsc-topock.com? ☐ Yes ☐ No

If yes, please rate your experience.	1 = Strongly Disagree				5 = Strongly Agree
The website is easy to navigate and it is easy to find information on the website.	1	2	3	4	5
The website provides important information and project updates.	1	2	3	4	5
The website is easy to access.	1	2	3	4	5
It is easy to download project documents on the website.	1	2	3	4	5
I would visit the website again to get Site information.	1	2	3	4	5

10) Have you visited or do you know about the local information repositories where project documents are available for your review on CDs and in hardcopy? ☐ Yes ☐ No

a. If yes, which information repository location? _____

b. Was the information provided helpful? ☐ Yes ☐ No

c. If no, why not? _____

11) What other ways have you received information about the Topock Site? *Circle all that apply.*

Newspapers TV Radio Friends/Relatives Employees/Former employees of the Site Elected Officials

Other _____

12) Do you feel that the media coverage has presented an accurate picture of the situation? ☐ Yes ☐ No

Why or why not? _____

13) From what TV, radio stations, websites, or newspapers do you get the news? Please be specific.

_____

_____

_____

_____

_____

_____

14) Have you attended any community meetings or open houses about the project? ☐ Yes ☐ No

a. If yes, how many and in which city or community? _____

b. If yes, did you find them useful? Why or why not? _____

c. If no, why not? _____

d. Were the meetings conveniently located and scheduled for you? If no, please recommend other specific locations and times.

_____

15) What languages are spoken in your community? _____

16) If you named a language besides English, do you feel that future communication to community members regarding this Site should be written in that language? ☐ Yes ☐ No

17) Please provide your contact information so we may update our records. (Optional)

Name _____

Address _____ Phone _____

City, State, ZIP _____

18) Would you like to be added or removed from the Site mailing list? ____ ADDED _____ REMOVED

a. Would you prefer to receive information only by email? ☐ Yes ☐ No

b. If yes, please provide your email address:

Name _____ Email _____

19) May we contact you for an interview in the future for additional information regarding your responses to this survey? ☐ Yes ☐ No

If yes, please be sure your contact information is provided above.

1) Are you aware that an environmental investigation and cleanup effort is taking place at the PG&E Topock Compressor Station? ☐ Yes ☐ No
If yes, how and when did you first become aware of the site? _____

2) How long have you lived or worked in the area?
_____ 0-5 years _____ 6-12 years _____13-20 years _____ 21 or more years

3) What is your current level of concern or interest in the Topock Site, if any?
_____ None _____ Low _____Moderate _____ High

4) Do you have any specific questions about the Site? If so, please describe and indicate of these questions, which are most important to you.

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

5) Are you aware of DTSC's ongoing community involvement activities regarding the environmental cleanup at the Site? ☐ Yes ☐ No

a. Have you been actively involved with the Site in any way? ☐ Yes ☐ No

b. Are you aware of any individuals or groups who have emerged as leaders among the interested community regarding this Site? ☐ Yes ☐ No

a. If yes, who? _____

b. Do you feel they adequately represent your perspective? ☐ Yes ☐ No

c. Do you feel that your concerns are adequately raised, not raised at all or raised but not addressed?

_____ adequately raised _____ not raised at all _____ raised but not addressed

6) Do you feel you have been kept adequately informed about the Site? ☐ Yes ☐ No
If not, please explain and let us know how we can do better.

_____
_____
_____
_____
_____
_____
_____
_____

7) Have your received fact sheets from DTSC about the Site? ☐ Yes ☐ No

a. If yes, how many? ____ 1-2 ____ 3-4 _____ 5 or more

b. If yes, please rate your experience. 1 = Strongly Disagree 5 = Strongly Agree

The fact sheet was easy to understand.	1	2	3	4	5
The fact sheet was well organized.	1	2	3	4	5
The fact sheet provided important information.	1	2	3	4	5
Technical terms and procedure were clearly explained in the fact sheet.	1	2	3	4	5
Community outreach activites and opportunities were clearly provided in the fact sheet.	1	2	3	4	5

8) Do you have internet access? ☐ Yes ☐ No
If yes, what type? _____ Cable _____ DSL _____ Dial-up _____ Smartphone

Department of Toxic Substances Control

The Mission of the Department of Toxic Substances Control is to provide the highest level of safety, and to protect public health and the environment from toxic harm.

State of California

California Environmental Protection Agency

FACT SHEET – June 2010

PG&E Topock Project Update

Public Comments Requested on Proposed Remedy and Draft Environmental Impact Report Now Available for Public Review

The State of **California Department of Toxic Substances Control (DTSC)** is the lead state agency that is overseeing the investigation and cleanup (also known as **remediation**) of the contaminated **groundwater** at and in the vicinity of the Pacific Gas & Electric (PG&E) Topock Compressor Station in San Bernardino County, California. The groundwater was contaminated by historical releases of chemicals, including total chromium, **hexavalent chromium**, **molybdenum**, **selenium**, and **nitrates**. DTSC reviewed nine clean-up options considered in the Final Groundwater **Corrective Measures Study/Feasibility Study (CMS/FS)** Report prepared by PG&E. DTSC is proposing In Situ Treatment with Freshwater Flushing as the cleanup action that best balances the ability to achieve cleanup goals consistent with the remedy selection criteria, while minimizing the potential impacts to the environment during implementation.

Topock Compressor Station

The **Statement of Basis** is a document that describes the rationale for the preferred groundwater remedy and is prepared by DTSC in accordance with the administrative process of the **Resource Conservation and Recovery Act**. The proposed **final remedy** and alternatives are evaluated in the draft **Environmental Impact Report (EIR)** prepared by DTSC under the requirements of the **California Environmental Quality Act (CEQA).** The draft EIR analyzes the expected environmental impacts of the proposed final remedy. The EIR also identifies actions (called mitigation measures) which may be taken to avoid or reduce environmental impacts. Simultaneously, the U.S. **Department of the Interior (DOI)** is also releasing a **Proposed Plan** identifying In Situ Treatment with Freshwater Flushing as DOI's preferred cleanup action among the nine options considered in accordance with the requirements of the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)** process. These documents, along with related project materials and references, are available for public review and comment from June 4 to July 19, 2010.

Project Background

The Compressor Station is located 12 miles southeast of Needles, California and 1,500 feet west of the Colorado River. In 1951, the Compressor Station began compressing natural gas for transportation through pipelines to PG&E's service territory in Central and Northern California. From 1951

PUBLIC COMMENT PERIOD

June 4, 2010 - July 19, 2010

Comments may be submitted to DTSC and/or DOI during the public comment period in writing, by mail, email, fax, or in person at the public hearings. Written comments must be postmarked, emailed, or faxed no later than July 19, 2010.

Aaron Yue
Project Manager, DTSC

5796 Corporate Avenue
Cypress, CA 90630

Fax: (714) 484.5411
Email: ayue@dtsc.ca.gov

Pamela S. Innis
Remedial Project Manager, DOI

Denver Federal Center, Bldg 67
P.O. Box 25007, MS D108
Denver, CO 80225-0007

Fax: (303) 445-6320
Email: Pamela_Innis@ios.doi.gov

Words in **bold** appear in the Glossary of Terms on page 3

to 1985, PG&E added chromium to the water used in the cooling towers and other equipment to control corrosion of the cooling tower equipment.

During parts of those years, cooling tower wastewater containing hexavalent chromium was discharged directly to the ground surface. Over time, the hexavalent chromium seeped into the groundwater and created a **plume**, which is a body of contaminated groundwater that extends from below the Compressor Station to beneath the Colorado River.

In 1985, PG&E discontinued the use of hexavalent chromium. In 1996, PG&E signed an agreement with DTSC to conduct environmental investigations to identify and cleanup past contamination to the environment. In 2004, PG&E signed a similar agreement with DOI.

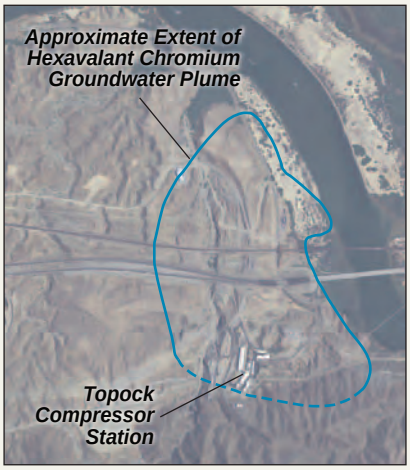
Overview of Proposed Final Remedy

The objective of the proposed final remedy is to cleanup groundwater and ensure protection of the Colorado River. The proposed final remedy involves flushing the plume below ground with clean water through a treatment area made up of a series of **injection** and **extraction wells**, known as an **in-situ reactive zone** or treatment zone. The treatment zone would be made by adding nutrients, known as reductants, to stimulate the growth of harmless, but helpful, naturally occurring bacteria. The growth cycle of these helpful bacteria then creates chemical conditions that convert hexavalent chromium to the less harmful and less **soluble** trivalent chromium, thereby removing hexavalent chromium from groundwater. The plume would be pushed through the treatment zone by injecting clean freshwater at the western (or back end) of the plume, while the groundwater would also be pulled through the treatment zone using extraction wells located near the Colorado River. After treatment is complete, bacteria levels would return to normal (pretreatment) conditions.

The extraction wells installed near the Colorado River would prevent the plume from reaching the river. Additionally, extraction wells would be installed in the southeast edge of the plume to extract contaminated water that is not able to flow through the treatment zone. The contaminated water extracted from this area would be transported by pipelines and recirculated through the treatment zone, or injected along the western edge of the plume along with nutrient amended water to treat the contamination.

The proposed remedy would include the following:

- Use of roads, pipelines, and utility connections to power the remediation system and provide access to the wells and related remediation facilities.
- Use of water for freshwater injection from one of three sources: freshwater wells in California, freshwater wells in Arizona, or directly from the Colorado River.
- Four phases: construction of new facilities (estimated 3 years), operation and maintenance of the remediation system (estimated 29 years, but up to 110 years), long-term monitoring (estimated 10 years), and decommissioning of facilities following successful remediation (estimated 2 years).
- **Monitored natural attenuation** as a potential long-term component to address any remaining contamination that may be present in portions of the groundwater after treatment.
- The **Interim Measures** currently operating would be decommissioned once the final remedy is functioning adequately.



The proposed project consists of five main elements:

1. A treatment zone consisting of a series of wells along a portion of National Trails Highway where nutrients would be added to stimulate the growth of helpful bacteria.
2. Extraction wells near the Colorado River that would provide a barrier to protect the river. The extracted groundwater would be pumped to the western end of the plume where additional nutrients would be added.
3. Injection of clean freshwater west of the plume to accelerate groundwater flow towards the treatment zone.
4. Restrictions on groundwater use (known as **institutional controls**) to protect human health and the environment.
5. Continued monitoring of the plume.

Glossary of Terms

***California Environmental Quality Act (CEQA)*:** Enacted in 1970 to provide long-term environmental protection, this law requires that governmental decision makers and public agencies study the environmental effects of proposed activities and that significant adverse effects be avoided or reduced where feasible.

***Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)*:** A federal law, commonly known as "Superfund", enacted in 1980 by Congress to provide broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.

***Corrective Measure Study/Feasibility Study (CMS/FS)*:** A study conducted by the facility owner/operator, in this case PG&E, to identify and evaluate alternative cleanup options to address contamination at a project site.

***Cumulative Impact*:** The total effect on a natural resource, ecosystem, or human community due to past, present, and future activities or actions of federal, non-federal, public, and private entities. Cumulative impacts may also include the effects of natural processes and events. Accordingly, there may be different cumulative impacts on different environmental resources.

***Department of the Interior (DOI)*:** The principal conservation agency of the United States, responsible for stewardship of land, water, recreation, Native American lands and needs, and energy needs. The department is composed of member bureaus such as the Fish and Wildlife Service, Bureau of Land Management, and Bureau Reclamation, among others.

***Department of Toxic Substances Control (DTSC)*:** A department within the California Environmental Protection Agency in charge of regulating hazardous waste from generation to final disposal and overseeing the investigation and cleanup of hazardous waste sites.

***Environmental Impact Report (EIR)*:** A detailed review of a proposed project, in this case the proposed remedy, its potential adverse impacts on the environment, measures that may avoid or reduce those impacts, and alternatives to the proposed project.

***Extraction Wells*:** Wells that are used primarily to remove contaminated groundwater. Water level measurements and water samples can also be collected from extraction wells.

***Final Remedy*:** The final cleanup action proposed for managing contaminants at a project site.

***Groundwater*:** Water beneath the Earth's surface that flows through soil and rock openings (aquifers).

***Growth Inducement*:** The effects a proposed project could have on economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.

***Hexavalent Chromium*:** Known as Cr(VI), a form of chromium, which is a metal naturally found in rocks, soil, and the tissue of plants and animals. Hexavalent chromium is also used in industrial products and processes and is a known carcinogen when inhaled (i.e., through breathing).

***Injection wells*:** Wells used to introduce a substance to groundwater or to return water to the aquifer.

***In-situ Reactive Zone* :** A series of injection and extraction wells that create a treatment zone for the contaminated groundwater.

***Institutional Controls*:** Non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy.

***Interim Measures*:** Cleanup actions taken to protect public health and the environment while long-term solutions are being developed.

***Molybdenum*:** A metallic element widely distributed in the Earth's crust that is used in industrial products and processes.

***Monitored Natural Attenuation*:** Monitoring of the naturally occurring degradation and dilution properties of the groundwater system.

***Nitrates*:** Nitrates and nitrites are nitrogen-oxygen chemical compounds which combine with various organic and inorganic compounds. Once taken into the body, nitrates are converted into nitrites.

***Plume*:** A body of contaminated groundwater. The movement of a plume in groundwater can be influenced by such factors as local groundwater flow patterns, the character of the aquifer in which the groundwater is contained, and the density of contaminants.

***Proposed Plan*:** A CERCLA document, made available for public comment, which proposes a preferred alternative for a site cleanup.

***Remediation*:** Actions taken to remove or contain a toxic spill or a release of hazardous substances at a site.

***Resource Conservation and Recovery Act*:** A federal law that establishes a regulatory system to track and provide safe procedures for management of hazardous wastes from the time of generation to final disposal.

***Selenium*:** A non-metallic element abundant in the Earth's crust that is used in industrial products and processes.

***Soluble*:** Capable of being dissolved in some solvent (usually water).

***Statement of Basis*:** A document that describes the basis for the proposed remedy and cleanup standards.

Where to Find the Draft EIR and other Project Information

Project Reports, fact sheets, and other project documents can be found in the Information Repositories listed below:

On the Internet:
www.dtsc-topock.com
www.dtsc.ca.gov

Needles Library
1111 Bailey Avenue
Needles, CA 92363
Contact: Kristin Mouton, 760.326.9255
10 a.m.–6 p.m., Monday and Tuesday
10 a.m.–4 p.m., Wednesday
10 a.m.–5 p.m., Thursday through Saturday

Chemehuevi Indian Reservation Environmental Protection Office
2000 Chemehuevi Trail
Havasu Lake, CA 92363
Contact: Gilbert Parra, 760.858.1140
8:00 a.m.–4 p.m., Monday–Friday

Golden Shores/Topock Station Library
13136 S. Golden Shores Parkway
Topock, AZ 86436
Contact: Kim Stoddard, 928.768.2235
8 a.m.–2 p.m., Tuesday and Thursday
3 p.m.–6 p.m., Wednesday

Lake Havasu City Library
1770 McCulloch Boulevard
Lake Havasu City, AZ 86403
Contact: Audrey LaCommare, 928.453.0718
9 a.m.–6 p.m., Monday and Wednesday
9 a.m.–8 p.m., Tuesday and Thursday
9 a.m.–5 p.m., Friday and Saturday

Colorado River Indian Tribes Library
Second Avenue and Mohave Road
Parker, AZ 85344
Contact: Elvira Bailey-Holgate 928.669.1285
8 a.m.–noon, 1 p.m.–5 p.m., Monday–Friday

Parker Library
1001 Navajo Avenue
Parker, AZ 85344
Contact: Jeannie Smith, 928.669.2622
9 a.m.–7 p.m., Monday–Friday
9 a.m.–2 p.m., Saturday

California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
Contact: Julie Johnson, 714.484.5337
9 a.m.–noon, 1 p.m.–4 p.m., Monday–Thursday
Please call for an appointment.

DTSC Welcomes Your Feedback

For more information about the draft Statement of Basis or draft EIR and other project documents, or to be added to the mailing list please contact the following DTSC representatives:

Aaron Yue
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ayue@dtsc.ca.gov

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(714) 484-5488
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TTY/TDD/STS users dial 711
(for the California Relay Service)
cfu@dtsc.ca.gov

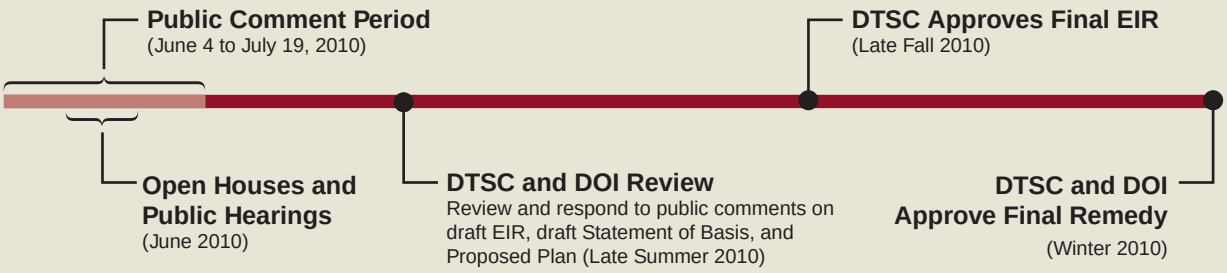
For media inquiries, please call:

Jeanne Garcia
DTSC Public Information Officer
9211 Oakdale Avenue
Chatsworth, CA 91311
(818) 717-6573
jgarcia1@dtsc.ca.gov

For more information about the Proposed Plan, please contact DOI:

Pamela S. Innis
U.S. Department of the Interior
Denver Federal Center, Bldg 67
P.O. Box 25007, MS D108
Denver, CO 80225-0007
(303) 445-2502
Fax (303) 445-6320
Pamela_Innis@ios.doi.gov

Public Review and Approval Process



Contents of the Draft Environmental Impact Report

In accordance with CEQA, a draft EIR has been prepared to evaluate the potential environmental impacts of the proposed final remedy and alternatives. The draft EIR is organized to include a summary, introduction, project description, and an analysis of environmental resource areas that could be affected by project phases, as follows:

- aesthetics, or visual quality
- air quality
- biological resources
- cultural resources
- geology & soils
- hazardous materials
- hydrology & water quality
- land use & planning
- noise
- transportation
- utilities & service systems
- water supply

The draft EIR also addresses other topics that are required by CEQA such as **growth inducement**, **cumulative impacts**, and alternatives to the proposed project.

Public Comment Opportunities

Members of the public and interested parties are encouraged to submit comments on the draft Statement of Basis, draft EIR, and Proposed Plan during the 45-day public comment period from June 4, 2010 to July 19, 2010. DTSC and DOI will host four public meetings in different locations during the public comment period. These meetings will consist of an open house followed by a public hearing. During the open house, information about the draft Statement of Basis, draft EIR, and Proposed Plan will be provided and the project documents will be available for viewing.

During the public hearing, members of the public will have the opportunity to provide verbal or written comments. All individuals and groups who are interested in this project are encouraged to attend. If you are unable to attend, written comments can be submitted using the comment card provided during the public comment period. However, the use of the comment card is not required and all forms of written comments will be accepted.

Next Steps

Following the close of the public comment period on July 19, 2010, DTSC and DOI will review all comments received and prepare a response to comments document and final EIR. However, only DTSC will be responding to comments on the draft EIR. The final remedy decision and the response to comments document will be made available as part of the remedy selection process. The proposed remedy may be modified as applicable based on comments received. If the proposed remedy is approved, DTSC and DOI will jointly oversee the implementation of the final remedy.

Public Open Houses and Hearings on Proposed Remedy

DTSC & DOI invites you to attend one of the four open house and public hearing sessions to be held on the following dates and locations during the 45-day public comment period. Oral and written comments will be accepted at the hearing immediately following the open house.

Tuesday, June 22, 2010
Open House: 5:00–6:30 p.m.
Public Hearing: 6:30–8:00 p.m.

Parker Community/Senior Center
1115 12th Street
Parker, Arizona 85344

Wednesday, June 23, 2010
Open House: 5:30–7:00 p.m.
Public Hearing: 7:00–8:30 p.m.

