



Public Participation Plan

Pacific Gas and Electric Company's Topock Compressor Station Needles, California

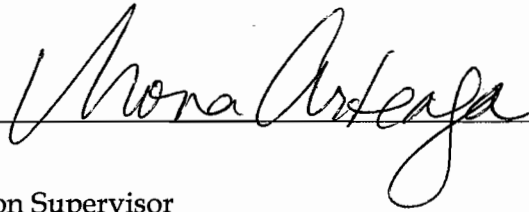
**Prepared for
California Environmental Protection Agency,
Department of Toxic Substances Control**

**5796 Corporate Avenue
Cypress, California 90630**

February 2007

**Prepared by
CH2MHILL**

Approved by: _____



February 12, 2007*

Mona Arteaga
Public Participation Supervisor
California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

Prepared by:
CH2M HILL
155 Grand Avenue, Suite 1000
Oakland, CA 94612

Prepared for:
California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

On behalf of:
Pacific Gas and Electric Company
77 Beale Street
San Francisco, CA 94177

** The signatory has determined that this document contains the required elements for a Public Participation Plan. CH2M HILL assisted DTSC in preparation of this plan in accordance with the requirements of the Corrective Action Consent Agreement (revised): Pacific Gas and Electric Company's Topock Compressor Station, Needles, California, EPA ID No. CAT080011729, February 26, 1996; Health and Safety Code Sections 25187 and 25200.10; and DTSC's 2001 Public Participation Policy and Procedures Manual.*



This document is printed on recycled paper.

Contents

Acronyms and Abbreviations	vii
1.0 Introduction.....	1-1
1.1 Public Participation Plan Purpose.....	1-1
1.2 Communication with the Federal Government	1-2
1.3 Communication with State and Local Governments	1-2
1.4 Communication with Tribal Governments.....	1-2
1.5 Information Sources	1-3
2.0 Background and Site History	2-1
2.1 Site Description.....	2-1
2.2 Site History	2-1
3.0 Public Participation Program	3-1
3.1 Objectives of the Public Participation Program	3-1
3.2 Public Outreach and Activities.....	3-1
3.2.1 Surveys and Interviews	3-2
3.2.2 Briefings, Presentations and Meetings	3-2
3.2.3 Fact Sheets	3-2
3.2.4 Public Notices	3-3
3.2.5 Public Meetings	3-3
3.2.6 Public Comment Periods.....	3-3
3.2.7 Site Tours	3-4
3.2.8 Mailing List	3-4
3.2.9 Information Repositories.....	3-4
3.2.10 Topock Web Site	3-5
3.2.11 Contact Persons	3-5
4.0 The Colorado River and Nearby Communities.....	4-1
4.1 Colorado River.....	4-1
4.2 Nearby Communities.....	4-1
4.2.1 Moabi Regional Park, California	4-2
4.2.2 Needles, California.....	4-2
4.2.3 Topock, Arizona	4-2
4.2.4 Golden Shores, Arizona.....	4-2
4.2.5 Lake Havasu City, Arizona.....	4-2
4.2.6 Parker, Arizona.....	4-5
5.0 Corrective Action.....	5-1
5.1 What is Corrective Action?	5-1
5.2 Corrective Action Steps and Associated Communication Activities.....	5-2
5.3 Corrective Action at the Topock Site	5-2
5.3.1 Consultative Workgroup.....	5-2
5.3.2 Corrective Action History at the Station.....	5-3