Lake Havasu City Aquatic Center, Relics and Rods Hall
100 Park Avenue
Lake Havasu City, AZ 86403

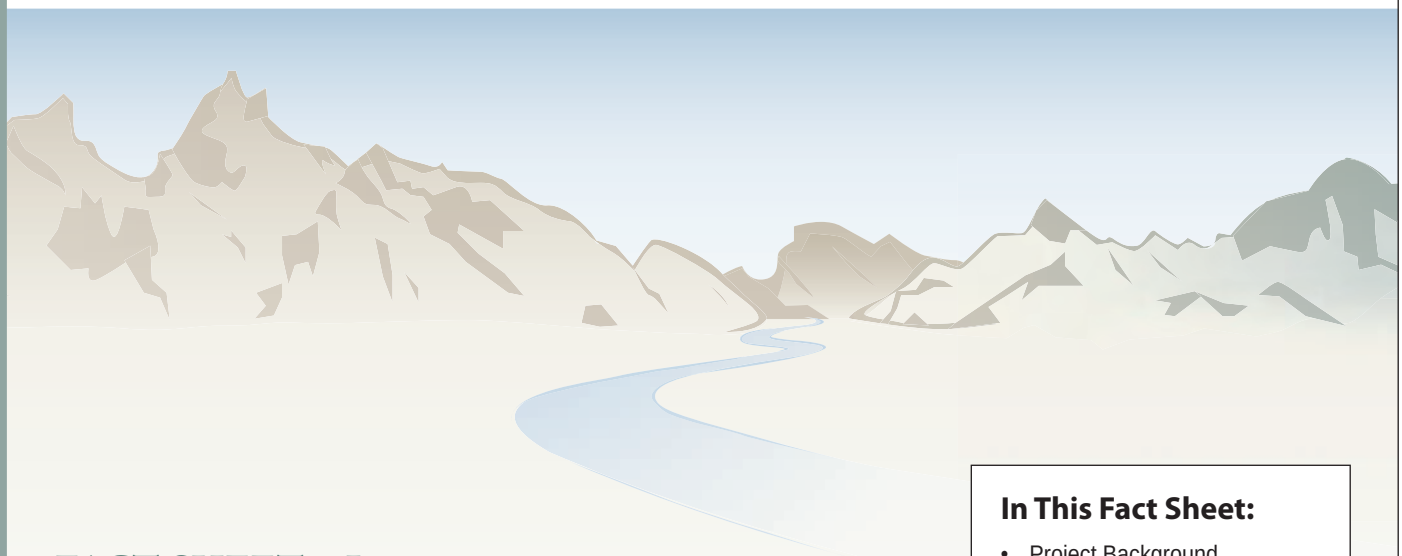
Tuesday, June 29, 2010
Open House: 5:00–6:30 p.m.
Public Hearing: 6:30–8:00 p.m.

Needles High School, Auditorium
1600 Washington Street
Needles, CA 92363

Wednesday, June 30, 2010
Open House: 5:00–6:30 p.m.
Public Hearing: 6:30–8:00 p.m.

Topock Elementary School, Auditorium
5083 East Tule Drive
Topock, AZ 86436

If you require an accommodation due to a disability or need a translator/interpreter for this event please call Christina Fu at (714) 484-5488 or toll free (866) 495-5651 no later than 10 business days before the scheduled event. In addition, you may contact Ms. Fu to receive this or related publications in an alternate format or language. TTY/TDD Speech to Speech users may dial 711.



FACT SHEET – June 2010

PG&E Topock Project Update

Public Comments Requested on Proposed Remedy and Draft Environmental Impact Report Now Available for Public Review

MARK YOUR CALENDAR for Upcoming Open Houses and Public Hearings

VIEW DRAFT DOCUMENTS at www.dtsc-topock.com

In This Fact Sheet:

Department of Toxic Substances Control

The Mission of the Department of Toxic Substances Control is to provide the highest level of safety, and to protect public health and the environment from toxic harm.

State of California

California Environmental Protection Agency

FACT SHEET – March 2010
PG&E Topock Environmental Investigation Update

Cleanup Options Evaluation Report Is Complete

The California **Department of Toxic Substances Control (DTSC)**, as a **lead** State **agency**, is overseeing environmental investigations and cleanup activities at the Pacific Gas and Electric Company (PG&E) Topock Compressor Station (Station) and adjacent land, collectively known as the Topock Site (Site) near Needles, California. DTSC has directed PG&E to investigate and evaluate options to clean up the **groundwater** and protect the Colorado River from groundwater contamination resulting from past operations at the Station. On December 18, 2009, DTSC approved PG&E's summary of the cleanup options evaluation report called a Final **Corrective Measures Study/ Feasibility Study (CMS/FS)** Report.

IN THIS FACT SHEET

Site Background and History

The PG&E Topock Gas Compressor Station is located in eastern San Bernardino County, about 12 miles southeast of Needles, south of Interstate 40, just west of the Colorado River. The area has cultural and spiritual significance to local Tribal Nations.

The Station, which began operation in 1951, compresses natural gas for transportation to PG&E's customers in Central and Northern California. As natural gas is compressed, its temperature increases and the compressed gas must be cooled. Historically, PG&E added a chromium-based substance to the water in the cooling towers to prevent corrosion of the equipment. Until 1964, untreated cooling tower wastewater containing **hexavalent chromium** was discharged into Bat Cave Wash, an adjacent normally dry wash which ends at the Colorado River.

Aerial photo of PG&E's Topock Compressor Station

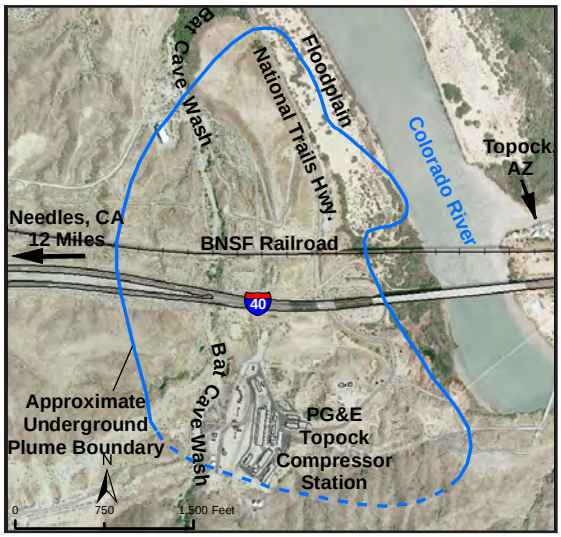
In the mid 1960's, PG&E began treating the cooling tower wastewater to convert hexavalent chromium to **trivalent chromium**, a less mobile form of chromium. By the mid 1970's, wastewater was discharged exclusively to single-lined ponds for storage until it evaporated. In 1985, PG&E stopped using chromium and switched to a more environmentally-safe additive to control corrosion. The old single-lined evaporation ponds were closed and replaced by new triple-lined ponds for disposal of chromium-free wastewater. These ponds are regulated by the California **Regional Water Quality Control Board (RWQCB)**.

In 1996, an environmental investigation was initiated to assess impacts from PG&E's operations. The investigation revealed contamination in soil and groundwater, and PG&E entered into a voluntary agreement with DTSC to investigate and clean up the contamination.

Words in **Bold** *appear in the glossary on the insert page.*

Environmental Investigation Process and the Cleanup Options Evaluation Report

Under DTSC's direction, PG&E is required to investigate and address all releases of hazardous waste and materials that may have occurred at the Site. This site investigation and cleanup process is called a **Corrective Action** under the **Resource Conservation and Recovery Act (RCRA)**. The **Remedial Facility Investigation/ Remedial Investigation (RFI/RI)** is a key step in the site cleanup process and describes, in a report, current environmental conditions at the Site. The RFI/RI report found that groundwater is affected by hexavalent chromium, and to a limited degree **molybdenum**, **selenium** and **nitrate**. The affected groundwater, referred to as the "**plume**", extends from the Station towards the Colorado River, but is not impacting the quality of the river water.



Map of Topock Project Site and Approximate Underground Plume Boundary

Based on the results summarized in the approved groundwater RFI/RI report, DTSC directed PG&E to prepare a Corrective Measures Study/Feasibility Study (CMS/FS) Report (Cleanup Options Evaluation Report). The CMS/FS Report identifies and evaluates a range of potential cleanup options and recommends a preferred cleanup option. Each cleanup option is evaluated against nine technical and regulatory (legal) criteria. The CMS/FS Report prepared by PG&E evaluates nine different cleanup options and provides DTSC with technical information to conduct an independent and objective review of the cleanup options identified.

Criteria Used to Evaluate Cleanup Options

Performance Standards

Any option selected by the agency as the final cleanup option must meet these performance standards. If the option does not meet these standards, the option will be rejected.

- **Protect Human Health and the Environment, Attain Media Cleanup Goals, Control Sources of Releases**
  The clean up must protect human health and the environment, meet the selected cleanup goals, and control or eliminate any sources of contamination.
- **Comply with Applicable Legal Requirements**
  The clean up action must meet all relevant state and federal legal requirements or provide a basis for being granted a legal waiver.

Modifying Criteria

Two additional criteria for consideration are public and state government concerns and preferences in selecting a remedy. These criteria are evaluated during the public comment period for the agency's proposed final cleanup action/plan.

- **State Acceptance**
  The extent to which an option is acceptable to the State.
- **Community Acceptance**
  The extent to which an option is supported and accepted by the community.

Balancing/Evaluation Criteria

Balancing/Evaluation criteria are used to compare options that can achieve the performance standards (to the left) against one another.

- **Long-term effectiveness, permanence, and reliability**
  The extent to which the cleanup action is effective and reliable at maintaining protection of human health and the environment over time, taking into account any risk to people or the environment after the cleanup is complete.
- **Reduction of toxicity, mobility, or volume through treatment**
  How effective the cleanup action will be at controlling or reducing the contaminant's level of potential harm (toxicity), its movement (mobility) and amount (volume) at the site.
- **Short-term effectiveness**
  The length of time needed to implement the cleanup action, and the risk the clean up poses to workers, residents, the community and the environment while it is being carried out.
- **Implementability**
  The anticipated technical and administrative feasibility of the cleanup option, including the availability of materials and services needed to carry it out.
- **Cost**
  The estimated construction, operation, and maintenance costs of the option for the anticipated life of the cleanup action.

Cleanup Options Evaluated

The nine different cleanup options evaluated in PG&E's Report include:

Alternative A: No Action
"No Action" is defined as no further treatment, operations, sampling or remediation. RCRA requires that this alternative be considered, and it serves as a baseline for comparison.

Alternative B: Monitored Natural Attenuation
Monitored Natural Attenuation takes advantage of naturally occurring conditions, such as helpful bacteria in the floodplain, which convert hexavalent chromium to trivalent chromium, a less mobile form of the metal. **Monitoring wells** would be installed to track this process, and non-engineered controls, such as groundwater use restrictions, would be put in place to protect human health and the environment. Molybdenum, selenium and nitrate will also be monitored under this and all the alternatives except Alternative A: No Action.

Alternative C: High Volume In-situ Treatment
In-situ treatment refers to treatment that occurs within the ground. For this alternative, **injection wells** would be used to inject water with added nutrients to promote the growth of harmless, but helpful, naturally occurring bacteria. The growth cycle of these helpful bacteria would then create chemical conditons that convert hexavalent chromium to trivalent chromium. After treatment is complete and nutrients removed, the bacteria level will return to pretreatment conditions. **Extraction wells** would be used to remove water out of the ground at key areas for re-injection. This injection and extraction process would evenly distribute the bacteria throughout the plume and reduce the size of the existing plume.

Alternative D: Sequential In-situ Treatment
This alternative uses alternating lines of extraction and injection wells. Extraction wells would first be used to extract groundwater from locations near the river, mix it with nutrient-added water to promote the growth of harmless but helpful, naturally occurring bacteria, then re-inject it through injection wells along National Trails Highway. The injection wells would then be converted to extraction wells and the re-injection process would be moved west toward the center of the plume. This process would continue across the upland area, treating the plume in sections in a phased approach. This option would also involve the installation of additional monitoring wells to ensure the plume is not increasing in size and that the treatment is working.

Alternative E: In-situ Treatment with Freshwater Flushing
Injection and extraction wells would be installed along National Trails Highway to create a "treatment zone" by continuously mixing the contaminated plume groundwater with nutrient-added water to stimulate harmless, but helpful, naturally occurring bacteria whose growth creates chemical conditions that convert haxavalent chromium to trivalent chromium. Extraction wells near the river would act as a barrier to prevent contamination from reaching the river, and would help convert hexavalent chromium in the floodplain. Additional injection wells located around the plume would inject fresh water and groundwater, removed from locations near the river, to push the plume toward the treatment zone.

Alternative F: Pump and Treat
Groundwater would be extracted from wells in the plume area and transported by pipelines to an above-ground treatment plant. This treatment method is called "pump and treat". Treated groundwater would be injected back into the ground outside of the plume boundaries. Hazardous materials removed from the groundwater would be collected as a solid material in the treatment plant and transported offsite to an appropriately-licensed disposal facility.

Alternative G: Combined Floodplain In-situ with Pump and Treat
This option is a combination of in-situ treatment and "pump and treat." The floodplain groundwater by the river will be treated as described in Alternative C, but the "pump and treat" method as described in Alternative F would be used to treat the rest of the area, where the main portion of the plume is located.

Alternative H: Combined Upland In-situ with Pump and Treat
This option is also a combination of in-situ treatment and "pump and treat" but the scenario would be reversed from that proposed under Alternative G. In-situ would be used to clean up the main portion of the plume, while the floodplain groundwater would be extracted and treated aboveground in a treatment plant.

Alternative I: Continued Operation of Interim Measures
This alternative would involve continued operation of the current **Interim Measure** treatment plant as the final cleanup action at the Site. The Interim Measure is a small scale version of Alternative F. The Interim Measure was established in 2004 to control groundwater flow to protect the Colorado River.

Cleanup Options Still Under Evaluation

The preferred cleanup option recommended by PG&E is Alternative E: In-situ Treatment with Fresh Water Flushing. However, DTSC and the **Department of the Interior (DOI)** are still evaluating the cleanup options, and have not yet selected a preferred option. DTSC's proposal for the final cleanup plan may be, or may not be, the same as the one recommended by PG&E.

Next Steps in Selecting a Groundwater Final Remedy

DTSC is preparing a Draft Programmatic **Environmental Impact Report (EIR)** which will analyze and summarize the expected environmental impacts of the cleanup options. The EIR also will identify actions (called mitigation measures) which may be taken to avoid or reduce environmental impacts.

DTSC will also prepare a **Statement of Basis** which will identify DTSC's proposed cleanup option and cleanup plan for the Site (the groundwater **Final Remedy**), and also explain the practical and legal reasons for the proposal. DOI will prepare an equivalent document called a **Proposed Plan**.

DTSC expects to release the Draft EIR and the Statement of Basis, together with DOI's Proposed Plan, for public review in late spring 2010. DTSC will issue a fact sheet and public notice which will announce the availability of the Draft EIR, the Statement of Basis that identifies the agency's proposed cleanup plan, and announce the beginning of a 60-day public comment period. The public comment period is designed to give the public and other government bodies (such as Tribal Nations) time to review the documents and to submit comments and input to DTSC and DOI. During the public comment period, DTSC will host an open house and public hearing at several locations in the Topock and Mohave Valley area to answer questions and take comments in person. The anticipated locations for these events include: Needles, Golden Shores/Topock, Lake Havasu City, and Parker.

Based on comments received, DTSC and DOI may determine that it is necessary to revise the proposed cleanup option or to choose a different one. DTSC will issue a final Statement of Basis and a **Notice of Determination (NOD)**. Similarly, DOI will issue a **Record of Decision (ROD)** that will identify and describe the final cleanup option selected. PG&E will be directed to implement the agencies' selected option.

January – April 2010
Finalize Draft EIR, Statement of Basis, Proposed Plan

May – June 2010
60-day Public Comment Period and Meetings

Late Summer 2010
Consider Public and Government Agency Comments

Fall 2010
DTSC Selects Final Remedy and Issues NOD

Winter 2010
DOI issues ROD
DTSC Directs PG&E to Prepare Workplan for Cleanup Action

CHRISTINA FU
DTSC PUBLIC PARTICIPATION SPECIALIST
5796 CORPORATE AVENUE
CYPRESS, CA 90630

Inside: Update on PG&E Topock Compressor Station Environmental Investigation and Cleanup

DTSC Contacts

If you have questions, comments, or **would like to be added to the mailing list for the Topock Site**, contact the project staff listed below.

Aaron Yue, DTSC Project Manager
5796 Corporate Avenue
Cypress, CA 90630
✆ 714.484.5439
💻 ayue@dtsc.ca.gov

Christina Fu, DTSC Public Participation Specialist
5796 Corporate Avenue
Cypress, CA 90630
✆ 714.484.5488
✆ Toll Free: 866.495.5651 (press 4 twice)
💻 cfu@dtsc.ca.gov

For Media Inquiries Contact

Jeanne Garcia, DTSC Public Information Officer
9211 Oakdale Avenue
Chatsworth, CA 91311
✆ 818.717.6573
💻 jgarcia1@dtsc.ca.gov

Notice to Hearing-Impaired Individuals

You can obtain additional information about the site by using the California State Relay Service at 1.888.877.5378 (TDD). Ask them to contact Christina Fu at 714.484.5488.

Where Can I Find More Information?

Project reports, fact sheets, and other project documents can be found on the web at www.dtsc-topock.com, or in the Information Repositories listed below.

Needles Public Library
1111 Bailey Avenue
Needles, CA 92363
Contact: Kirsten Mouton
✆ 760.326.9255
Hours:
10am – 6pm, Monday and Tuesday
10am – 4pm, Wednesday
10am – 5pm, Thursday through Saturday

Chemehuevi Indian Reservation
2000 Chemehuevi Trail
Havasu Lake, CA 92363
Contact: Gilbert Parra
✆ 760.858.1140
Hours:
8am – 4pm, Monday – Friday

Golden Shores/Topock Library Station
13136 Golden Shores Parkway
Topock, AZ 86436
Contact: Kim Stoddard
✆ 928.768.2235
Hours:
8am – 2pm, Tuesday and Thursday
3pm – 6pm, Wednesday

Lake Havasu City Library
1770 North McCulloch Blvd.
Lake Havasu City, AZ 86403
Contact: Audrey LaCommare
✆ 928.453.0718
Hours:
9am – 6pm, Monday and Wednesday
9am – 8pm, Tuesday and Thursday
9am – 5pm, Friday and Saturday

Colorado River Indian Tribes Public Library
2nd Avenue and Mojave Road
Parker, AZ 85344
Contact: Elvira Bailey-Holgate
✆ 928.669.1285
Hours:
8am – noon, 1pm – 5pm
Monday – Friday

Parker Public Library
1001 Navajo Avenue
Parker, AZ 85344
Contact: Jeannie Smith
✆ 928.669.2622
Hours:
9am – 7pm, Monday – Friday
9:30am – 1pm, Saturday

DTSC
5796 Corporate Avenue
Cypress, CA 90630
Contact: Julie Johnson
✆ 714.484.5337
Hours:
9am – noon, 1pm – 4pm
Monday – Thursday

Glossary of Terms

Corrective Action: Specific activities designed to investigate and cleanup contamination at a site resulting from present and past hazardous waste handling practices.

Corrective Measure Study/Feasibility Study (CMS/FS): A study conducted by the facility owner/operator to identify and evaluate alternative cleanup options to address contamination at a project site.

Department of the Interior (DOI): The principal conservation agency of the United States, responsible for stewardship of land, water, recreation, Native American lands and needs, and energy needs. The department is composed of member bureaus such as the Bureaus of Indian Affairs, Land Management, and Reclamation, among others.

Department of Toxic Substances Control (DTSC): A department within the California Environmental Protection Agency in charge of the regulation of hazardous waste from generation to final disposal, and of overseeing the investigation and cleanup of hazardous waste sites.

Environmental Impact Report (EIR): A detailed review of a proposed project, its potential adverse impacts on the environment, measures that may avoid or reduce those impacts, and alternatives to the proposed project.

Extraction wells: Wells that are used primarily to remove groundwater from the ground. Water level measurements and water samples can also be collected from extraction wells.

Final Remedy: The final cleanup action proposed for managing contaminants at a project site.

Groundwater: Water beneath the Earth's surface that flows through soil and rock openings (aquifers).

Hexavalent chromium: A form of chromium, a metal naturally found in rocks, soil and the tissue of plants and animals, which is also used in industrial products and processes.

Injection wells: Wells used to add something to groundwater or to return water to the aquifer.

In-situ: In its original place; unmoved, unexcavated; remaining at the site or in the subsurface (underground).

Interim Measures: Cleanup actions taken to protect public health and the environment while long-term solutions are being developed.

Lead Agency: A public agency with the principal responsibility for ordering and overseeing site investigation and cleanup.

Molybdenum: A metallic element widely distributed in the Earth's crust that is used in industrial products and processes.

Monitoring wells: Specially-constructed wells used exclusively for testing water quality.

Nitrate: Nitrates and nitrites are nitrogen-oxygen chemical compounds which combine with various organic and inorganic compounds.

Notice of Determination (NOD): A formal document filed according to the California Environmental Quality Act (CEQA) and made available to the public once an agency approves a project. The notice provides the name and location of the project, a clear project description, the date of lead agency approval and a lead agency statement that the project will not have an adverse effect on the environment or that any adverse effects are either mitigated or outweighed by the benefits of the cleanup project.

Plume: A body of contaminated groundwater. The movement of a groundwater plume can be influenced by such factors as local groundwater flow patterns, the character of the aquifier in which the groundwater is contained, and the density of contaminants.

Proposed Plan:A document that summarizes the Remedial Investigation results and cleanup options evaluated in the Feasibility Study, and describes DOI's proposed cleanup methods and the rationale for their selection.

Record of Decision (ROD): A formal document that describes the selected remedies for a site.

Regional Water Quality Control Board (RWQCB): A California agency that maintains water quality standards for a specific geographic jurisdiction and enforces state water quality laws.

Resource Conservation and Recovery Act (RCRA): A federal law that establishes a regulatory system to track and provide safe procedures for management of hazardous wastes from the time of generation to final disposal.

RCRA Facility Investigation/Remedial Investigation (RFI/RI): An investigation that occurs in the corrective action process following a RCRA Facility Assessment. It is an in-depth study designed to gather data needed to determine the nature and extent of contamination at a site.

Selenium: A non-metallic element abundant in the Earth's crust that is used in industrial products and processes.

Statement of Basis: A document that describes the basis for DTSC's proposed remedy and cleanup standards.

Trivalent Chromium: A form of chromium, a metal naturally found in rocks, soil and the tissue of plants and animals. Trivalent chromium is considered an essential nutrient and is relatively harmless. It does not dissolve in groundwater and tends to bind to soil; thus it does not travel readily in the environment.

Department of Toxic Substances Control

Preventing environmental damage from hazardous waste, and restoring contaminated sites for all Californians.

State of California

California Environmental Protection Agency

Fact Sheet – July 2009

Pacific Gas and Electric Company (PG&E) Topock Environmental Investigation Update

The **Department of Toxic Substances Control** (**DTSC**) has sent you this fact sheet to provide current information about the environmental investigation and cleanup activities for the PG&E Topock Compressor Station (referred to as the "Site"). The Site is located in San Bernardino County, 15 miles southeast of Needles, California and one-half-mile west of the Colorado River.

This fact sheet includes the following information:

- Summary of Environmental Site Investigations to date
- Summary of the 2009 **Community Survey** Results
- Next Steps

Community Meetings

Community meetings will be held to further inform the community members about the clean up process and to provide a summary of environmental investigations at the Site. DTSC invites you to attend one of the following meeting times and locations:

Tuesday, July 28, 2009	Thursday, July 30, 2009
Parker Community/Senior Center Time: 4:30 p.m. – 7:30 p.m. 1115 12th St. Parker, Arizona 85344 928. 669.9514	Golden Shores Civic Association Times: 11 a.m. – 2 p.m. & 4 p.m. – 7 p.m. 13136 S. Golden Shores Parkway Topock, Arizona 86436 928.768.2121

DTSC representatives will provide visual displays and will be available to answer your questions or concerns about the Site.

Overview

As the **lead agency** overseeing environmental investigations at the Site, DTSC has directed PG&E, in accordance with California and federal laws, to investigate the nature and extent of **groundwater** and soil contamination resulting from operations of the compressor station. The investigation known as the **RCRA Facility Investigation/Remedial Investigation** (**RFI/RI**) is a key step in the Site cleanup process.

The RFI/RI is divided into three different volumes with general content as follows:

- Volume 1 – Site background and history (completed August 2007)
- Volume 2 and Addendum – Groundwater and surface water characterization associated with the Bat Cave Wash contamination (completed in June 2009)
- Volume 3 – Soil characterization and remaining areas of concern (anticipated completion in 2012)

RFI/RI results and the Site **risk assessment** will be used to develop and evaluate appropriate clean-up methods in a report called **Corrective Measures Study/ Feasibility Study** (**CMS/FS**). Once the CMS/FS is complete, DTSC will propose a **final remedy** for the Site in a **Statement of Basis** document. Along with the Statement of Basis, DTSC will issue a Draft **Environmental Impact Report** (**EIR**), which documents the potential environmental impacts of the clean-up project as proposed. There will be a 60-day public comment period and a public hearing before the proposed final remedy is approved. The RFI/RI Volumes 1 and 2 can be found at the Topock website: www.dtsc-topock.com, or at the local repositories listed on the last page of this fact sheet.

Summary of Investigation Findings

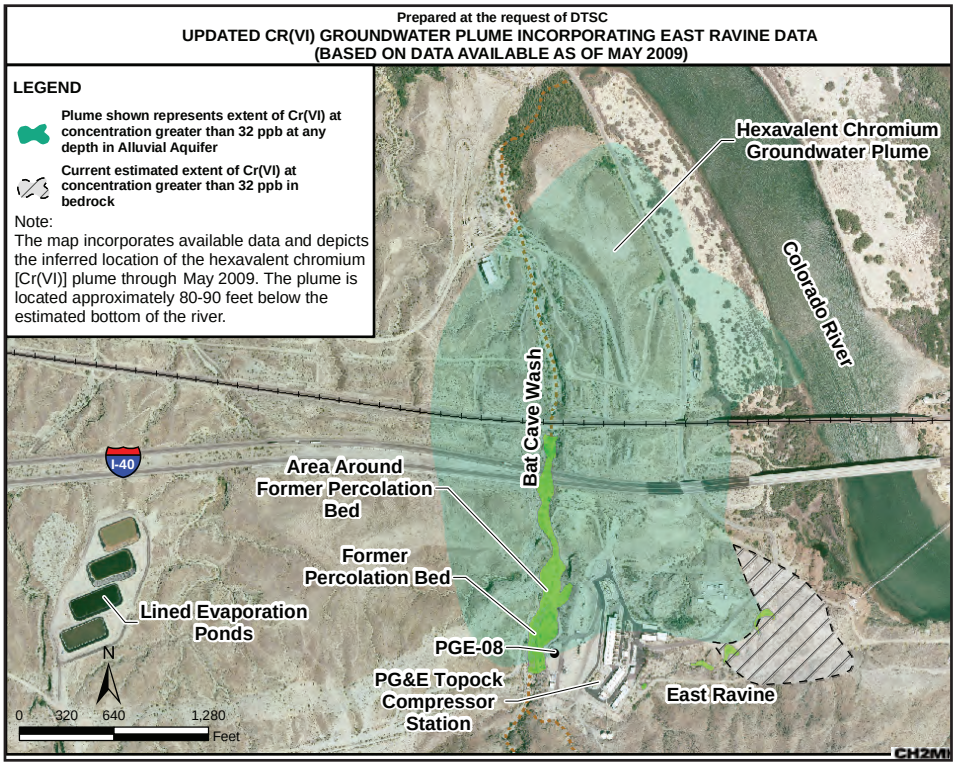
The RFI/RI Volume 1 Report, completed in August 2007, documents information about compressor station operations, past disposal practices, and **constituents of potential concern** The report also identified 32 **areas of concern** that required further investigation. Three of the 32 areas were investigated and reported in Volume 2 as it relates to the groundwater contamination released into a natural desert dry wash called the "Bat Cave Wash." The remaining areas are being investigated and will be reported in Volume 3.

Words in **bold** *are defined in the Glossary of Terms.*

The three areas of concern investigated as part of Volume 2 are:

- The former **percolation bed** in the Bat Cave Wash
- Area around former percolation bed
- Inactive injection well (PGE-08)

The figure to the right shows the three areas investigated. The focus of the investigation was to define the nature and extent of contamination in groundwater, **surface water**, **pore water** and river **sediment** from historic releases in the Bat Cave Wash area and the inactive injection well, PGE-08.



The current plume map above includes the East Ravine area. PG&E is preparing a report on the East Ravine. The report will be placed at the local information repositories when completed.

After finding groundwater contamination, PG&E installed over 100 monitoring wells, collected data for more than 10 years, and summarized the water quality data in the RFI/RI Volume 2 Report (completed in February 2009) and its addendum (completed in June 2009). As a result of the studies, the report identified the extent of the groundwater contamination associated with the historical releases in the three focused areas. The report also identified that constituents of potential concern for groundwater are **hexavalent chromium**, **total chromium**, **molybdenum**, **selenium**, and **nitrate**. The figure to the left highlights the hexavalent chromium **plume** associated with past releases in the Bat Cave Wash area. The data did not suggest a current impact to the Colorado River surface water, pore water, or river sediment in the vicinity of the Site.

Pictured above is a flush mount groundwater monitoring well at the Site.

Investigation of soil contamination and other areas of concern are ongoing. As of May 2008, PG&E has installed new monitoring wells in eight locations. Findings from the East Ravine study area will be presented in upcoming reports, while the RFI/RI Volume 3 report will be completed in the first quarter of 2012.

2009 Topock Community Survey

DTSC distributed a community survey to the public in January 2009. The survey was designed to gather information about the community's level of awareness and interest in the Site and allow an opportunity for the community to express any specific concerns about the Site and the public involvement process. The survey results also provided useful community feedback regarding the needs and concerns of the Site's surrounding community.

DTSC received over 200 responses to the survey. In general, survey results showed that the community is most interested in the following:

- Receiving more information about the environmental impacts of the Site.
- Learning about potential effects of chromium on public health.
- Determining whether there are any chromium impacts to the Colorado River and the surrounding environment.
- Being informed about the timeline for Site cleanup.

Next Steps

PG&E is currently preparing the CMS/FS to evaluate alternatives for the cleanup of the groundwater plume associated with past releases in the Bat Cave Wash area. The study is anticipated to be completed at the end of 2009. In addition, PG&E will complete a soil investigation of the remaining areas of concern and will summarize the data in the forthcoming RFI/RI Volume 3 Report, anticipated to be completed in 2012.

DTSC anticipates holding a public comment period on the proposed groundwater cleanup plan and associated draft EIR in Spring 2010. Public hearing dates will be held during the public comment period to allow an opportunity for community input on the final groundwater remedy selection.

2009
Complete RFI/RI Volume 2 & Addendum

2009
Complete CMS/FS

2009 – 2010
Public Comment on Statement of Basis for final remedy

2012
RFI/RI Volume 3: Soil

Glossary of Terms

Area of Concern: Areas in and around a project site that either have shown high levels of contamination or may have been contaminated from past operations, making them focus areas of the site investigation.

Community Survey: A survey prepared by DTSC and distributed to the community surrounding a project site. The survey is a tool to gather information about the community's level of awareness and interest in a project site, understand specific concerns about a project site and to gather project specific public involvement questions or concerns.

Constituents of Potential Concern: Chemical elements or compounds (e.g. chromium) which may or may not be present at a project site.

Corrective Measure Study/Feasibility Study (CMS/FS): A study conducted by the facility owner/operator to identify and evaluate alternative cleanup options to address contamination at a project site.

Department of Toxic Substances Control (DTSC): A department within the California Environmental Protection Agency in charge of the regulation of hazardous waste from generation to final disposal, and for overseeing the investigation and cleanup of hazardous waste sites.

Environmental Impact Report (EIR): A report designed to examine the potential environmental impacts of proposed activities.

Final Remedy: The final cleanup action proposed for managing contaminants at a project site.

Groundwater: Water beneath the earth's surface that flows through soil and rock openings (aquifers) and often serves as a primary source of drinking water.

Hexavalent Chromium: A form of chromium. Chromium is a metal naturally found in rocks, soil and the tissue of plants and animals. Hexavalent chromium is used in industrial products and processes and is a known carcinogen when inhaled (i.e., through breathing).

Lead Agency: A public agency with the principal responsibility for ordering and overseeing site investigation and cleanup.

Molybdenum: A metallic element widely distributed in the Earth's crust that is used in industrial products and processes.

Nitrate: Nitrates and nitrites are nitrogen-oxygen chemical compounds which combine with various organic and inorganic compounds. Once taken into the body, nitrates are converted into nitrites.

Percolation Bed: An unlined bed with built-up sides constructed of soil that collects discharged wastewater and allows it to soak into the ground and/or evaporate.

Plume: A body of contaminated groundwater flowing from a specific source. The movement of the groundwater is influenced by such factors as local groundwater flow patterns, the character of the aquifer in which the groundwater is contained, and the density of contaminants.

Pore Water: Pore water is characterized as water located within pore spaces between the grains of sediment beneath the bottom of the river.

Resource Conservation and Recovery Act (RCRA): A federal law that establishes a regulatory system to track and provide safe procedures for management of hazardous wastes from the time of generation to final disposal.

RCRA Facility Investigation/Remedial Investigation (RFI/RI): An investigation that occurs in the corrective action process following a RCRA Facility Assessment. It is an in-depth study designed to gather data needed to determine the nature and extent of contamination at site.

Risk Assessment: Qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutants.

Sediment(s): The soil, sand and minerals at the bottom of surface waters, such as streams, lakes and rivers. The term may also refer to solids that settle out of any liquid.

Selenium: A non-metallic element abundant in the Earth's crust that is used in industrial products and processes.

Statement of Basis: A document which describes the basis for DTSC's proposed remedy and cleanup standards.

Surface Water: All water naturally open to the atmosphere such as rivers, lakes, reservoirs, ponds, streams, impoundments, seas, estuaries, etc.

Total Chromium: The additive of concentrations from all forms of chromium, mainly comprising of hexavalent and trivalent forms. The California drinking water standard for total chromium is 50 micrograms per liter (or parts per billion), while the Federal standard is 100 micrograms per liter.

DTSC Contacts

Aaron Yue, DTSC Project Manager
5796 Corporate Avenue
Cypress, CA 90630
714.484.5439
AYue@dtsc.ca.gov

Christina Fu, DTSC Public Participation Specialist
5796 Corporate Avenue
Cypress, CA 90630
714.484.5488
Toll Free: 866.495.5651
CFu@dtsc.ca.gov

For media inquiries contact:

Jeanne Garcia, DTSC Public Information Officer
9211 Oakdale Avenue
Chatsworth, CA 91311
818.717.6573
JGarcia1@dtsc.ca.gov

Notice to Hearing-Impaired Individuals

You can obtain additional information about the site by using the California State Relay Service at 1 (888) 877-5378 (TDD). Ask them to contact Christina Fu at 714.484.5488

Information Repository Locations

Project reports, fact sheets, and other project documents can be found on the web at: www.dtsc-topock.com, or in the Information Repositories listed below.

Needles Public Library
1111 Bailey Avenue
Needles, CA 92363
Contact Kirsten Mouton: 760.326.9255
Hours:
10am – 6pm, Monday and Tuesday
10am – 4pm, Wednesday
10am – 5pm, Thursday through Saturday

Chemehuevi Indian Reservation
2000 Chemehuevi Trail
Havasu Lake, CA 92363
Contact Gilbert Parra: 760.858.1140
Hours: 8am – 4pm, Monday – Friday

Golden Shores/Topock Library Station
13136 Golden Shores Parkway
Topock, AZ 86436
Contact Kim Stoddard: 928.768.2235
Hours:
8am – 2pm, Tuesday and Thursday
3pm – 6pm, Wednesday

Lake Havasu City Library
1770 North McCulloch Blvd.
Lake Havasu City, AZ 86403
Contact Audrey LaCommare: 928.453.0718
Hours:
9am – 6pm, Monday and Wednesday
9am – 8pm, Tuesday and Thursday
9am – 5pm, Friday and Saturday

Colorado River Indian Tribes Public Library
2nd Avenue and Mojave Road
Parker, AZ 85344
Contact Elvira Holghee: 928.669.1285
Hours:
8am – noon, 1pm – 5pm
Monday– Friday

Parker Public Library
1001 Navajo Avenue
Parker, AZ 85344
Contact Jeannie Smith: 928.669.2622
Hours:
9am – 7pm, Monday– Friday
9am – 2pm, Saturday

DTSC
5796 Corporate Avenue
Cypress, CA 90630
Contact Julie Johnson: 714.484.5337
Hours:
9am – noon, 1pm – 4pm
Monday – Thursday

CHRISTINA FU
DTSC PUBLIC PARTICIPATION SPECIALIST
5796 CORPORATE AVENUE
CYPRESS, CA 90630

Inside: Information about
PG&E Topock Compressor Station

Department of Toxic Substances Control

The Mission of the Department of Toxic Substances Control is to provide the highest level of safety, and to protect public health and the environment from toxic harm.

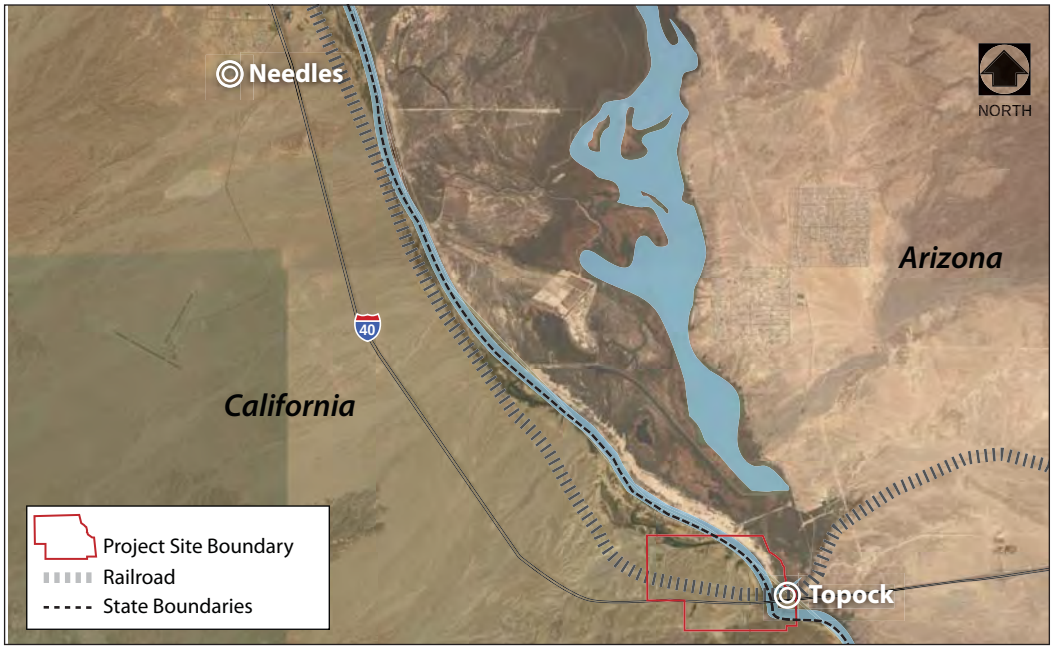
State of California

California Environmental Protection Agency

FACT SHEET – May 2008

PG&E Topock Compressor Station Project Availability of a Notice of Preparation

The ***Notice of Preparation*** (NOP) is currently available for review and comment. The purpose of the NOP is to solicit guidance from agencies and stakeholders for the scope and content of the environmental information to be included in the ***Environmental Impact Report*** (EIR). The Department of Toxic Substances Control (DTSC) is the ***lead regulatory agency*** for the cleanup of the PG&E Topock Compressor Station (referred to as the "Station"). Under the ***California Environmental Quality Act*** (CEQA), DTSC must evaluate the environmental impacts of a project as part of the approval process. In order to select the most appropriate final cleanup remedy, DTSC will prepare an EIR to document the potential environmental impacts of the action. *(Words in bold and italics appear in the Glossary of Terms.)*



Project Location

Public Scoping Meetings

Public Comment Period for the NOP runs from May 2 to July 1, 2008.

For information on accessibility and to request reasonable accommodations, please contact Susan Callery at (818) 717-6567 at least one week before the meeting.

- City of Palm Desert, City Council Chamber, Palm Desert, CA 92260
  Tuesday, May 27, 1:30-4:30
- Gila Ridge High School Auditorium, 7150 E. 24th Street, Yuma, AZ 85365
  Wednesday, May 28, 1:30–4:30 p.m.
- Needles Elks Lodge, 1000 Lillyhill Dr., Needles, CA 92363
  hursday, May 29, 5:30–8:30 p.m.
- City Council Chamber, 2360 McCulloch Blvd. North, Lake Havasu City, AZ
  Monday, June 2, 2:00-5:00 p.m.
- Big River Development Enterprises, 150313 Rio Vista Dr.,Big River, CA 92242
  Thursday, June 5, 5:00-7:00p.m.

Project Background

The Station is one-half mile west of the Colorado River and south of Interstate 40 (I-40). The Station is surrounded by federal lands including the Havasu National Wildlife Refuge managed by the United States Fish and Wildlife Service (USFWS) and lands managed by the Bureau of Land Management (BLM). The area has cultural and spiritual significance to Native American people and it is part of their traditional lands.

Topock Compressor Station and Plume

Pacific Gas & Electric Company (PG&E) owns the Station which began operating in 1951. The Station compresses natural gas for transportation through pipelines to PG&E's service territory in central and northern California. From 1951 to 1985, PG&E added chromium to the water in the cooling towers at their facility to prevent corrosion of the cooling tower equipment. During the 1950s and 1960s, untreated wastewater from the cooling towers containing ***hexavalent chromium*** was released into a streambed adjacent to the site. This streambed is known as the Bat Cave Wash. In 1973, PG&E began treating the wastewater and storing the treated wastewater in evaporation ponds. In 1985, PG&E stopped using chromium and switched to a more environmentally safe additive to control corrosion at the Station. Investigation of the Station began in the 1980s to assess whether the property had been environmentally affected by the waste disposal activities. These investigation activities revealed contamination in soil and ***groundwater***.

Cleanup Program

The first phase in the cleanup process was to assess the extent of the contamination. A formal investigation of soil and groundwater at the Station began in 1987. The investigation activities included the evaluation of soil and groundwater at the Station, and determined the movement of contaminants in groundwater and the threat to the Colorado River. These activities have included:

- collecting samples from groundwater monitoring wells at and around the Station
- collecting samples of sediment from the bottom of the Colorado River
- collecting water samples from the Colorado River

The investigations show that the affected groundwater, referred to as the "***plume***," extends northeast from the Station toward the Colorado River, but did not detect any contaminants within the river water. Sampling activities continue on a regular basis and ***pilot studies*** are being performed to determine the most effective cleanup alternatives for the groundwater beneath the Station.