5.4	Activities at the Topock Site	5-3
6.0	Community Feedback	6-1
6.1	Feedback from Interviews and Surveys	6-1
6.2	Feedback from Meetings and Briefings	6-1
7.0	References	7-1
	Documents	1
	Web sites.....	1
	Topock Site Mailing List	1
	Information Repositories	1
	Information Repositories	1
	Schedule of Activities for RCRA	1
	RCRA Milestone Public Participation Activities	1
	2003 and 2004 Community Interview Questionnaires	1
	January 2003 and July 2004 Community Interview Questionnaire	1
	September 2004 Community Interview Questionnaire	3
	Community Assessment Results.....	1
	1997 Community Assessment	1
	2002 Community Assessment and January 2003 Interviews.....	1
	Environmental Impacts and Health Effects	2
	Cleanup Process	2
	Economics	2
	Adequate Communications.....	2
	Additional Interviews During July and September 2004.....	3
	Health Effects.....	3
	Cleanup Process	4
	Environmental Impact and Economics	4
	Adequate Communications.....	4
	Fact Sheets	1
	Comparison of State (RCRA) and Federal (CERCLA) Outreach Activities.....	1
	Glossary of Terms	1

Figures

1	Site Location Map	2-3
2	Surrounding Properties.....	2-5
3	Colorado River Communities and Tribal Reservations	4-3
4	RCRA Corrective Action Process Cleanup Steps	5-1
5	Groundwater Monitoring Locations	5-5
6	Surface Water (River) Monitoring Locations	5-7
7	Interim Measures No. 3 Treatment System.....	5-9

Appendices

- A Topock Site Mailing List
- B Information Repositories and
Suggested Meeting Locations
- C Schedule of Activities for RCRA
- D 2003 and 2004 Community Interview Questionnaires
- E Community Feedback
- F Fact Sheets
- G Comparison of State (RCRA) and Federal (CERCLA) Outreach Activities
- H Glossary of Terms

Acronyms and Abbreviations

ADEQ	Arizona Department of Environmental Quality
BLM	United States Bureau of Land Management
BOR	United States Bureau of Reclamation
CACA	Corrective Action Consent Agreement
Cal/EPA	California Environmental Protection Agency
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMI	Corrective Measures Implementation
CMS	Corrective Measures Study
CRIT	Colorado River Indian Tribes
CRWUA	Colorado River Water Users Association
CWG	Consultative Workgroup
DOI	United States Department of the Interior
DTSC	California Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
HNWR	Havasu National Wildlife Refuge
I-40	Interstate 40
MWD	Metropolitan Water District of Southern California
PG&E	Pacific Gas and Electric Company
Plan	Public Participation Plan
ppb	parts per billion
project	The PG&E Topock project; i.e., the investigations and cleanup of the PG&E Topock site
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RWQCB	Regional Water Quality Control Board – Colorado River Basin

Site	PG&E Topock project cleanup site
Station	PG&E Topock Compressor Station
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Introduction

1.1 Public Participation Plan Purpose

This Public Participation Plan (Plan) was developed to present the general strategy and specific outreach activities the Department of Toxic Substances Control (DTSC) will conduct to gain community and stakeholder involvement regarding the environmental cleanup of the Pacific Gas and Electric Company (PG&E) Topock Gas Compressor Station (Station).

The Plan was designed to meet both the State of California DTSC public participation requirements and the federal Bureau of Land Management (BLM) community relations requirements. Both DTSC and BLM aim to provide affected individuals, communities, and stakeholders opportunities for involvement in the plans, decisions, and activities regarding this site.

Feedback DTSC has received from the public and other stakeholders is discussed within this Plan. Community concerns and future activities are identified, for the purpose of keeping people informed and participating in the cleanup process. This plan includes:

- Description of the Topock Project Cleanup Site (Site) and history of the Station
- Objectives of the Public Participation Plan
- Description of future communication activities
- Description of the nearby communities
- Overview of the cleanup process

In August 2003, DTSC was designated as the lead regulatory agency for the investigation and cleanup of the Topock site (i.e., “the PG&E Topock project” or “the project”). The preparation of this Plan is part of the procedure under federal law which regulates outreach activities during site investigations and cleanup. Federal and state laws, policies, and regulations require that DTSC provide opportunities for community members and other stakeholders to participate in the plans, decisions, and activities regarding the environmental cleanup of the site.