Under the jurisdiction of DTSC, PG&E also installed and operates a groundwater extraction and treatment system to control the directional flow of groundwater away from the river and to protect the water in the Colorado River.

The California Environmental Quality Act

CEQA is a state law that requires the lead agency of a project to consider and disclose the environmental effects of its proposed actions before approving them. DTSC has been designated the lead agency for the environmental investigation and cleanup project at the Station. DTSC will prepare an EIR to assess the potential environmental effects of the cleanup alternatives prior to the selection of the final remedy. The final remedy may consist of one or more

technologies to clean up the soil and groundwater contamination.

DTSC and PG&E entered into a Memorandum of Understanding (MOU) for the preparation of the EIR by an independent consultant, EDAW, Inc. (EDAW); however, DTSC retains full control of the content and conclusions in the EIR.

The first step in the EIR process is to prepare an NOP. The subsequent steps required to complete the EIR include the following:

- Hold scoping meetings to obtain input from other agencies with jurisdiction in the project area or over project activities and community members on the scope and content to be evaluated in the EIR
- Prepare a Draft EIR that assesses the potential environmental impacts from the proposed remedies. The Draft EIR will describe existing conditions in the project area, analyze the project's potential effects, and identify measures to avoid, reduce, or mitigate adverse impacts from the cleanup program.
- Distribute the Draft EIR for a 60-day public review period and obtain comments from agencies and the public on the content of the Draft EIR.
- Prepare written responses to comments received during the public comment period.
- Prepare and publish the Final EIR
- Certify the EIR and file the ***Notice of Determination*** (NOD).

Upcoming Scoping Meetings

A ***scoping*** meeting is a formal recorded hearing where agencies and community members can present their input on the scope of the EIR for this project. Scoping meetings will be held at times and locations listed on the front page.

Written comments can also be sent to Ms. Jeanne Matsumoto of DTSC for consideration in the EIR scoping process. All comments must be received by DTSC no later than July 1, 2008. Scoping meeting locations and dates also are provided in the NOP.

Additional Information Sources

DTSC will continue to keep you informed during the EIR process. A notice will be sent to everyone who has requested notification when the Draft EIR becomes available for review and comment. DTSC anticipates a draft EIR will be available for review during the second quarter of 2010. For general project information, the Topock website is an easy way to access information about the PG&E Topock Compressor Station environmental investigation and cleanup project. You can find the website at: **www.dtsc-topock.com**. Project information can also be found at DTSC's main website: **www.dtsc.ca.gov**. These websites contain all of the Public Notices and Fact Sheets that have been prepared on the environmental activities at the Station since 1998 and provide a useful overview of the project.

Who to Contact for Information

For more information on this project, please contact the following DTSC representatives:

Mr. Aaron Yue
DTSC Project Manager
5796 Corporate Avenue
Cypress, CA 90630
(714) 484-5439
ayue@dtsc.ca.gov

Ms. Jeanne Matsumoto
DTSC Public Participation Specialist
5796 Corporate Avenue
Cypress, CA 90630
(714) 484-5338
Toll Free: (866) 495-5651
JMatsumo@dtsc.ca.gov

For media inquiries, please call:
Ms. Jeanne Garcia
DTSC Public Information Officer
(818) 717-6573
Email: JGarcia1@dtsc.ca.gov

TDD: Call 1-888-877-5378, and ask to contact Jeanne Matsumoto at 714-484-5338

Department of Toxic Substances Control

The Topock Environmental Investigation and Cleanup EIR: A Step by Step Process

SPRING/SUMMER 2008	WINTER 2009/ SPRING 2010	SPRING 2010	SPRING/SUMMER 2010	SUMMER 2010
Notice of Preparation Distribution and Scoping Meetings	Draft EIR Prepared	Public Review of Draft EIR and Receipt of Comments	Preparation of Responses to Comments and Final EIR	Final EIR Certified and Notice of Determination Filed
■	■	■	■	
◆	◆	◆		
✳	✳		✳	✳

Legend
■ Fact Sheet
◆ Public Meeting
✳ Information Repository

Glossary of Terms

California Environmental Quality Act (CEQA): Enacted in 1970 to provide long-term environmental protection, this law requires that governmental decision-makers and public agencies study the environmental effects of proposed activities, and that significant adverse effects be avoided or reduced where feasible.

Environmental Impact Report (EIR): A report designed to examine the potential environmental impacts of proposed activities.

Groundwater: Water beneath the earth's surface that flows through soil and rock openings.

Hexavalent Chromium: A form of chromium, a metal naturally found in rocks, soil and the tissue of plants and animals. Also used in industrial products and processes.

Lead Regulatory Agency: The public agency responsible for decision making on a project.

Notice of Determination (NOD): Formal notice filed with the California State Clearinghouse after the Final EIR has been certified and a project approved.

Notice of Preparation (NOP): A notice that is sent by the lead agency to notify agencies and the public that an EIR is being prepared and to request input on the content of the EIR.

Pilot Study: A mini version of a full-scale study used to assess the feasibility of a particular cleanup technology in a specific location.

Plume: A body of contaminated groundwater. The movement of a plume in groundwater can be influenced by such factors as local groundwater flow patterns, the character of the aquifer in which the groundwater is contained, and the density of contaminants.

Scoping: A process to gain input from agencies and the public regarding the content of the EIR.

Information Repository Locations

Project Reports, fact sheets, and other project documents can be found in the Information Repositories listed below:

On the World-Wide Web at:
www.dtsc-topock.com

Needles Public Library
1111 Bailey Avenue
Needles, CA 92363
Kristin Mouton: 760-326-9255

Chemehuevi Indian Reservation
2000 Chemehuevi Trail
Havasu Lake, CA 92363
Gilbert Para: 760-858-1140

Golden Shores/Topock Library Station
13136 Golden Shores Parkway
Topock, AZ 86436
Avis McKinnon: 928-768-2235

Lake Havasu City Library
1770 McCulloch Blvd.
Lake Havasu City, AZ 86403
Audrey LaComarre: 928-453-0718

Colorado River Indian Tribes Public Library
2nd Avenue and Mojave Road
Parker, AZ 85344
Amelia Flores: 928-669-1285

Parker Public Library
1001 Navajo Avenue
Parker, AZ 85344
Jana Ponce: 928-669-2622

Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
Julie Johnson: 714-484-5337
9am-Noon, 1pm-4pm, Monday –Friday
Please call for an appointment

Comment and Mailing List Form for PG&E's Topock Compressor Station

If you have any comments concerning the Notice of Preparation, please fill out the information below and mail in by **July 1, 2008**.

Comments (attach additional pages as needed)

_____

_____

_____

_____

If you would like to be added to or taken off the distribution list for mail related to the site, please fill out this form and return to DTSC.

☐ REMOVE me from the mailing list ☐ ADD me to the mailing list

Name: _____

Address: _____

City/State/Zip: _____

Phone/Email _____

Please address all mailings to Aaron Yue, Project Manager, Department of Toxic Substances Control, 5796 Corporate Avenue, Cypress, CA 90630, or by email to AYue@dtsc.ca.gov.

Our mailing lists are only used for keeping you informed of our activities. We do not routinely release our mailing lists to outside parties. However, they are considered public records and, if requested, may be subject to release.

Pacific Gas and Electric Company®

WORK NOTICE

Topock Groundwater Study – Upcoming Well Drilling

February 2008

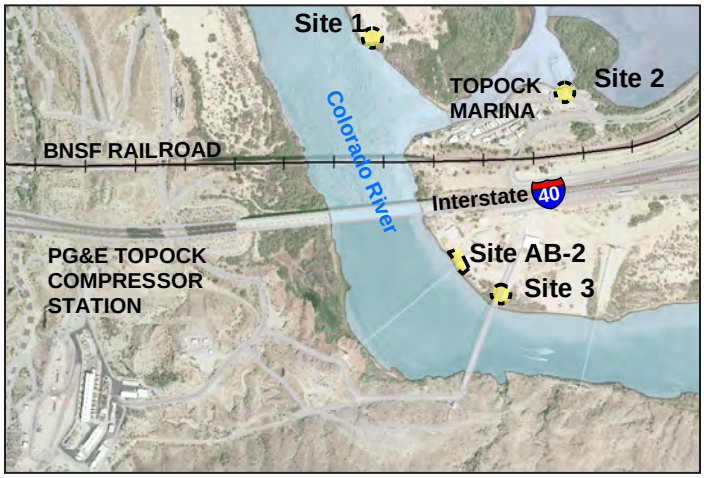
Pacific Gas and Electric Company (PG&E) is performing an environmental investigation of the groundwater near Topock, Arizona under the oversight of the Arizona Department of Environmental Quality (ADEQ) Voluntary Remediation Program (VRP). PG&E will install monitoring wells near and beneath the Colorado River to collect groundwater samples and sediments. This work is part of an ongoing investigation being conducted near PG&E's Topock Compressor Station, located one-half mile southwest of Topock, Arizona, on the California side of the Colorado River.

Monitoring Well Installation Locations

Groundwater monitoring wells will be installed at up to four locations in the Topock, Arizona area. Well installation will require the use of a drill rig and supporting equipment. Each well will include multiple well "screens," or sampling points, at different depths, nested together inside one well casing.

Site 1 - A pair of groundwater monitoring wells will be installed on the eastern shore of the Colorado River, on the Havasu National Wildlife Refuge (HNWR) peninsula north of I-40 and the Topock Marina. The installation of these wells is being conducted under the direction of the United States Department of the Interior (DOI). To minimize disturbance to habitat and wildlife, the wells will be installed along the levee road, and vehicle access to the site will follow existing roads. Pre- and post-construction surveys will be conducted by a biologist to determine that no endangered or threatened species are on site. Additional precautions, as directed by HNWR and DOI, will be taken to limit any disturbance to habitat and species.

Drill rig and support vehicle



Map of Well Installation Locations

Site 2 - One monitoring well will be installed at the Topock Marina, just north of I-40 on the Arizona shoreline. The well will be installed in the Marina's lower parking lot, approximately 15 feet west of the public boat ramp. Precautions will be taken to secure the drill site, and barriers will be put in place to protect the public.

Site AB-2 - This investigation will also include installation of a monitoring well that will allow for sampling of the groundwater 100 – 150 feet beneath the Colorado River. At Site AB-2, on the Topock shoreline just south of I-40, a "slant" well will be installed using an angled drilling method. Drilling from land at an angle allows the investigation of areas deep below the Colorado River without conducting any work in the river itself.

Site 3 - If further characterization is required, an additional groundwater monitoring well (or pair of wells) may be installed on the southern edge of the Topock peninsula, just west of the El Paso Natural Gas and PG&E pipeline arch bridge. The installation of these wells may be vertical or "slant" and will depend on the findings from the newly installed wells at Sites 1, 2 and AB-2.

At each site, samples of groundwater and sediments will be collected for chemical analysis as the boreholes are being drilled. Once the wells are completed, groundwater will be collected from them on a regular basis and analyzed for chromium and other constituents.

Impacts Will Be Minimized

We thank you for your patience and understanding during this important part of the investigation and apologize for any inconvenience caused by these

activities. During the well installation, you may notice an increase in activity and noise near the drilling sites. We are working to minimize any such disturbances. Special care will be taken to protect wildlife, their habitats, and cultural resources during all phases of this work. Every effort will be made to minimize the impact to surrounding businesses.

Why This Investigation?

PG&E is working to remediate (clean up) hexavalent chromium contamination in groundwater on the California side of the Colorado River, adjacent to the PG&E Topock Compressor Station. The cleanup effort has included extensive and ongoing monitoring of the groundwater on the California floodplain. This investigation of Arizona groundwater will provide additional information concerning groundwater and geology in the Topock area.

Schedule

Well drilling, installation and initial sampling are currently scheduled* to begin in March and run through June 2008 as follows:

Location	Dates
Site 1 (North of I-40 on HNWR levee)	March 10 - April 3
Site 2 (Topock Marina Parking Lot)	April 8 – 12
Site AB-2 (South of I-40)	April 13 – May 1
Site 3 (if needed) (South of I-40)	June 2008

** Schedule subject to change depending on field conditions and other factors*

For More Information

If you would like to be added to ADEQ's mailing list for future mailings, please contact Joey Pace, as listed below. If you have any questions or concerns regarding this project, please contact ADEQ or PG&E personnel.

Yvonne Meeks, PG&E Topock Program Manager
Phone: 805-234-2257
Email: yjm1@pge.com

Jennifer Barr, ADEQ VRP Manager
Phone: 602-771-4809
Email: barr.jennifer@azdeq.gov

Kasia Grisso, Public Outreach Specialist for PG&E
Phone: 510-587-7626
Email: kasia.grisso@ch2m.com

Joey Pace, ADEQ Project Manager
Phone: 602-771-4574
Email: pace.joey@azdeq.gov

Hearing impaired persons may call ADEQ's TDD line at 602-771-4829.

Additional information can be found on ADEQ's website at http://www.azdeq.gov/function/about/chromium.html

ES052007001SFO_v2 02-22-08

Yvonne Meeks
c/o Kasia Grisso
CH2M HILL
155 Grand Avenue, Suite 1000
Oakland, CA 94612

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Preventing environmental damage from hazardous wastes, and restoring contaminated sites for all Californians

State of California

California Environmental Protection Agency

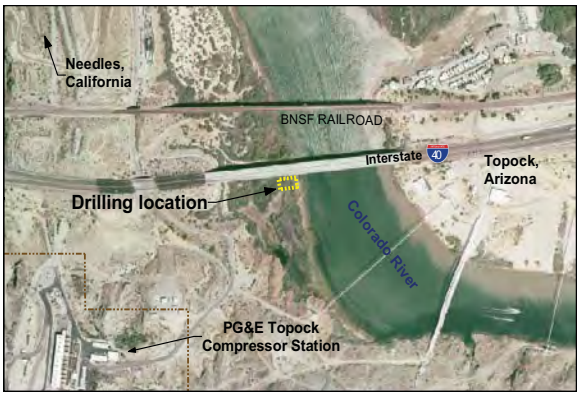
INFORMATIONAL NOTICE – February 2007

NOTICE OF UPCOMING GROUNDWATER INVESTIGATION ACTIVITIES

Upcoming Events

Pacific Gas and Electric Company (PG&E) will install monitoring wells beneath the Colorado River to collect groundwater samples and sediments as part of the ongoing environmental investigation activities near PG&E's Topock Compressor Station, located 12 miles southeast of Needles, California, along the Colorado River. The monitoring well installation is scheduled to begin February 14, 2007 and be complete by the end of March.

The wells will be installed using an "angled" drilling method. Drilling from land at an angle allows the investigation of areas deep below the Colorado River without conducting any work in the river itself. This drilling method eliminates activities and disturbances in the river and reduces the possibility of harmful impacts to the river from this investigation.



Topock Project Slant Drilling Location

A drill rig will be set up on the California shoreline of the river, just south of the Interstate 40 bridge. From this point, the following environmental investigation activities will be conducted:

- Bore holes will be drilled at two different angles to more than 100 feet below the bottom of the river.
- Monitoring wells are planned to be installed inside the bore holes to sample ground water from beneath the river.
- Samples of groundwater and sediments below the river will be collected for chemical analysis as the bore holes are being drilled.
- Once completed, the wells will allow for regular testing of groundwater.

During the well installation, you may notice an increase in activity and noise near the drilling site. We are working with PG&E to minimize any such disturbances. **Special care will be taken to protect wildlife, their habitats and cultural resources during all phases of this work.**


Typical Drill Rig

Why this Work is Important

PG&E is investigating hexavalent chromium (CrVI) at the Topock site that exists as a result of historical operations at the Topock Compressor Station. CrVI is a form of chromium, a metal, found in nature and also used in industrial products and processes. CrVI is a known carcinogen when inhaled (i.e., through breathing). An extensive network of groundwater monitoring wells has been installed to identify which areas of groundwater are contaminated with CrVI.

The results of this new sampling project will help define the limits of the groundwater contamination, and will provide valuable information for the development and implementation of a final remedy for this site. **Ongoing sampling of Colorado River water, as part of the Topock remediation project, continues to show no detection of hexavalent chromium in the river itself.**

Where to Find More Information

The California Department of Toxic Substances Control (DTSC) has created a Web site for you to learn more about the Topock project. The results of this new sampling will be posted to the project Web site when they are available. Please visit *http://www.dtsc-topock.com*.

Department Contacts:

Aaron Yue, DTSC Project Manager
714-484-5439 or email: ayue@dtsc.ca.gov

Jeanne Matsumoto, DTSC Public Participation
714-484-5338 or toll free: 866-495-5651
email: jmatsumo@dtsc.ca.gov

For media inquiries contact:

Jeanne Garcia, DTSC Public Information Officer
818-551-2176 or email: jgarcia1@dtsc.ca.gov

TDD: Call 1-888-877-5378
ask for Jeanne Matsumoto at 714-484-5338

Project documents can be found at the following information repositories:

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Avis McKinnon: 928-768-2235

Lake Havasu City Library
1770 McCulloch Blvd.
Lake Havasu City, AZ 86403
Sharon Lane: 928-453-0718

Colorado River Indian Tribes Public Library
2nd Avenue and Mojave Road
Parker, AZ 85344
Amelia Flores: 928-669-1285

Parker Public Library
1001 Navajo Avenue
Parker, AZ 85344
Jana Ponce: 928-669-2622

Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
Julie Johnson: 714-484-5337

JEANNE MATSUMOTO
DEPT. OF TOXIC SUBSTANCES CONTROL
5796 CORPORATE AVENUE
CYPRESS, CA 90630

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Preventing environmental damage from hazardous wastes, and restoring contaminated sites for all Californians

State of California

California Environmental Protection Agency

FACT SHEET – October 2006

Pacific Gas and Electric Company (PG&E) Topock Project Update

Department of Toxic Substances Control (DTSC) provides oversight of the site investigation and cleanup activities for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station. It is located in San Bernardino County, 15 miles southeast of Needles, California and one half-mile west of the Colorado River.

PG&E Topock Compressor Station Location and Surrounding Communities

Below is a brief summary of what is in this fact sheet:

- Summary of current ***Interim Measures,**** site investigation activities and water sampling results
- Information about the ***Environmental Impact Report (EIR)*** process and the EIR consultant
- Future news and updates including public, agency, and tribal outreach for the EIR
- DTSC contacts and Information Repository locations

Need for Action

Water samples taken from the groundwater under and near the PG&E Topock Compressor Station (the Station) were found to be contaminated with ***hexavalent chromium***. Under the oversight of DTSC, PG&E is pumping the contaminated ***groundwater*** away from the Colorado River and into a treatment system located near the Station.

The affected groundwater, commonly referred to as the ***plume***, lies approximately 80 to 175 feet below the ground surface. The plume extends north from the Station, approximately 2,400 feet long and 1,300 feet wide. The presence of hexavalent chromium is the result of past waste water disposal activities at the Station – hexavalent chromium has not been used at the Station since 1985.

In early 2004, DTSC determined that immediate action was necessary to ensure that groundwater containing hexavalent chromium did not reach the Colorado River.

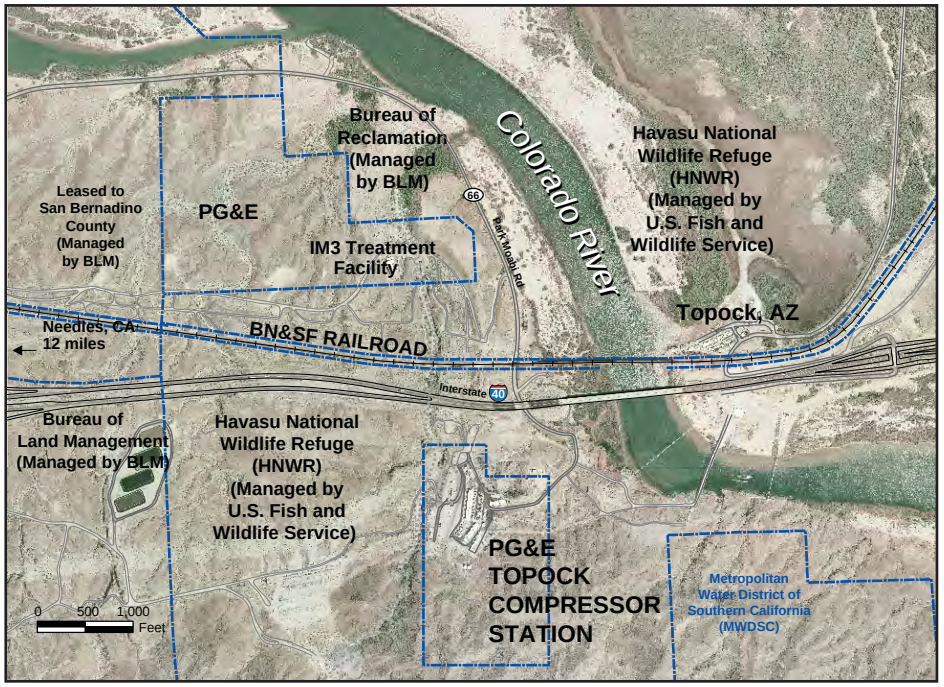
Ongoing Project Activities

Interim Measures are being implemented to prevent the plume from spreading while the ***Final Remedy*** or final cleanup plan is evaluated and selected. Interim Measures are cleanup actions taken to protect public health and the environment while long-term solutions are being developed.

* Items in bold italics are in the glossary.

In March 2004, groundwater removal and transport for off-site treatment and disposal began. These activities were conducted under Interim Measure No. 2 (IM2). Improvements to the IM2 system over time allowed for increased extraction of groundwater and on-site treatment. The IM2 system operation was discontinued in July 2005 when the Interim Measure No. 3 (IM3) treatment system began operation.

The IM3 system was built to extract and treat more groundwater than the IM2 operations could handle. Current operations of the IM3 system remove and treat approximately 135 gallons per minute (more than 190,000 gallons per day).



Topock Project Site and Surroundings

More than 100 million gallons of groundwater have been removed and treated by both of the Interim Measures since March 2004. After removing the contaminants, the treated water from the IM3 system is reinjected into the ***aquifer*** through wells located approximately 2,500 feet west of the Colorado River.

Two new groundwater extraction wells were installed under the IM3 treatment system to allow for the increased pumping rate to 135 gallons per minute.

Colorado River Sampling

Water from the Colorado River has been sampled quarterly since 1997, and monthly since November 2003. Hexavalent chromium has not been detected in any of these samples. In addition, ***sediment*** samples from the bottom of the Colorado River show no hexavalent chromium. Also, ***pore water*** samples collected from sediments in the bottom of the Colorado River in January 2006 did not detect any hexavalent chromium.

Environmental Impact Report (EIR)

The ***California Environmental Quality Act (CEQA)*** is a state law that requires the ***lead agency*** to consider and disclose the environmental effects of the project cleanup activities before taking action on those projects. As the lead agency for the PG&E Topock Compressor Station environmental investigation and cleanup project, DTSC made a determination that an EIR will be prepared to assess the potential environmental effects of cleanup alternatives, prior to the selection of the final remedy.

DTSC and PG&E entered into a Memorandum of Understanding (MOU) for the preparation of the EIR through an independent consultant under the direction of DTSC. DTSC retains approval authority over the content and conclusions in the EIR.

About the EIR Independent Consultant

EDAW has been selected as the EIR consultant. The company is a provider of comprehensive planning, environmental, design and information technology consulting services for public and private clients. EDAW's PG&E Topock Compressor Station EIR project team will be introduced at public scoping meetings to be held later this year. You can find more information about EDAW on their website at: www.edaw.com.

What EDAW Will Be Doing

To complete the EIR, EDAW will assist in:

- Preparing a ***Notice of Preparation (NOP)*** to be sent by DTSC to notify the public, government agencies, and tribal governments that the EIR is being prepared, and to invite comments on the scope and content of the EIR.

- **Coordinating scoping meetings** to obtain input from the public, government agencies, and tribal governments about the project design, selection of proposed cleanup activities, and on the scope and content of the EIR.
- **Preparing a Draft EIR** that assesses potential environmental impacts from the remedies proposed. The goal of the final cleanup plan evaluation in the EIR is to substantially reduce or avoid any significant environmental impacts. The EIR will present ***mitigation measures*** to meet this goal.
- **Coordinating public meetings and hearings** during the Draft EIR public comment period to obtain input from community members, government agencies, and tribal governments.
- **Preparing** written response to comments received during public hearings and public comment periods.
- **Preparing and publishing** the Final EIR.

Community Outreach for the EIR

DTSC will continue to keep you informed as the EIR proceeds. We will hold public scoping meetings to get input from the public, government agencies and tribal governments about the various remedy alternatives. Once the Draft EIR has been prepared, DTSC will hold a public hearing to get input from the public and government agencies about the Draft EIR. The meeting locations, dates and times will be announced.

Future News and Updates

Coming Soon! DTSC will be releasing a Public Participation Plan (Plan) for the PG&E Topock site. The Plan documents community concerns about the PG&E Topock Project and identifies outreach activities to ensure that the community and stakeholders are involved in the decision-making process during the environmental cleanup of the Station. Look for it online and in the repositories soon. DTSC is also working on government to government plans for tribal outreach.

Find us on the Internet! Our new Topock Web site went live to the public in May 2006. The new Web site is an easy way to get information about the PG&E Topock Compressor Station environmental investigation and cleanup project. You can find the Web site at: **www.dtsc-topock.com**. Project information can also be found at DTSC's main Web site: **www.dtsc.ca.gov**.

Past Topock Site Fact Sheets

DTSC continues to provide information to community members and other interested people. Below is a list of DTSC fact sheets about the Topock project.

July 2005 – *Topock Project Begins Interim Measure No. 3 Treatment Operations*

August 2004 – *Topock Compressor Station Directed to Expand Cleanup Operations*

May 2004 – *Interim Measures at the PG&E Topock Compressor Station*

September 1999 – *Environmental Investigation Results*

March 1998 – *Hazardous Waste Investigation*

Copies of all of the DTSC fact sheets can be found on the websites previously listed.

Glossary of Terms

Aquifer: A water-bearing layer of rock or sediment that is capable of yielding useable amounts of water.

California Environmental Quality Act (CEQA): Enacted in 1970 to provide long-term environmental protection, this law requires that governmental decision-makers and public agencies study the environmental effects of proposed activities, and that significant adverse effects be avoided or reduced where feasible.

Environmental Impact Report (EIR): A report designed to examine the potential environmental impacts of proposed activities.

Final Remedy: The final cleanup action proposed for dealing with contaminants at a site.

Groundwater: Water beneath the earth's surface that flows through soil and rock openings.

Hexavalent Chromium: A form of chromium, a metal naturally found in rocks, soil and the tissue of plants and animals. Also used in industrial products and processes, hexavalent chromium is a known carcinogen when inhaled (i.e., through breathing).

Interim Measures: Cleanup actions taken to protect public health and the environment while long-term solutions are being developed.

Lead Agency: A public agency with the principal responsibility for ordering and overseeing site investigation and cleanup.

Mitigation Measures: Actions designed to minimize significant impacts from activities.

Notice of Preparation (NOP): CEQA document to be sent by the lead agency to notify the public, responsible agencies, trustee agencies and involved federal agencies that the EIR is being prepared.

Pore Water: Pore water is characterized as water located within pore spaces between the grains of sediment beneath the bottom of the river.

Plume: A body of contaminated groundwater. The movement of a plume in groundwater can be influenced by such factors as local groundwater flow patterns, the character of the aquifer in which the groundwater is contained, and the density of contaminants.

Scoping Meeting: Meeting to gain input from the public, the local community, government agencies, and tribal government agencies regarding selection of the Final Remedy.

Sediments: The soil, sand and minerals at the bottom of surface waters, such as streams, lakes and rivers. The term may also refer to solids that settle out of any liquid.

Department Contacts

DTSC welcomes your feedback. There are several ways to contact us.

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Toll Free: (866) 495-5651
JMatsumo@dtsc.ca.gov

For media inquiries, please call:

Jeanne Garcia
DTSC Public Information Officer
(818) 551-2176
Email: JGarcia1@dtsc.ca.gov

TDD: Call 1-888-877-5378, and ask to contact Jeanne Matsumoto at 714-484-5338

Web sites: www.dtsc-topock.com
www.dtsc.ca.gov

JEANNE MATSUMOTO
DEPT. OF TOXIC SUBSTANCES CONTROL
5796 CORPORATE AVENUE
CYPRESS, CA 90630

Information Repository Locations

Project reports, fact sheets, and other project documents can be found in the Information Repositories listed below:

On the Internet:
www.dtsc-topock.com
www.dtsc.ca.gov

Needles Library
1111 Bailey Avenue
Needles, CA 92363
Contact: Kristin Mouton (760) 326-9255
10am – 6pm, Monday and Tuesday
10am – 4pm, Wednesday
10am – 5pm, Thursday through Saturday

Chemehuevi Indian Reservation
Environmental Protection Office
2000 Chemehuevi Trail
Havasu Lake, CA 92363
Contact: Dave Todd (760) 858-1140
8:00am – 4pm, Monday – Friday

Golden Shores/Topock Station Library
13136 S. Golden Shores Parkway
Topock, AZ 86436
Contact: Avis McKinnon (928) 768-2235
8am – 2pm, Tuesday and Thursday
3pm – 6pm, Wednesday

Lake Havasu City Library
1770 McCulloch Boulevard
Lake Havasu City, AZ 86403
Contact: Sharon Lane (928) 453-0718
9am – 6pm, Monday and Wednesday
9am – 8pm, Tuesday and Thursday
9am – 5pm, Friday and Saturday

Colorado River Indian Tribes Public Library
2nd Avenue and Mohave Road
Parker, AZ 85344
Contact: Amelia Flores (928) 669-1285
8am – Noon, 1pm – 5pm, Monday – Friday

Parker Public Library
1001 Navajo Avenue
Parker, AZ 85344
Contact: Jana Ponce (928) 669-2622
9am – 7pm, Monday – Friday
9am – 2pm, Saturday

Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
Contact: Julie Johnson (714) 484-5337
9am – Noon, 1pm – 4pm, Monday – Friday
Please call for an appointment.

Comment and Mailing List Form for PG&E's Topock Compressor Station

If you would like to be added to or taken off the distribution list for mail related to the site, or to submit questions or comments, please fill out this form and return to DTSC. Please address all mailings to Jeanne Matsumoto, Department of Toxic Substances Control, External Affairs/Public Participation, 5796 Corporate Avenue, Cypress, CA 90630, or by email to JMatsumo@dtsc.ca.gov.

Name: _____

Address: _____

City/State/Zip: _____

Phone/Email: _____

Affiliation (if any): _____

Comments/Questions: _____

_____

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DTSC mailings are solely for the purpose of keeping persons informed of DTSC activities. Mailing lists are not routinely released to outside parties. However, they are considered public records and, if requested, may be subject to release.

Laws, Regulations &

Pollution Prev

Managing Hazardous Waste

Preventing environmental damage from hazardous wastes, and restoring contaminated sites for all Californians

Public Involvemen

Cleanup

Science & Tech

State of California

Department of Toxic Substances Control

FACT SHEET – July 2005

Pacific Gas and Electric Company (PG&E) Topock Project Begins Interim Measure No. 3 Treatment Operations

Treatment facility for Interim Measure No. 3

This fact sheet describes Interim Measure No. 3 (IM3) at the PG&E Topock Compressor Station. The goal of IM3 is to treat groundwater contaminated with hexavalent chromium and to gain better control of the plume, which is adjacent to the Colorado River. The station is located about 15 miles southeast of Needles, California.

History

In February 2004, DTSC directed PG&E to begin pumping, transporting, and disposing of groundwater from the MW-20 bench location (a level patch of federal land located approximately 600 feet from the river, above the floodplain, see map, page 2) to ensure that groundwater containing hexavalent chromium would not reach the Colorado River. The level of water in the Colorado River has a large influence on groundwater levels, and during periods of low river levels, groundwater will tend to move toward the river. On March 8, 2004, PG&E began extracting groundwater and transporting it by truck to a licensed hazardous waste disposal and treatment facility in Vernon, California. In July 2004, a batch treatment system was added at the MW-20 bench to make the groundwater non-hazardous prior to transport. These actions are termed Interim Measures No. 2 (IM2). Under IM2, PG&E has been removing approximately 70 gallons per minute (gpm) of groundwater, 24 hours per day. This treated groundwater is then trucked to the disposal facility in Vernon, California.

In June 2004, DTSC determined that groundwater would need to be removed at higher rates than could be treated and managed at the current MW-20 bench site. To ensure that hexavalent chromium would not reach the Colorado River, DTSC directed PG&E to design and install a larger treatment facility capable of handling the higher groundwater flows. This facility is known as Interim Measure No. 3, or IM3. Construction of the IM3 system is complete, and it is expected to begin treating groundwater to reduce hexavalent chromium in mid-July 2005.

Elements of Interim Measure No. 3

The IM3 project consists of several elements:

- extraction of groundwater
- transportation via pipelines
- treatment to reduce hexavalent chromium
- management of the treated groundwater

These project components are described in detail below.

Removal, Piping and Transportation of Groundwater

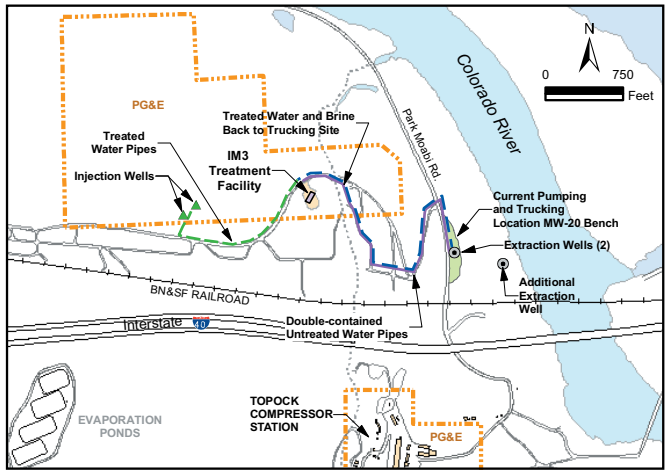
Two extraction wells are located above the floodplain on the MW-20 bench, in the area of the plume where the highest concentrations of hexavalent chromium have been detected. These extraction wells are also being utilized for the current pumping and trucking of groundwater under IM2. A third extraction well was installed in the floodplain in March 2005 (see map) to allow for extraction of groundwater within the floodplain, if deemed necessary to maintain control of the plume.

Double-walled piping will deliver untreated groundwater from the extraction wells to the IM3 treatment facility. Additional piping will carry treated water from the treatment facility back to the MW-20 bench. The water will continue to be trucked to the treatment facility in Vernon until re-injection wells are tested and approved by DTSC. Once approved by DTSC, the treated water will be injected into the local aquifer (as described below under the Management of Treated Water section).

Treatment Process

The treatment facility uses a multi-step process to ensure that groundwater is cleaned to the standards set by the Regional Water Quality Control Board (RWQCB). The cleaned groundwater will meet or be cleaner than the 50 part per billion (ppb) drinking water standard for chromium set by the State of California. This standard is well below the standard set by Arizona which is 100 ppb.

The first step of the cleanup process is the introduction of chemicals such as iron (in the form of ferrous chloride) to convert the hexavalent chromium to trivalent chromium (see glossary), which forms a solid material in water. This water-solid mixture will be pumped into a clarifier, which will remove a majority of the solids. The solids that are removed by the clarifier will be dewatered and trucked away from the site to be disposed of at a hazardous waste facility. The



Interim Measure No. 3 Treatment System Map

remaining water will be pumped through a micro-filter to remove any small solid particles which are left. After this treatment to reduce hexavalent chromium, a portion of the groundwater will be treated by a process called reverse osmosis which removes dissolved salts from the water. This step is necessary because the aquifer water in the injection area is less salty than the extracted groundwater. Reverse osmosis will result in two water streams – one with high salt content, called brine, and the other with low salt.

Management of Treated Water

After the water has been treated, the solids and brine will be trucked away for offsite disposal. The remaining treated water will be injected into two injection wells located west of the treatment facility (see map). The injection wells will reintroduce the treated groundwater back into the underground groundwater aquifer. The quality of the treated groundwater will not degrade the aquifer into which it will be injected. Injection well locations were selected based on hydrogeology, accessibility, and avoidance of biological and cultural resources.

To ensure that injection of treated water does not degrade the water quality of the aquifer, DTSC and the RWQCB directed PG&E to conduct studies to determine the current groundwater quality, and to install monitoring wells surrounding each injection well. These monitoring wells will be used to verify that the aquifer's groundwater quality is not adversely affected by the injection of treated groundwater.

Schedule

Construction of the IM3 treatment system is complete. Prior to startup, the system will be tested and any necessary adjustments made to ensure the system will operate properly. During testing, water will be trucked offsite. DTSC expects that the IM3 system will

begin treating groundwater to reduce hexavalent chromium in mid-July. Injection of the treated water will begin upon approval by DTSC. Treated water will continue to be trucked offsite until injection is approved to begin.

The Interim Measures at the Topock site are temporary measures intended to fully protect the Colorado River until a final cleanup plan can be evaluated, discussed with stakeholders and the public, selected and approved. DTSC has directed PG&E to prepare a Corrective Measures Study that will identify potential long-term cleanup technologies for the site, evaluate those technologies based on selection criteria and recommend a cleanup approach, known as the final remedy. The final remedy will be subject to the California Environmental Quality Act and to stakeholder and public review before being approved and implemented.

Glossary

Aquifer: A water-bearing layer of rock or sediment that is capable of yielding useable amounts of water.

California Environmental Quality Act (CEQA): Enacted in 1970 to provide long-term environmental protection, this law requires that governmental decision-makers and public agencies study the environmental effects of proposed activities, and that significant adverse effects be avoided or reduced where feasible. CEQA also requires that the public and stakeholders be informed and given an opportunity to provide input prior to the decision of the lead public agency.

Clarifier: A process in which solids are separated from liquids.

Corrective Action: Specific activities designed to investigate and cleanup contamination at a site resulting from present and past hazardous waste handling practices.

Department of Toxic Substances Control (DTSC): A department within the California Environmental Protection Agency charged with the regulation of hazardous waste from generation to final disposal, and for overseeing the investigation and clean-up of hazardous waste sites.

Extraction wells: Wells that are used primarily to remove contaminated groundwater from the ground. Water level measurements and water samples can also be collected from extraction wells.

Final Remedy: The final cleanup action proposed for dealing with contaminants at a site.

Groundwater: Water beneath the earth's surface that flows through soil and rock openings, aquifers, and often serves as a primary source of drinking water.

Hexavalent Chromium: A form of chromium, a metal naturally found in rocks, soil and the tissue of plants and animals. Also used in industrial products and processes, hexavalent chromium is a known carcinogen when inhaled (i.e., through breathing).

Hydrogeology: The geology of groundwater, with particular emphasis on the chemistry and movement of water.

Lead agency: A public agency which has the principal responsibility for ordering and overseeing site investigation and cleanup.

Monitoring wells: Specially-constructed wells used exclusively for testing water quality.

Parts per billion (ppb): A unit of measure used to describe levels or concentrations of contamination. A measure of concentration, equaling 0.0000001 percent. Most drinking water standards are expressed in ppb concentrations.

Plume: A body of contaminated groundwater flowing from a specific source. The movement of the groundwater is influenced by such factors as local groundwater flow patterns, the character of the aquifer in which the groundwater is contained, and the density of contaminants.

Regional Water Quality Control Board (RWQCB): A California agency that maintains water quality standards for a specific geographic jurisdiction and enforces state water quality laws.

Remediation: Cleanup or other methods used to remove or contain a toxic spill or hazardous materials from a site.

Reverse osmosis: A treatment process used in water and wastewater systems by adding pressure to force water through a semi-permeable membrane. Reverse osmosis removes most drinking water contaminants, including salts.

Trivalent Chromium: A form of chromium, a metal naturally found in rocks, soil and the tissue of plants and animals. Trivalent chromium is considered an essential nutrient and is relatively harmless. It does not dissolve in groundwater and tends to bind to soil; thus it does not travel readily in the environment.

Department Contacts

DTSC welcomes your feedback. There are several ways to contact us.

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Media inquiries please contact:
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DTSC Public Information Officer
1011 N. Grandview Avenue
Glendale, CA 91201
818-551-2176, JGarcia1@dtsc.ca.gov

TDD: Call 1-888-877-5378, and ask to contact Derrick Alatorre at 714-484-5474

Website: www.dtsc.ca.gov

DERRICK ALATORRE
DEPT. OF TOXIC SUBSTANCES CONTROL
5796 CORPORATE AVENUE
CYPRESS, CA 90630

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Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
Contact: Julie Johnson (714) 484-5337
Fax: (714) 484-5318
9am – Noon, 1pm – 4pm, Monday – Friday
Must submit written request prior to visit

Needles Library
1111 Bailey Avenue
Needles, CA 92363
Contact: Kristin Mouton (760) 326-9255
10am – 6pm, Monday and Tuesday
10am – 4pm, Wednesday
10am – 5pm, Thursday through Saturday

Chemehuevi Indian Reservation
2000 Chemehuevi Trail
Havasu Lake, CA 92363
Contact: David Todd (760) 858-1140
8:00am – 4pm, Monday – Friday

Golden Shores/Topock Library Station
13136 Golden Shores Parkway
Topock, AZ 86436
Contact: Avis McKinnon (928) 768-2235
8am – 2pm, Tuesday and Thursday
3pm – 6pm, Wednesday

Lake Havasu City Library
1770 McCulloch Boulevard
Lake Havasu City, AZ 86403
Contact: Sharon Lane (928) 453-0718
9am – 6pm, Monday and Wednesday
9am – 8pm, Tuesday and Thursday
9am – 5pm, Friday and Saturday

Colorado River Tribes Public Library
2nd Avenue and Mohave Road
Parker, AZ 85344
Contact: Amelia Flores (928) 669-1285
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Parker Public Library
1001 Navajo Avenue
Parker, AZ 85344
Contact: Jana Ponce (928) 669-2622
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Comment and Mailing List Form for PG&E's Topock Compressor Station

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Name: _____

Address: _____

City/State/Zip: _____

Phone/Email: _____

Affiliation (if any): _____

Comments/Questions: _____

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DTSC mailings are solely for the purpose of keeping persons informed of DTSC activities. Mailing lists are not routinely released to outside parties. However, they are considered public records and, if requested, may be subject to release.