There are two federal laws which establish programs that govern the investigation and cleanup of contamination at sites. The Resource Conservation and Recovery Act (RCRA) regulates the use, treatment, and storage of hazardous waste. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, also known as Superfund) was created to fund the cleanup of hazardous waste sites. The two programs include similar landmark decision documents, and similar community involvement steps.

RCRA gives authorized states, such as California, the power to enforce environmental cleanups, or corrective actions. A description of the RCRA process can be found in Section 5.0, Corrective Action A comparison of the RCRA (as managed by DTSC) and CERCLA (as managed by BLM) communication processes is located in Appendix G.

1.2 Communication with the Federal Government

DTSC recognizes the importance of communicating and coordinating all cleanup and outreach activities with federal agencies to ensure the protection of the Colorado River and the surrounding communities. In March 2000, DTSC established a Consultative Workgroup (CWG) that included various federal agencies which exercise regulatory authority in the affected area to facilitate consultation and coordination. The CWG has since expanded to include various other agencies, stakeholders, and community groups. The federal government agencies currently represented in the CWG include the Department of the Interior (DOI), BLM, Bureau of Reclamation [BOR], U. S. Fish and Wildlife Service [USFWS], Bureau of Indian Affairs, Havasu National Wildlife Refuge (HNWR), and U. S. Geological Survey (USGS). The CWG meets regularly to discuss project activities as well as provide consultation and recommendations to DTSC. A more detailed description of the CWG and a full list of its members can be found in Section 5.3.1, Consultative Workgroup.

1.3 Communication with State and Local Governments

The environmental investigation and cleanup of the Site affects the State of California and all other surrounding local governments. Interested state agencies and local governments are invited to participate in the cleanup process and many have chosen to do so by consultation and membership on the CWG.

DTSC realizes that the State of Arizona adjoins the affected groundwater system as well as relies on water from the Colorado River. DTSC has consulted and will continue to consult with its counterpart, the Arizona Department of Environmental Quality (ADEQ). ADEQ participates in the CWG and gives input on technical matters, including but not limited to the interim measures and future corrective action measures. Efforts will be made to ensure that representatives from ADEQ are actively involved when outreach activities are conducted in the State of Arizona.

1.4 Communication with Tribal Governments

A number of Native American Indian Tribes have lands that border the Colorado River. These Tribes are federally recognized sovereign nations that are historically and spiritually rooted in the land and who are economically reliant on the Colorado River. There are five Tribes located along the river (from north to south) which form the Five Lower River Tribes Coalition: Fort Mojave Indian Tribe, Chemehuevi Indian Tribe, Colorado River Indian Tribes (CRIT), Fort Yuma-Quechan Indian Tribe, and the Cocopah Indian Tribe. DTSC also communicates regarding the project with other interested Tribes in southern California and Arizona. These include the Hualapai Indian Tribe, Torres-Martinez Desert Cahuilla Indian Tribe, Havasupai Indian Tribe, Twenty-Nine Palms Indian Tribe, and the Yavapai-Prescott Indian Tribe.

DTSC has begun to meet and work with the Indian Tribes listed above to develop a Tribal communication strategy. The purpose of the communication strategy is to determine the process by which DTSC and each respective Tribe will communicate regarding the PG&E Topock Compressor Station Project. Specifically, the communication process identified for

each Tribe will outline how DTSC and that Tribe will communicate to ensure that the interests and concerns of the Tribe are identified and considered during DTSC's planning, decision-making, and other project activities.

1.5 Information Sources

Several information sources were used to prepare this Plan. This Plan documents community concerns and feedback compiled from surveys, interviews, meetings, and outreach efforts. Additional information was obtained from reviews of project documents, the Internet, and discussions with project staff and stakeholders.