Fact Sheet
August 2004

PACIFIC GAS & ELECTRIC COMPANY
TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

PG&E's Topock Compressor Station in Needles Directed to Expand Cleanup Operations

DTSC is one of six Boards and Departments within the California Environmental Protection Agency. The Department's mission is to restore, protect, and enhance the environment, to ensure public health, environmental quality and economic vitality by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.

Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
714-484-5474

California Environmental Protection Agency

E062004011SAC_topock_08_2004_draft

Overview

The California Department of Toxic Substances Control (DTSC) has directed Pacific Gas and Electric Company (PG&E) to expand its current cleanup operations of chromium-contaminated **groundwater** in the vicinity of the Topock Compressor Station (Station). The Station is located in eastern San Bernardino County about 15 miles southeast of Needles, California along the Colorado River. Earlier this year, DTSC determined that immediate action was necessary to ensure that groundwater containing chromium does not reach the nearby river. This determination was prompted by detections of **hexavalent chromium** in the floodplain well closest to the river.

Under DTSC's direction, PG&E began pumping contaminated groundwater in March 2004 at a rate of approximately 20 gallons per minute (gpm), and transporting the extracted groundwater by tanker truck to a licensed waste treatment facility in the Los Angeles area. The groundwater pumping operation, known as "**Interim Measures**," was deemed necessary to draw groundwater away from the Colorado River and toward extraction wells located above the river floodplain to the west. The affected groundwater, commonly referred to as "the **plume**," extends northeast from the Station toward the river. Thus far, nearly 3 million gallons of groundwater containing chromium have been removed.

DTSC continues to oversee PG&E in evaluating what is needed to protect the beneficial uses of the Colorado River. These evaluations have included ongoing weekly, monthly and quarterly monitoring of chromium concentrations in over 35 groundwater wells, as well as modeling of groundwater rates and flow direction. DTSC is assisted in its oversight by a Consultative Workgroup consisting of governmental, public, and community entities who hold a vital stake in the safety of the Colorado River and its environs. The members of the Workgroup include: Arizona Department of Environmental Quality, California Regional Water Quality Control Board - Colorado River Basin, International Boundary and Water Commission, Metropolitan Water District of Southern California (MWD), Mojave County (Arizona) Department of Public Health, California State Water Resources Control Board, Colorado River Board of California, U.S. Bureau of Indian Affairs, U.S. Bureau of Land Management (BLM), U.S. Bureau of Reclamation, U.S. Department of the Interior, U.S. Fish and Wildlife Service, U.S. Geological Survey, and representatives from nearby Indian Tribes. Based on current data, DTSC has determined that it is necessary to expand the current pumping operations.

Pumping Increased to Keep Chromium Plume Away from River

Groundwater levels in floodplain monitoring wells fluctuate as the level of the Colorado River rises and falls. The river level fluctuates several feet, depending on the season and the amount of water released from Davis Dam, approximately 30 miles upstream. Releases from Davis Dam peaked this year in May, resulting in higher river levels, and are expected to decline from June to October. The river is expected to

** Words in* **bold** *appear in the Glossary of Terms (inside)*

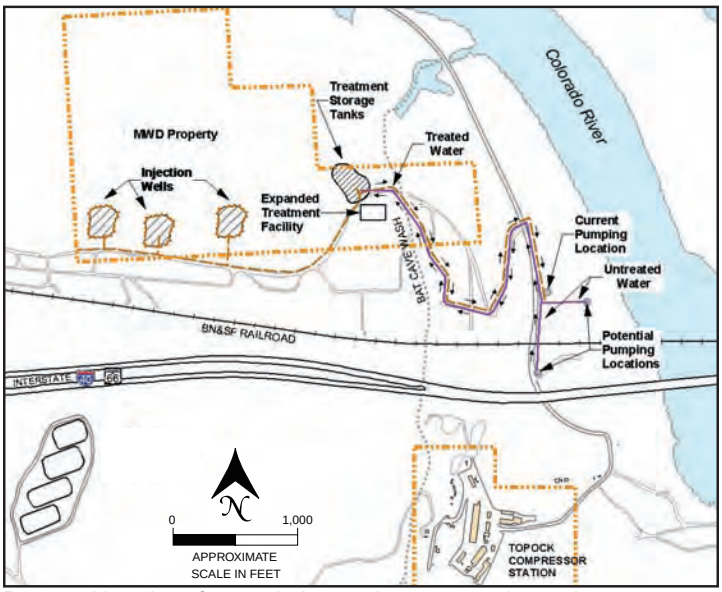
reach its lowest levels from October 2004 through January 2005.

Since pumping began in March, the combined effects of relatively high river levels and pumping at 20 gpm was adequate to provide for groundwater flow away from the river. When river levels are high, the groundwater flows away from the river. However, during the summer and fall, when overall river levels are decreasing, groundwater tends to flow toward the river. To ensure that groundwater containing chromium does not reach the river, PG&E will need to significantly increase pumping rates by winter 2004 (when the river is expected to reach its lowest levels).

The current Interim Measures pumping operation is conducted over the most contaminated part of the plume, located approximately 600 feet from the river, on a level patch of federal land managed by the BLM. PG&E is currently modifying the storage tanks to provide treatment capability that can process up to 40 gallons per minute of extracted groundwater. However, the current pumping site does not have adequate space to accommodate the increased pumping, storage and treatment facilities needed to pump at rates that will ensure groundwater will flow away from the river in the winter months.

Proposal to Expand Treatment Facility

To gain space and to reduce impacts to federal lands, PG&E is proposing to relocate the groundwater treatment operation to adjacent land they are currently seeking to purchase from the Metropolitan Water District of Southern California. The proposed expanded treatment facility would be located approximately 1,500 feet northwest of the current pumping and storage site.



Proposed location of expanded groundwater extraction and treatment system

Groundwater will continue to be extracted from the current pumping location. If necessary, additional groundwater extraction wells will be installed to maintain control of the plume. The extracted groundwater will be piped underground to the new treatment plant. Piping will be sited along existing roadways to reduce impacts to the natural habitat and to cultural resources such as the Topock Maze. Double-walled piping and a leak detection system will be installed to ensure that contaminated groundwater is contained safely.

The treated groundwater will meet California drinking water standards and will continue to be trucked offsite until evaluation of other water management options is complete. DTSC is currently evaluating reuse and disposal options for the treated water. Reuse or disposal of the treated water will be conducted under appropriate permits; these options include water provision for local commercial uses, re-injection to the aquifer and/or discharge to the Colorado River. Treated groundwater will meet or exceed relevant surface water standards if discharged to Colorado river is utilized as a part of Interim Measures.

Based on the need for immediate action, DTSC has issued a Notice of Exemption (NOE) for the expanded Interim Measures under the **California Environmental Quality Act (CEQA)**. DTSC will be reviewing and approving design documents and workplans. A more detailed fact sheet (published in May 2004), the Interim Measures workplans, the Notice of Exemption, the Interim Measures Conditional Approval letter, and other site-related documents are available in the project repositories listed. DTSC will continue to oversee PG&E in evaluating long-term alternative options for treatment and removal of chromium as part of an ongoing **Corrective Action Process**, and will continue to solicit feedback from the public during this process.

Disposal of the Treated Water

DTSC will continue to oversee PG&E in evaluating various remediation alternatives for the treatment and removal of chromium in the groundwater. At this time, DTSC has not made a final decision on how to dispose of the treated water. DTSC understands and values the importance of continuing to solicit feedback from other agencies, sovereign tribal governments and the public. Before any final decision is made on how to dispose of the treated water, DTSC will continue to consult with all interested stakeholders to understand and consider their concerns.

Glossary of Terms

California Environmental Quality Act (CEQA) A law mandating environmental impact review of governmental action. It requires that public agencies study the significant environmental effects of proposed activities and that the public be informed and allowed to comment on project decisions.

Corrective Action Process – Is designed to evaluate the nature and extent of a release of a hazardous substance and implement appropriate measures to protect public health and the environment.

Groundwater – Water beneath the earth's surface that flows through soil and rock openings, and often serves as a primary source of drinking water.

Hexavalent chromium (Cr+6) – Hexavalent chromium is a form of chromium, a metal naturally found in rocks, soil and the tissue of plants and animals. Also used in industrial products and processes, hexavalent chromium is a known carcinogen when inhaled (i.e., through breathing).

Interim Measures – Cleanup actions taken to protect public health and the environment while long-term solutions are being developed.

Plume – A body of contaminated groundwater flowing from a specific source.

DTSC Contacts

You can contact DTSC at any time to get more information about this project, be added to the mailing list, or let us know your thoughts. Please call, email or write to:

Norman Shopay
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Site-related Documents are Available at Several Locations:

Department of Toxic Substances Control
5796 Corporate Avenue, Cypress, CA 90630
Julie Johnson: 714-484-5337

Needles Public Library
1111 Bailey Avenue, Needles, CA 92363
Barbara Degidio: 760-326-9255

Chemehuevi Indian Reservation
2000 Chemehuevi Trail, Havasu Lake, CA 92363
Dave Todd: 760-858-1140

Golden Shores/Topock Library Station
13136 Golden Shores Parkway, Topock, AZ 86436
Avis McKinnon: 928-768-2235

Lake Havasu City Library
1770 McCulloch Blvd., Lake Havasu City, AZ 86403
Sharon Lane: 928-453-0718

Colorado River Indian Tribes Public Library
2nd Avenue and Mojave Road, Parker, AZ 85344
Amelia Flores: 928-669-1285

Parker Public Library
1001 Navajo Avenue, Parker, AZ 85344
Jana Ponce: 928-669-2622

Comment and Mailing List Form for PG&E's Topock Compressor Station

If you would like to be added to or taken off the distribution list for mail related to the site, or to submit questions or comments, please fill in this form and return to DTSC. Please address all mailings to Derrick Alatorre, Department of Toxic Substances Control, External Affairs/Public Participation, 5796 Corporate Avenue, Cypress, CA 90630.

Name: _____

Address: _____

City/State/Zip: _____

Phone/Email: _____

Affiliation (if any): _____

Comments/Questions: _____

_____

_____

_____

_____

DTSC mailings are solely for the purpose of keeping persons informed of DTSC activities. Mailing lists are not routinely released to outside parties. However, they are considered public records and, if requested, may be subject to release.

DERRICK ALATORRE
DEPT. OF TOXIC SUBSTANCES CONTROL
5796 CORPORATE AVENUE
CYPRESS, CA 90630

May 2004

PACIFIC GAS & ELECTRIC COMPANY
TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Interim Measures at the PG&E Topock Compressor Station

DTSC is one of six Boards and Departments within the California Environmental Protection Agency. The Department's mission is to restore, protect, and enhance the environment, to ensure public health, environmental quality and economic vitality by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.

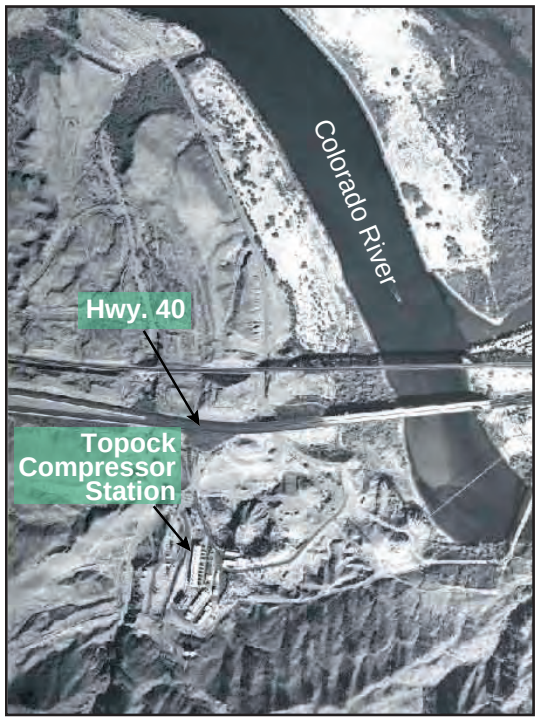
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
714-484-5474

California Environmental Protection Agency

E032004015SAC 5/5/04 final

What's Happening?

On March 8, 2004, Pacific Gas and Electric Company (PG&E) began extracting chromium-contaminated **groundwater*** near the Topock Compressor Station (Station) to prevent it from reaching the Colorado River. The chromium contamination is the result of discharges from past operations at the Station. The groundwater cleanup is being conducted under the oversight of the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), which recently determined that urgent action is needed to ensure chromium-contaminated groundwater does not reach the Colorado River. Although the contamination has not been detected in the Colorado River and there is no imminent threat to public health, DTSC required immediate action as a precautionary measure to protect the Colorado River, a valuable drinking water resource.



PG&E Topock Compressor Station near Needles, California

The environmental investigation, which has been underway since 1997, is primarily focused on the toxic chemical **hexavalent chromium** (also known as Cr+6). The affected groundwater, commonly referred to as the **plume**, extends about 2,400 feet long and 1,300 feet wide and mostly underlies federal lands. The immediate actions required by DTSC, called **Interim Measures**, include pumping, transporting, and disposing of groundwater from three existing monitoring wells located just above the floodplain of the Colorado River. The pumping is intended to draw the chromium plume in the floodplain toward the monitoring wells and away from the Colorado River.

DTSC is working closely with various regional, state, and federal agencies through a Consultative Workgroup (CWG), which meets regularly with PG&E to discuss and consult on the site cleanup. Agencies involved in the CWG include: Arizona Department of Environmental Quality, Mojave County (Arizona) Department of Health and Social Services, California Regional Water Quality Control Board - Colorado River Basin, Metropolitan Water District of Southern California, U.S. Department of the Interior, U.S. Bureau of Land Management, U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, U.S. Geological Survey, and the U.S. Bureau of Indian Affairs. DTSC also consults regularly with the surrounding Native American communities, including the Fort Mojave, Chemehuevi, and Colorado River Indian Tribes, and has

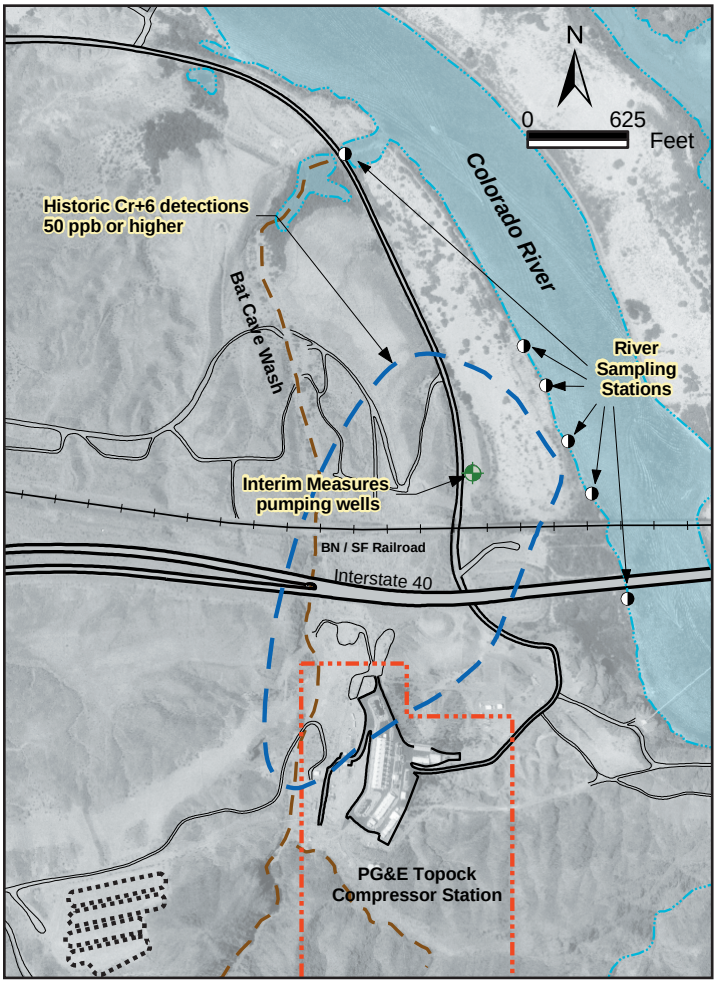
** Words in* ***bold*** *appear in the Glossary of Terms on the back page.*

been working to keep other members of the public and elected officials apprised of project status.

Interim Measures

Interim Measures are urgent actions taken to clean up the site while the long-term remedy is being evaluated. DTSC required Interim Measures to accelerate removal of chromium contamination and to protect the Colorado River. Planning and implementation of the Interim Measures is being closely coordinated with the U.S. Bureau of Land Management, which acts as trustee of the federal land where the pumping occurs. Based on the need for immediate action, DTSC issued a Notice of Exemption (NOE) under the **California Environmental Quality Act** (CEQA).

As part of the Interim Measures, PG&E is currently pumping contaminated groundwater 24 hours a day, 16 gallons per minute, for a total removal of approximately 23,000 gallons per day. Water pumped from the wells is being temporarily stored in steel holding tanks, and then transferred into trucks for transport to a licensed waste treatment facility in Los Angeles. Approximately six trucks per day are hauling water from the site.



Area of historic maximum hexavalent chromium detections (50 ppb or higher) in the area associated with the discharge

Multiple safeguards are in place to ensure that contaminated groundwater is safely contained during the removal process. The entire area where contaminated water is handled is underlain with durable, watertight liners and surrounded by protective **berms**. The site is also secured with fencing and manned on a 24-hour basis. Emergency response procedures are in place, including trained spill response personnel who are on call 24 hours per day. PG&E provides DTSC with a progress report on the Interim Measures every two weeks.

Two high-capacity groundwater extraction wells have recently been completed near the site of the present pumping. It is anticipated that pumping activity will switch over to these high-capacity extraction wells in early May 2004. The Interim Measures include provisions for the installation of additional extraction wells, if necessary, to draw the chromium plume in the floodplain toward the extraction wells and away from the Colorado River. In addition, a treatment plant is currently being planned to reduce or eliminate the need for trucking water off site. PG&E is currently evaluating options for disposal and/or re-use of the treated water.

Why Interim Measures? Has the Colorado River been Affected?

Water from the Colorado River has been sampled quarterly since 1997, and monthly since November 2003. To date, Cr+6 has not been detected in any of these samples. Likewise, bottom sediments from different locations along the river have been sampled and no Cr+6 has been detected. These data indicate that the chromium plume has not affected the Colorado River to any significant and measurable degree.

The current groundwater pumping is targeted at the most contaminated part of the plume, located approximately 600 feet from the river, where concentrations as high as 13,000 ppb of Cr+6 have been measured. It is believed that plume migration occurred mostly between 1951 and 1968 when wastewater was actively discharged from the Station, at the rate of about six to ten million gallons per year. This active discharge provided the main driving force that pushed the plume to its present position. Current data suggests that the plume is moving very slowly, at the rate of one to three feet per year.

At present, there are 35 wells monitoring the plume

including 12 monitoring wells in the floodplain area adjacent to the river. Seven of these wells were installed in 2003 to better monitor the edge of the plume closest to the river. Nine of these floodplain wells have never detected Cr+6. Of the three wells that detected Cr+6, the one closest to the river has exceeded the California drinking water standard of 50 ppb on two occasions, with a concentration as high as 111 ppb. These affected floodplain wells, plus a few others, are currently sampled on a weekly basis.

Based on the chromium detections from these floodplain wells, DTSC required Interim Measures in the form of groundwater pumping to prevent any potential impact to the Colorado River. While Cr+6 has never been detected in the Colorado River, pumping is intended to induce groundwater flow in the flood plain area away from the river to prevent any possibility of the chromium plume reaching the river. Also, the Interim Measures will gather additional technical data which will be used in designing the final cleanup system.

Where is the Topock Compressor Station?

PG&E's Topock Compressor Station is located in eastern San Bernardino County, about 15 miles southeast of Needles, along the Colorado River. The nearest communities are Moabi Regional Park, California (one mile northwest of the Station); Topock, Arizona (one-half mile east-northeast across the Colorado River); and Golden Shores, Arizona (eight miles north). Three Indian reservations are located within 35 miles along the Colorado River: the Fort Mojave Indian Reservation 20 miles upstream; the Chemehuevi Indian Reservation 25 miles downstream; and the Colorado River Indian Reservation 35 miles downstream.

History of Chromium Use at the Topock Compressor Station

PG&E Topock Compressor Station compresses natural gas before transporting it through pipelines to central and northern California. Between 1951 and 1985, PG&E used Cr+6 as an anti-corrosion agent in its cooling towers. From 1951 to 1964, untreated wastewater from the cooling towers was discharged into **percolation** beds in Bat Cave Wash, a normally dry wash next to the Station. Beginning in 1964, PG&E treated the wastewater to remove Cr+6. The treated wastewater was discharged into Bat Cave Wash until 1968, and subsequently into an on-site injection well. Over time, PG&E installed a series of lined evaporation ponds for wastewater disposal. In 1985, PG&E stopped using the chromium-based additive and switched to a phosphate-based solution. In 1996, PG&E entered into a Corrective Action Consent Agreement with DTSC to investigate and clean up the Cr+6 contamination at the Station.

What is Chromium and Why Should I be Concerned about it?

Chromium is a naturally occurring metal found in rocks, soil, and the tissue of animals and plants. It is present in the environment most commonly in two different forms: hexavalent chromium (Cr+6) and trivalent chromium (Cr+3). Cr+6 is the toxic variety; it is considered a human carcinogen when inhaled. It is also highly soluble, and therefore easily transported in groundwater. Cr+3, on the other hand, is considered an essential nutrient and relatively harmless. It is insoluble and tends to bind to the soil; thus it does not travel readily in the environment. Cr+6 is stable only under certain chemical conditions and may convert into Cr+3. However, Cr+3 does not convert as readily to Cr+6.

The California drinking water standard, which is a legal mandate based on health and other considerations, is currently set at 50 ppb of total chromium (which includes both Cr+6 and Cr+3). There is currently no separate drinking water standard for Cr+6.

Am I Affected by the Contaminated Groundwater?

As stated previously, Cr+6 has not been detected in the Colorado River, which is a major source of drinking water. The groundwater containing Cr+6 is in an isolated area and is not used for drinking or other purposes. Cr+6 is no longer used at the Station, and health and safety procedures are in place to ensure that workers at the Station do not come in contact with chromium-contaminated soil or groundwater. *(continued on back page)*

Interim Measures equipment, including water storage tanks

(continued from previous page)

What's Next?

Interim Measures at the site will continue until the **Final Remedy** is in place. Additional groundwater extraction wells will be installed and a wastewater treatment system will be constructed on site. Groundwater and river water sampling will continue on a regular basis.

The results of the Interim Measures, groundwater monitoring, and supplemental field studies will be incorporated in the evaluation of the Final Remedy and preparation of a **Corrective Measures Study** to select the long-term remedy for the site.

DTSC also has directed PG&E to evaluate the effectiveness of a **subsurface containment barrier**, including a "slurry wall." A subsurface containment barrier, when designed and installed properly, can be used in combination with ongoing groundwater extraction to prevent the contamination from impacting the river. Other long-term alternatives being evaluated include **in-situ treatment**, which converts the Cr+6 to Cr+3 under the ground to speed up the remediation of the site. These and other alternatives will be evaluated for effectiveness in protecting the environment, reliability, technical feasibility, cost effectiveness, community acceptance, and other factors. The Final Remedy may include pumping and treatment of groundwater in combination with these alternatives. Before the Final Remedy is selected, the public will have an opportunity to review and provide comments on the proposed Final Remedy. Additionally, a public hearing will be held.

Glossary of Terms

Berms – A curb, ledge, wall, or mound made of various materials, used to prevent the spread of contaminants.

California Environmental Quality Act (CEQA) A law mandating environmental impact review of governmental action. It requires that public agencies study the significant environmental effects of proposed activities and that the public be informed and allowed to comment on project decisions.

Corrective Measures Study (CMS) – A study conducted by the facility owner/operator to identify and evaluate alternative remedies (i.e., cleanup options) to address contaminant releases at a site.

Final Remedy – The final cleanup action proposed for dealing with contaminants at a site.

Groundwater – Water beneath the earth's surface that flows through soil and rock openings, and often serves as a primary source of drinking water.

Hexavalent chromium (Cr+6) – Hexavalent chromium is a form of chromium, a metal commonly found in soil, plants, and animals. Also used in industrial products and processes, hexavalent chromium is a known human carcinogen when inhaled (i.e., through breathing).

In-situ treatment – Technology that treats contaminants in place within the soil or in groundwater. It typically involves injection of a material such as air, gases, chemical or biological reagents or solid material (e.g., molasses or lactose) to chemically alter the contaminant, or to encourage bacteria in the soil to aid in the treatment.

Interim Measures – Cleanup actions taken to protect public health and the environment while long-term solutions are being developed.

Parts per billion – A unit of measure used to describe levels or concentrations of contamination. One part per billion is the equivalent of one drop of contaminant in one billion drops of water.

Percolation – The downward flow or filtering of water or other liquids through subsurface rock or soil layers, usually continuing to groundwater.

Plume – A body of contaminated groundwater flowing from a specific source.

Subsurface containment barrier – Barriers used to contain or control the flow of contaminated groundwater or subsurface liquids. They are constructed by digging a trench around a contaminated area and filling the trench with a material that tends not to allow water to pass through it.

We want to hear from you!

DTSC welcomes your feedback. There are several ways to contact us.

For any questions or comments please contact:

Derrick Alatorre, *Public Participation Specialist*
DTSC
5796 Corporate Ave.
Cypress, CA 90630
714-484-5474, DAlatorr@dtsc.ca.gov

Norman Shopay, *Project Manager*
DTSC
700 Heintz Ave., Suite 200
Berkeley, CA 94710
510-540-3943, NShopay@dtsc.ca.gov

Media inquiries please contact:

Jeanne Garcia, *Public Information Officer*
DTSC
1011 N. Grandview Ave.
Glendale, CA 91201
818-551-2176, JGarcia1@dtsc.ca.gov

TDD: Call 1-888-877-5378, and ask to contact Derrick Alatorre

Information Repository Locations

Project reports, fact sheets, and other project documents can be found in the Information Repositories listed below:

Department of Toxic Substances Control
5796 Corporate Ave., Cypress, CA
Julie Johnson: 714-484-5337

Needles Library
1111 Bailey Ave., Needles, CA
Barbara Degidio: 760-326-9255

Chemehuevi Indian Reservation
2000 Chemehuevi Trail, Havasu Lake, CA
Dave Todd: 760-858-1140

Golden Shores/Topock Library Station
13136 Golden Shores Parkway, Topock, AZ
Avis McKinnon: 928-768-2235

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Sharon Lane: 928-453-0718

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Name: _____

Address: _____

City/State/Zip: _____

Phone/Email: _____

Affiliation (if any): _____

Comments/Questions: _____

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California Environmental Protection Agency
Department of Toxic Substances Control

ENVIRONMENTAL INVESTIGATION RESULTS

Pacific Gas and Electric Company
Topock Gas Compressor Station
15 Miles Southeast of Needles, California

Update to Fact Sheet #1 *September 1999*

INTRODUCTION

The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), is the lead agency overseeing an investigation at Pacific Gas and Electric Company's Topock Gas Compressor Station site in eastern San Bernardino County. Results of the environmental investigation to date indicate that there is no immediate threat to human health or the environment, and that contamination has not impacted the Colorado River. Therefore, DTSC has determined that the normal corrective action process can proceed without implementing Interim Measures at the site.

The objective of the investigation is to characterize the nature and extent of certain hazardous substances at the site. This fact sheet serves as an update to DTSC's Fact Sheet #1 dated March 1998. The update provides a brief overview and information on recent site investigations, fieldwork completed, results to date, opportunities for public involvement, and information on repository locations where additional information can be obtained. Detailed information relating to the regulatory requirements, the summary of the corrective action process, and history of activities at the Topock Gas Compressor Station can be obtained by reviewing Fact Sheet #1, which can be obtained in any of the five repositories listed on page 5.

OVERVIEW

The Topock Gas Compressor Station is located in eastern San Bernardino County, about 15 miles southeast of Needles and south of Freeway I-40 (see Figure 1). The facility, which began operation in 1951, compresses natural gas for transportation through pipelines to Pacific Gas and Electric Company's service territory in Central and Northern California. As natural gas is compressed, its temperature increases and the compressed gas is cooled with water in two cooling towers before it is transported through the pipelines.

From 1951 to 1985, the company used a corrosion inhibitor containing hexavalent chromium to prevent corrosion of the cooling tower equipment. From 1951 to the mid-1960s, the untreated wastewater containing hexavalent chromium was discharged into the Bat Cave Wash area (see Figure 2), a normally dry stream bed that drains into the Colorado River. In the mid- to late-1960s, Pacific Gas and Electric Company began to treat the wastewater to convert hexavalent chromium to a non-hazardous form of chromium known as trivalent chromium. In the early 1970s, the company discharged the treated wastewater to an injection well near the Bat Cave Wash and later began storing the wastewater exclusively in lined evaporation ponds.

CORRECTIVE ACTION PROCESS

A corrective action process is designed to evaluate the nature and extent of releases of hazardous substances at a site. The process also identifies, develops and implements appropriate corrective measures, if required, to protect public health and the environment. As part of the corrective action process, Pacific Gas and Electric Company developed a Work Plan outlining the specifics of the planned facility investigation. DTSC reviewed and approved the Work Plan before the investigation began.

SAMPLING FIELDWORK COMPLETED

Currently, there are 38 existing monitoring wells at the site, including 11 pre-existing wells, 7 monitoring wells installed during the initial site investigation, and 20 additional wells installed since March of 1998 (see Figure 2). When Fact Sheet #1 was issued in March 1998, the first phase of the sampling fieldwork was being finished. Since that time, additional phases of fieldwork were performed at the site. Prior to performing this additional work, Work Plan amendments describing all proposed

additional investigations were approved by DTSC and submitted to key regulatory agencies and also placed in the designated public information repositories for the site.

The additional fieldwork included the following activities:

- A total of 20 additional monitoring wells were installed and sampled to further characterize the horizontal and vertical extent of hexavalent chromium in groundwater.
- All existing wells have been tested and will continue to be sampled.
- Water samples were taken at multiple locations and depths in the Colorado River.
- As part of the quality control process, duplicate groundwater and surface water samples were sent to a second laboratory for independent analysis. During two sampling events, the DTSC collected its own samples and completed independent analyses at the DTSC laboratory.
- Additional soil samples were collected and analyzed at and near the compressor station. At an area north of the compressor station, soils were sampled and a small amount of construction debris that contained asbestos was removed.
- Air sampling was performed during excavation activities at and near the compressor station.

RESULTS TO DATE

The results of the investigation completed to date indicate that:

- The detected levels of hexavalent chromium in groundwater and soils do not present an immediate threat to human health or the environment.
- In most of the locations, the samples have been non-detect or below the drinking water standard of 0.05 parts per million. The highest level of hexavalent chromium detected in the groundwater was 13 parts per million in one well near the station property. This groundwater is not being used for drinking or any other purpose.
- Hexavalent chromium was not detected in the three monitoring wells installed along the bank of the Colorado River.
- Hexavalent chromium has not been detected in the 36 water samples of the Colorado River collected on different occasions from nine separate locations, and at different water depths.
- Tests to date indicate the groundwater is not reaching the Colorado River.
- Hexavalent chromium in the soil is present in localized areas at or near the compressor station, and does not present an immediate threat to human health and the environment.
- Hexavalent chromium has not been detected in the air based on air samples taken during soil excavation activities.

NEXT COURSE OF ACTION

- DTSC has determined that the normal corrective action process can proceed without implementing Interim Measures at the site.
- In the coming months Pacific Gas and Electric Company will prepare a comprehensive site characterization report, to be submitted to DTSC. Upon review and approval of the site characterization report, DTSC will issue another fact sheet.
- If corrective measures are necessary, the next step in the process will be to conduct a Corrective Measures Study in which various alternatives for clean up will be evaluated. Possible clean-up alternatives might include pumping the groundwater and treating it at the surface; treating the groundwater in place; or a combination of the two approaches.
- Alternatives will be evaluated for effectiveness in protecting the environment, reliability, technical feasibility, cost, community acceptance and other factors. A public notice will be mailed to the public seeking community input before DTSC approves the final clean-up alternative.

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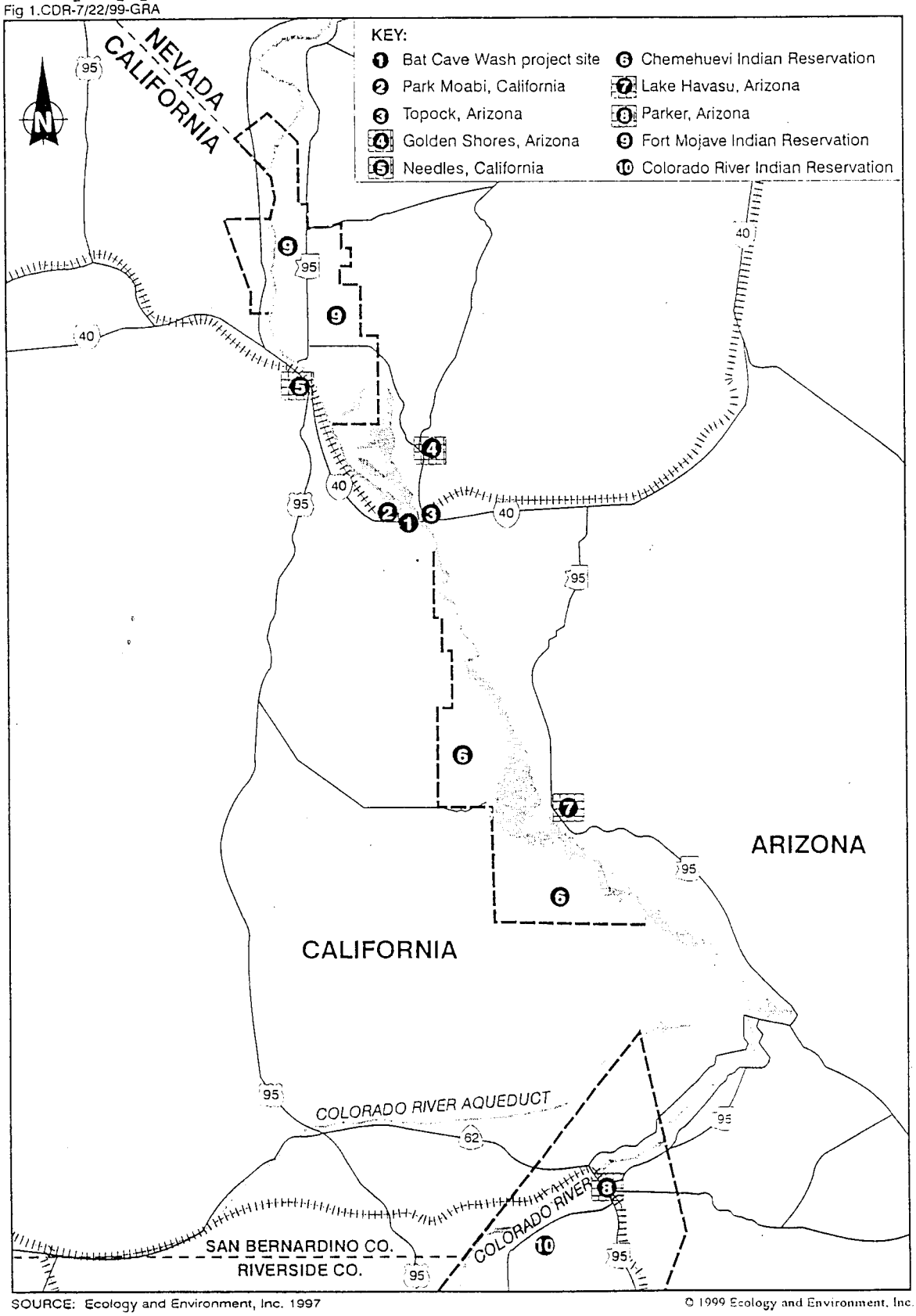
Fig 1.CDR-7/22/99-GRA



SOURCE: Ecology and Environment, Inc. 1997

SCALE
0 20 40 Miles

Figure 1 REGIONAL LOCATION AND SURROUNDING COMMUNITIES

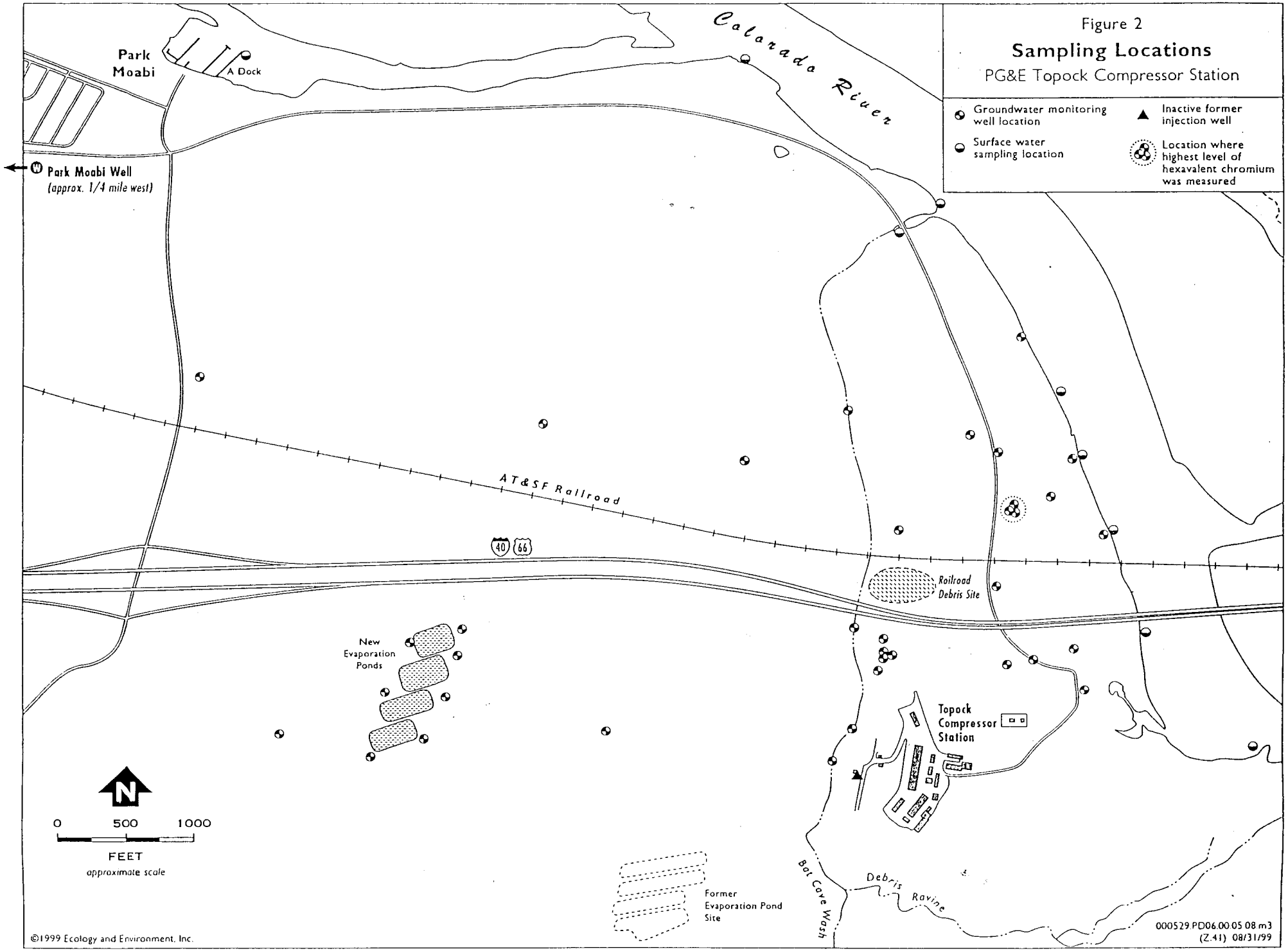


Figure 2
Sampling Locations
PG&E Topock Compressor Station
Groundwater monitoring well location
Surface water sampling location
Inactive former injection well
Location where highest level of hexavalent chromium was measured
Park Moabi
A Dock
Colorada River
Park Moabi Well
(approx. 1/4 mile west)
AT&SF Railroad
40
66
Railroad Debris Site
New Evaporation Ponds
Topock Compressor Station
N
0
500
1000
FEET
approximate scale
Former Evaporation Pond Site
Bat Cave Wash
Debris Ravine
©1999 Ecology and Environment, Inc.
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(Z.41) 08/31/99

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

DTSC has solicited public input for the project and invites continued public involvement. A Public Participation Plan has been prepared and can be found at any one of the five repositories. DTSC will continue to provide updates to the public through fact sheets and/or letters as needed. If the community expresses greater interest in the project investigation process DTSC will conduct public meetings. If during the course of the investigation DTSC determines that immediate action is required to protect human health and the environment the public will be notified.

FOR ADDITIONAL INFORMATION

If you have questions concerning this project or would like additional information about the Pacific Gas and Electric Company's Topock Compressor Station site, please call the contacts listed below or visit and refer to the documents available at one of the 5 information repositories. Tayseer Mahmoud, DTSC Project Manager at (714) 484-5418, or Martin Prisco, DTSC Public Participation Specialist at (818) 551-2875. The Project Manager for Pacific Gas and Electric Company is Melvin Wong. The project contact at Pacific Gas and Electric Company is Linda Quinones-Vaughan, Public Affairs at (661) 321-4407.