2.0 Background and Site History

2.1 Site Description

The Station is located in the Mojave Desert, in eastern San Bernardino County approximately 12 miles southeast of the City of Needles, California. The Station is one-half mile west of the Colorado River and south of Interstate 40 (I-40) (See Figure 1, Site Location Map). DTSC's Topock project site (Site) includes the Station and surrounding federal lands including the Havasu National Wildlife Refuge managed by the USFWS and lands managed by the BLM. The area has cultural and spiritual significance to native peoples and is part of their traditional lands. See Figure 2, Surrounding Properties, for a map outlining neighboring lands. A more detailed description of nearby lands and communities can be found in Section 4.0, The Colorado River and Nearby Communities.

2.2 Site History

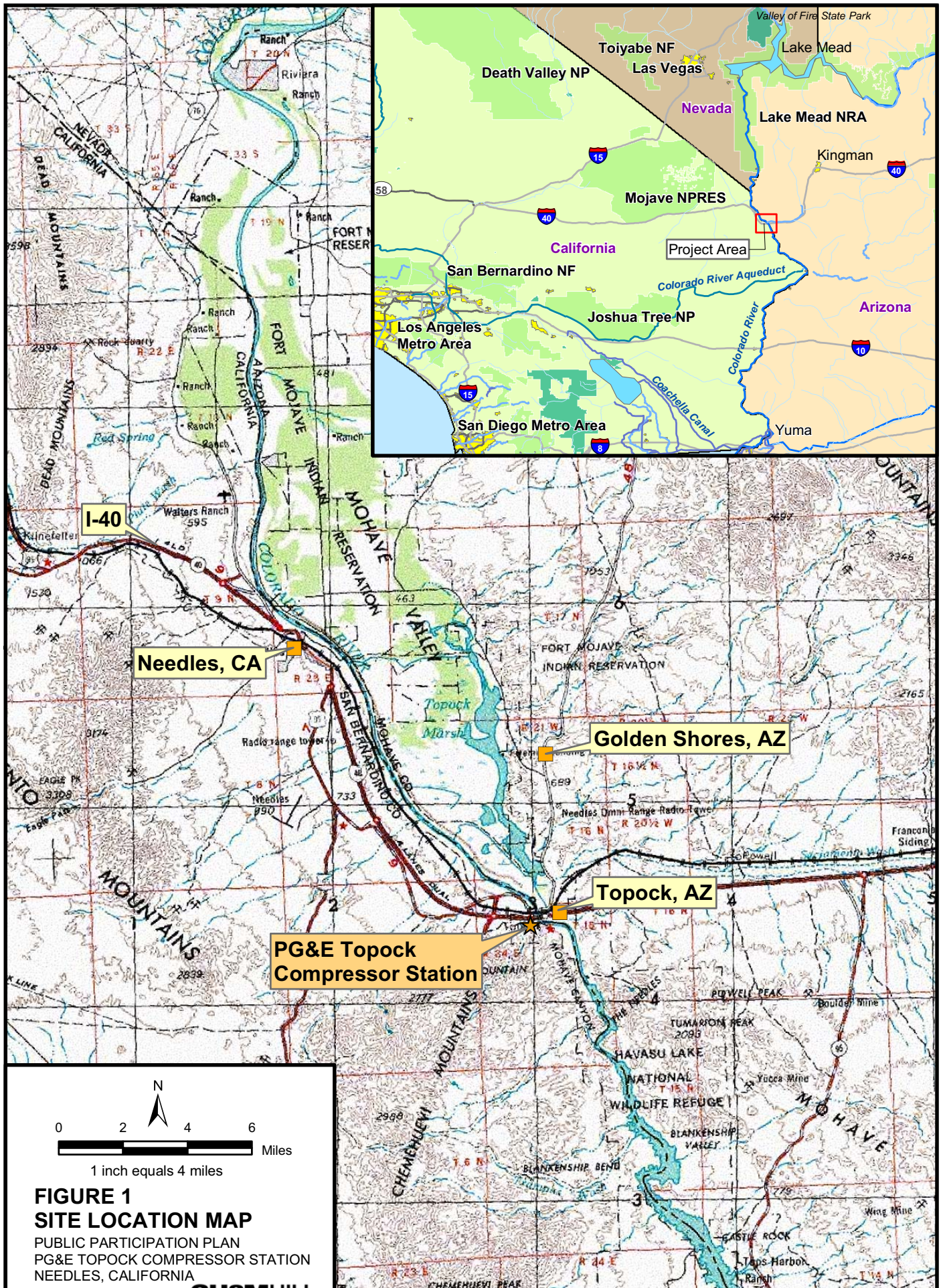
The Station, which began operation in 1951, is used to compress natural gas for transport through PG&E pipelines to customers in central and northern California. During this process, the gas temperature increases. It is then cooled with water in cooling towers before it can continue through the pipelines.

From 1951 through 1985, PG&E added chromium to the water circulating in the cooling towers to prevent corrosion and scaling of the tower materials. Chromium is a chemical found in air, soil, water, and food. There are two common forms of chromium: trivalent chromium (also called Cr(III) or Cr3) and hexavalent chromium (also called Cr(VI) or Cr6). Cr3 is an important mineral needed in small amounts for healthy human growth. Cr6 is considered a potential health concern. During the 1950s and 1960s, wastewater from the Topock cooling towers containing Cr6 was discharged onto bare ground in Bat Cave Wash, a normally dry wash next to the Station.

PG&E began treating the wastewater to remove the Cr6 in 1964. During 1971, a series of single-lined evaporation ponds were built 1,600 feet southwest of the Station for wastewater disposal. By 1985, chromium was no longer used in the cooling towers. In 1989, PG&E replaced the former single-lined evaporation ponds with new double-lined ponds, and the original ponds were removed.

In 1995, PG&E reported to DTSC that Cr6 had been detected in two inactive wells north of the Station. PG&E and DTSC entered into a voluntary agreement in 1996 to investigate and clean up the contamination on the site and the area surrounding the Station. This agreement is known as the Corrective Action Consent Agreement (CACA). Today, PG&E's disposal of wastewater from ongoing Station operations is regulated by the Regional Water Quality Control Board – Colorado River Basin (RWQCB), a department under California's Environmental Protection Agency (Cal/EPA).

Corrective action began with a RCRA Facility Assessment (RFA) conducted by the U.S. Environmental Protection Agency (EPA) in 1987. Since 1996, corrective action has included groundwater well installation, sampling and monitoring, other investigatory activities under the RCRA Facility Investigation (RFI), creation of a CWG and initiation of Interim Measures at the site, among other activities. For more detail on Corrective Action at the Site refer to Section 5.0, Corrective Action.