INFORMATION REPOSITORIES

Department of Toxic Substances Control
5796 Corporate Ave, Cypress, CA 90630
Contact: Ms. Julie Johnson, (714) 484-5337
8am - 5pm, Mon - Fri

Golden Shores / Topock Library Station
13136 Golden Shores Pkwy, Topock, AZ 86436
Contact: Ms. Tina O'Hara, (520) 768-2235
2pm - 7pm, Mon; 8am - 1pm, Tues & Thurs

Chemehuevi Valley Indian Reservation
1980 Palo Verde Drive, Havasu Lake, CA 92363
Contact: Mr. Ed White, (760) 858-1116
7:30am - 4pm, Mon - Fri

Lake Havasu City Library
1787 McCulloch Blvd, Lake Havasu City, AZ 86403
Contact: Ms. Sharon Lane, (520) 453-0718
9am - 5pm, Mon, Wed, Fri & Sat; 9am - 8pm Tues & Thurs

Needles Library, 1111 Bailey Avenue, Needles, CA 92363
Contact: Ms. Barbara Degidio, (760) 326-9255
10am - 6pm, Mon - Tues; 10am - 5pm Thurs & Sat; 12pm - 5pm, Fri

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
ATTN MARTIN PRISCO
1011 N GRANDVIEW AVENUE
GLENDALE CA 91201

California Environmental Protection Agency
Department of Toxic Substances Control

HAZARDOUS WASTE INVESTIGATION

Pacific Gas and Electric Company
Topock Gas Compressor Station
15 Miles Southeast of Needles, California

Fact Sheet #1 *March 1998*

INTRODUCTION

The California Environmental Protection Agency, *Department of Toxic Substances Control (DTSC)*, is the lead agency overseeing a *hazardous waste* investigation at *Pacific Gas and Electric Company's (PG&E)* Topock Gas Compressor Station site in eastern San Bernardino County (see Figure 1). The objective of the investigation is to characterize the nature and extent of certain hazardous substances at the site and facility (see Figure 2).

This fact sheet provides information on investigation activities and future activities at the site. The fact sheet also includes a brief facility description, information about past site investigations, regulatory requirements, a summary of the corrective action process, a description of current sampling activities, and identification of possible future activities. Additional information about waste management activities and site/groundwater investigations at the Topock site is available at the local *information repositories* or by contacting DTSC staff.

REGULATORY REQUIREMENTS FOR INVESTIGATION

The *Resources Conservation and Recovery Act (RCRA)* corrective action process is designed to evaluate the nature and extent of releases of hazardous substances at a site. The process also identifies, develops and implements appropriate *corrective measures* to protect public health and the environment.

An agency may become involved in not only investigating the permitted facility, but the entire site. The DTSC has the legal authority to require environmental assessment and investigation of other locations at the site.

(Hazardous substances and key words are italicized in this text and are defined in the glossary.)

FACILITY DESCRIPTION

The Topock Gas Compressor Station is located in eastern San Bernardino County, about 15 miles southeast of Needles and south of Freeway I-40. The facility occupies about 100 acres. The compressor station is located near the Havasu National Wildlife Refuge, a portion of which is located along the Colorado River. The nearest communities are two mobile home parks: Topock, Arizona, located about one-half mile east-northeast of the facility, and Park Moabi, California, located about one mile northwest of the facility. A third community known as Golden Shores, Arizona, is located eight miles north. Within 35 miles of the facility are the Fort Mojave Indian Reservation; the Chemehuevi Indian Reservation; and the Colorado River Indian Reservation.

The facility, which began operation in 1951, compresses natural gas for transportation through pipelines to PG&E's service territory in Central and Northern California. As natural gas is compressed, its temperature increases and the compressed gas is cooled in two cooling towers before it is transported through the pipelines.

CHROMIUM-BASED WASTEWATER DISCHARGES LED TO CONTAMINATION

From 1951 to 1985, PG&E added a *chromium*-based substance to the water in the cooling towers to prevent corrosion of the cooling tower equipment. During the 1950s and 1960s, untreated cooling tower wastewater containing *hexavalent chromium* was discharged into the Bat Cave Wash area (see Figure 2), which is normally a dry streambed that feeds into the Colorado River.

In the mid- to late-1960s, PG&E began treating the cooling tower wastewater to convert hexavalent chromium to *trivalent chromium.* In the early 1970s, PG&E discharged treated wastewater to an injection well near the Bat Cave Wash and later stored wastewater exclusively in single-lined

evaporation ponds, which held and contained the wastewater until it evaporated. These evaporation ponds have been closed and are no longer in use.

PG&E switched to a more environmentally safe *phosphate* additive in 1985, and built four new evaporation ponds, featuring double-lined bottoms, for holding phosphate-based wastewater. These new ponds are under the jurisdiction of the Colorado River Basin Regional Water Quality Control Board at (760) 776-8945.

PG&E also began working with state regulatory authorities at this time to close all regulated hazardous waste management units at the site.

PREVIOUS SOIL AND GROUNDWATER INVESTIGATIONS AND CLEANUPS

In 1987, an RFA was prepared for the Topock site as part of the corrective action process. With respect to wastewater discharges at the site, the RFA concluded that from 1951 to 1969 approximately 6 million gallons per year of untreated cooling tower wastewater containing hexavalent chromium-based corrosion inhibitors were discharged into the Bat Cave Wash area (see Figure 2).

Additional investigations and cleanup activities were conducted at the Site between 1987 and 1995. One study included shallow soil sampling in the Bat Cave Wash in the vicinity of the previous wastewater discharge area. Chromium concentrations were found to be very low at these shallow depths and did not pose a significant threat to the environment. Additional samples will be taken at greater depths in the wash during the RFI investigation. Another activity conducted during 1993-1994 included the cleanup and closure of the four original evaporation ponds and the removal of sludge and contaminated soil. Although groundwater beneath the ponds was found not to be contaminated, additional groundwater monitoring was initiated at other locations onsite in the late 1980s and will continue for the foreseeable future. The results of these and additional groundwater investigations required by the RFI are expected in late 1998.

CORRECTIVE ACTION AT THE TOPOCK SITE

In 1996, PG&E and DTSC entered into an agreement to conduct an investigation at the Topock site based on the corrective action process of the Resource Conservation and Recovery Act (RCRA).

CORRECTIVE ACTION PROCESS

RCRA Facility Assessment (RFA) - The first step in the corrective action process, an investigation to determine whether or not potential hazardous substances or other constituents of concern exist in soils or groundwater at or near a facility. A lead agency, such as the DTSC, gathers information about potential chemical releases relative to chemical usage, storage and treatment at the site. This may involve a visual site inspection, file review and initial sampling or other investigations. The agency prepares and issues an RFA Report, which indicates whether further investigation needs to be undertaken.

RCRA Facility Investigation (RFI) - The owner – in this case, PG&E – develops an RFI Workplan outlining the specifics of the planned investigation. The investigation may include both soil, surface water and groundwater. DTSC reviews and approves the RFI Workplan before the investigation begins. After the investigation begins, an RFI Report is prepared, summarizing field work results. DTSC oversees field work, reviews and approves the RFI report, and involves the public by issuing fact sheets and conducting briefings and public meetings, if there is interest in the work.

Interim Measures - Action is taken if there is an immediate threat to human health or the environment or if interim action will facilitate addressing the site. Such measures can happen at any time during the corrective action process. Prior to implementing interim measures, an Interim Measures Workplan must be prepared and approved by DTSC. The public has the opportunity to provide input on Interim Measures and is kept informed of these activities.

Corrective Measures Study - Remedial or cleanup options for the site are evaluated and a remedial plan is proposed if necessary. DTSC reviews the study, receives public input on the proposed remedy selection, and selects options for implementation.

Corrective Measures Implementation - A plan for the design and construction of the corrective measures is reviewed and approved by DTSC. DTSC oversees construction and monitoring activities. The public is kept informed of this activity.

PG&E submitted to DTSC: (1) a report summary of activities to date at the Bat Cave Wash and surrounding area, and (2) a workplan outlining planned investigative activities. At this time, PG&E also began working with DTSC on assessing community interest and public participation requirements. As part of this agreement, PG&E is conducting a facility investigation known as an RFI. (See box, Corrective Action Process.)

The RFI, which began in April 1997, involved the following: soil sampling and analysis in the Bat Cave Wash area and other areas; installation of groundwater monitoring wells; groundwater sampling and analysis; and surface water sampling. Below is a summary of activities to date in each of these areas:

- Soil Sampling and Analysis: Collected 140 soil samples at depths ranging from 1 to 200 feet below grade and analyzed for chromium and other heavy metals.
- Groundwater Monitoring Wells: Installed 7 wells to depths of up to 200 feet below grade.
- Groundwater Sampling and Analysis: Collected 55 groundwater samples and analyzed them for chromium and other heavy metals.
- Surface Water Samples: Collected 11 surface water samples and analyzed them for chromium and other heavy metals.

Results of the initial round of sampling were submitted in December 1997 to the DTSC for review. Additional field work will take place starting in March 1998. Following analysis of the results and DTSC approval, an RFI report describing the investigation results will be prepared. A fact sheet summarizing the RFI report will be mailed to those on the site mailing list and provided to the local information repositories. A public meeting may be held if there is community interest in the findings.

FUTURE ACTIVITIES

PG&E will take appropriate corrective measures at the Topock site based upon the findings of the RFI and DTSC requirements. If corrective action is appropriate, PG&E will submit a Corrective Measures Study (CMS) to propose remedial or cleanup options for the site. DTSC will review the study, receive public comment on the proposed remedial selection, and select options for implementation. PG&E will implement the plan and issue a report for DTSC review and approval.

The project is expected to continue over the next two years.

COMPLIANCE HISTORY

Federal and state regulations of the Topock Compressor Station began in the early 1970s, when PG&E was required to comply with various hazardous waste management regulations at the Topock site. Based upon DTSC records, PG&E has a cooperative compliance history and is currently in compliance with hazardous waste regulations at the Topock site.

ENVIRONMENTAL REVIEW

The California Environmental Quality Act requires that government agencies evaluate a project's potential for significant environmental impacts.

If remediation is required at the Topock Gas Compressor Station, an initial study will be prepared to evaluate whether the remediation would pose any potential for significant environmental impacts. This environmental review is also subject to public input.

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

DTSC has solicited public input for the PG&E Topock project, and invites continued public involvement. A *Public Participation Plan* that will include a summary of public concerns and involvement needs is expected to be completed by early 1998.

DTSC will conduct public meetings, if there is community interest in the project investigation process.

FOR ADDITIONAL INFORMATION

If you have questions concerning this project or would like additional information about the PG&E Topock Compressor Station site, please call the contacts listed below or visit and refer to the documents available at one of the information repositories. Eduardo Vallesteros, DTSC Project Manager at (818) 551-2176, or Martin Prisco, DTSC Public Participation Specialist at (818) 551-2875. The Project Manager for PG&E is Melvin Wong. The project contact at PG&E is Linda Quinones-Vaughan, PG&E Public Affairs at (805) 321-4407.

GLOSSARY

Chromium: A naturally occurring element found in rocks, animals, plants, soil and volcanic dust and gases. It is present in the environment in several different forms, most commonly trivalent chromium and hexavalent chromium (see below).

Corrective measures: Specific activities designed to clean up contamination at a site resulting from present and past hazardous waste handling practices.

Corrective Measures Study (CMS): A study performed if the DTSC determines that a release poses a potential threat to human health and/or the environment.

Department of Toxic Substances Control (DTSC): A department within the California Environmental Protection Agency charged with the responsibility for overseeing the investigation and remediation of hazardous waste sites and regulatory hazardous waste management companies.

Evaporation ponds: Surface impoundments constructed to evaporate and therefore reduce wastewater.

Hazardous waste: Waste substances that can pose a substantial or potential hazard to human health or the environment when improperly managed. A hazardous waste possesses at least one of these four characteristics (or appears on special U.S. EPA lists): ignitability, corrosivity, reactivity, or toxicity.

Hexavalent chromium: A compound used in various industrial processes and is considered carcinogenic and toxic in relatively small concentrations. Some of the uses of hexavalent chromium compounds include chrome plating, corrosion inhibitors, and other industrial processes. The type of chromium used at natural gas compressor stations was soluble hexavalent chromium, which kept the interior of cooling equipment clear of scales and other residues.

Information Repositories: Information repositories are established at appropriate locations to allow open and convenient public access to all site-related documents approved by the DTSC for public disclosure.

Pacific Gas and Electric Company (PG&E): A subsidiary of PG&E Corporation, PG&E is an investor-owned electric and gas utility serving more than 13 million people in Northern and Central California. As part of its operations, PG&E transports gas supplies from the Southwest and Canada through a system of pipelines and compressor stations to PG&E's distribution and storage systems.

Phosphate: A chemical compound containing phosphorous and oxygen most commonly used in detergent and fertilizer. Also used as water treatment for corrosion control.

Public Participation Plan: A plan to formally document community concerns regarding a site or facility, and to identify specific activities that will be implemented to ensure the community is involved in the DTSC decision-making process.

Resource Conservation and Recovery Act (RCRA): A 1976 amendment to the first federal solid waste legislation, the Solid Waste Disposal Act of 1965. In RCRA, Congress established initial directives and guidelines for the U.S. Environmental Protection Agency to regulate and manage hazardous waste.

Trivalent chromium: Non-cancerous semi-gray heavy metal. Considered an essential human nutrient in trace amounts.

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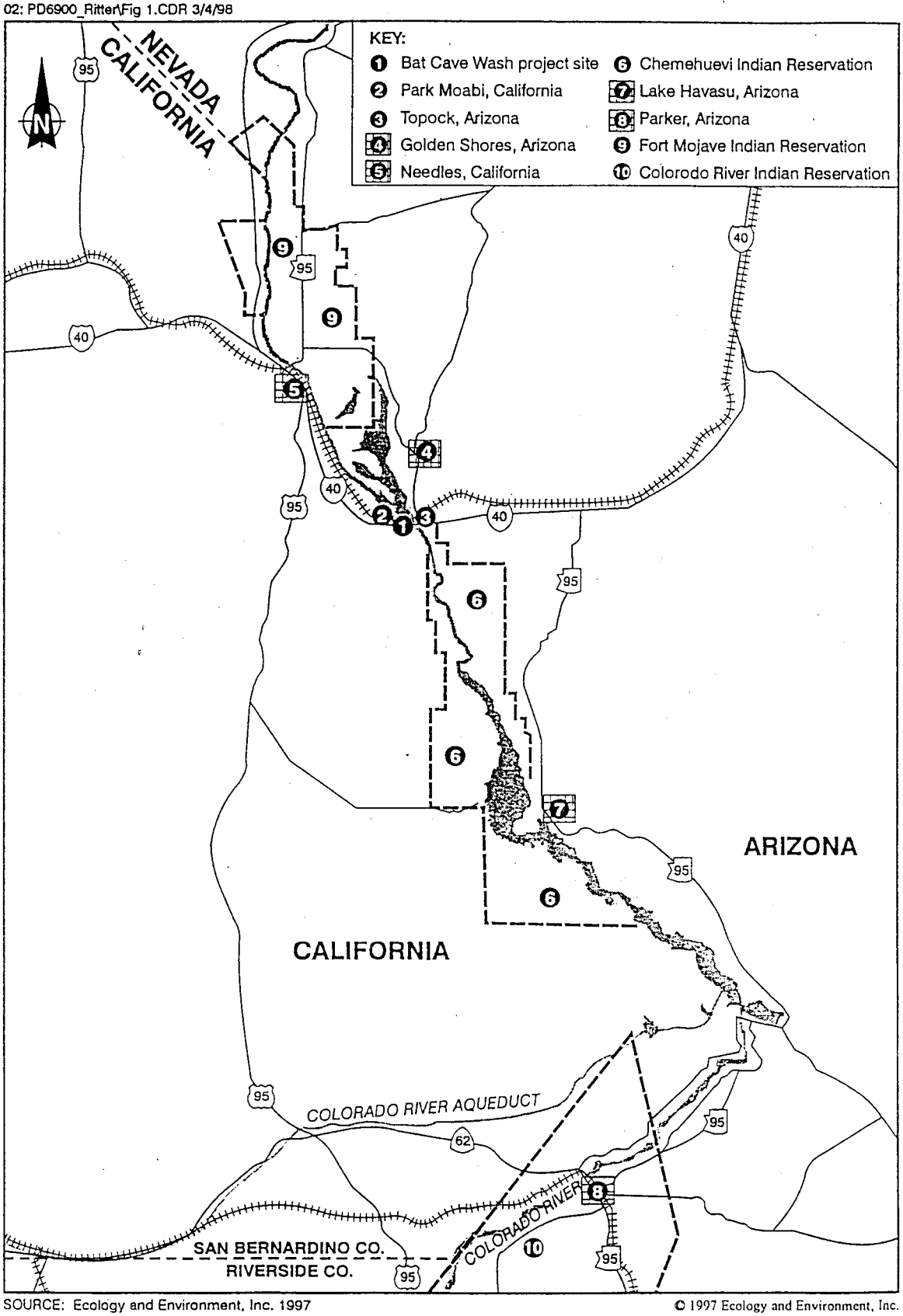

SOURCE: Ecology and Environment, Inc. 1997

SCALE

0 20 40 Miles

Figure 1 REGIONAL LOCATION AND SURROUNDING COMMUNITIES

APPENDIX H

DOI Contact Information / Topock Site Mailing List

DOI Contact Information

U.S. Department of the Interior
Office of Environmental Policy and Compliance, Denver Region
Pamela Innis, Topock Remedial Project Manager
P.O. Box 25007 (D-108)
Denver Federal Center, Bldg 56
Denver, CO 80225-0007
(303) 445-2502
pamela_innis@ios.doi.gov

U.S. Bureau of Land Management
Dennis Godfrey, Public Affairs Specialist
BLM Arizona State Office
(602) 417-9499
dgodfrey@blm.gov

U.S. Bureau of Land Management
Cathy Wolff-White, BLM Topock Project Manager
2610 Sweetwater Avenue
Lake Havasu City, AZ 86406
U.S. Bureau of Reclamation
Rose Davis, External Affairs Officer
BOR External Affairs Office
(702) 293-8421
jdavis@usbr.gov

U.S. Bureau of Reclamation
Jeff Smith, BOR Topock Project Manager
P. O. Box 61470
Boulder City, NV 89006-1470

U.S. Fish & Wildlife Service
Carrie Marr, FWS Topock Project Manager
2321 W Royal Palm Road, Suite 103
Phoenix, AZ 85021

U.S. Fish & Wildlife Service
Linda Miller, Havasu National Wildlife Refuge Manager
Havasu National Wildlife Refuge
317 Mesquite Ave.
Needles, CA 92363

Topock Site Mailing List

(please see the respective website for a list of current elected officials)

Federal Agencies

EPA Regional Office
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105
(866) EPA-WEST
r9.info@epa.gov

Federal Elected Officials

Senators

U.S. Senator Barbara Boxer
United States Senate, California
Bay Area Office
70 Washington Street, Suite 203
Oakland, CA 94607
(510) 286-8537

U.S. Senator Dianne Feinstein
United States Senate, California
One Post St. #2450
San Francisco, CA 94104
(415) 393-0707

U.S. Senator John McCain
United States Senate, Arizona
2201 East Camelback Road
Suite 115
Phoenix, AZ 85016
(602) 952-2410

U.S. Senator Jon Kyl
United States Senate, Arizona
2200 E. Camelback Rd. #120
Phoenix, AZ 85061
(602) 840-1891

Representatives

U.S. Representative Jerry Lewis
41st District of California
United States House of Representatives
1150 Brookside Ave., Suite J-5
Redlands, CA 92373
(909) 862-6030

U.S. Representative Trent Franks
Second District of Arizona
United States House of Representatives
7121 West Bell Rd., Suite 200
Glendale, AZ 85308
(623) 756-7911

State Agencies

California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
(714) 484-5300

Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, AZ 85007
(800) 234-5677

Regional Water Quality Control Board—Colorado River Basin
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260
(760) 346-7491

State Elected Officials

Senators

State Senator Jean Fuller
18th District of California, State
5701 Truxtun Avenue, Suite 150
Bakersfield, CA 93309
(661) 323-0443

State Senator Ron Gould
Senate Third District of Arizona, State Senate
1700 W. Washington, Room 303
95814 Phoenix, AZ 85007
(602) 926-4138

Representatives

State Assembly Member Connie Conway
34th District of California State Assembly
113 North Church Street, Suite 504 & 505
Visalia, CA 93291
(559) 636-3440

State Representative Doris Goodale
Third District of Arizona House of Representatives
1700 W. Washington, Room 310
Phoenix, AZ 85007
(602) 926-5408

City/ County Contacts

San Bernardino County Board of Supervisors
385 N. Arrowhead Avenue
San Bernardino, CA 92415-0110
(909) 387-4830

Mohave County Board of Supervisors
809 E. Beale Street, P.O. Box 7000
Kingman, AZ 86402-7000
(928) 753-9141

Mayor Edward Paget
City of Needles
817 Third Street
Needles, CA 92363
(760) 326-2113

Mayor Dan Beaver
Town of Parker
1314 11th Street
Parker, AZ 85344
(928) 669-9265

Supervisor Brad Mitzelfelt
District 1 of San Bernardino County
City of Needles
(800) 472-8597

Supervisor Buster Johnson
District 3 of Mohave County
2001 College Drive, Suite 90
Lake Havasu City, AZ 86403
(928) 453-0724

Mayor Mark Nexsen
Lake Havasu City
2330 McCulloch Blvd N.
Lake Havasu City, AZ 86403
(928) 855-2116