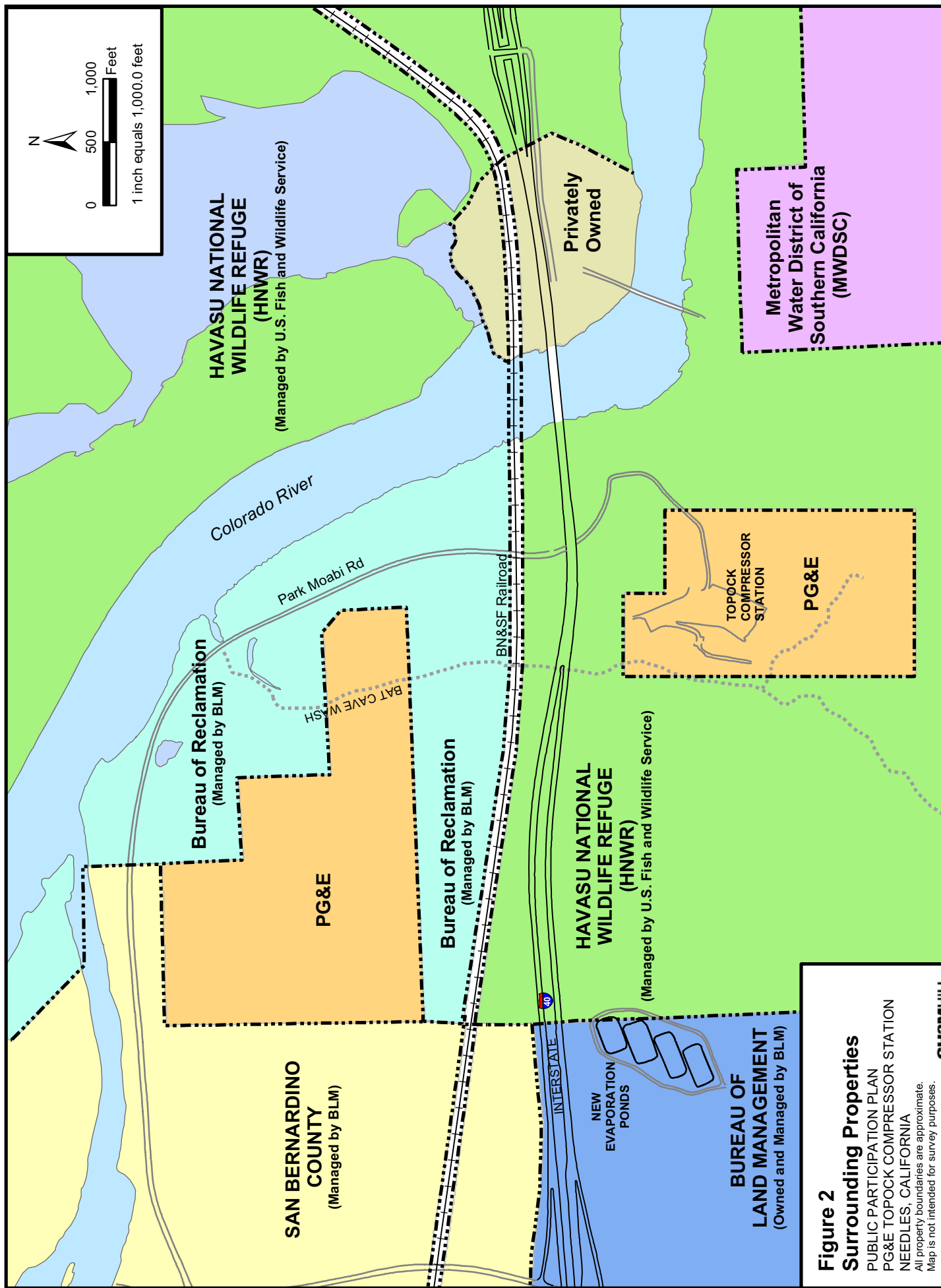


Figure 2
Surrounding Properties
 PUBLIC PARTICIPATION PLAN
 PG&E TOPOCK COMPRESSOR STATION
 NEEDLES, CALIFORNIA
 All property boundaries are approximate.
 Map is not intended for survey purposes.

3.0 Public Participation Program

3.1 Objectives of the Public Participation Program

DTSC has a Public Participation Program that it implements at all RCRA Corrective Action sites. The Plan is one of the activities DTSC is conducting for the Site. The intention of the Plan is to outline the communication strategy the agency will follow to involve local communities and stakeholders in the decision-making process for the Topock project. This Plan has been written to meet both California DTSC public participation requirements and the federal BLM community relations requirements. DTSC is committed to keeping the public informed about the environmental investigation and cleanup activities at the Site. The objectives of DTSC's Public Participation Program are listed below:

Objective 1: Provide timely and accurate information about environmental investigations and cleanup activities to local residents, community organizations, elected officials, and governmental bodies.

Objective 2: Provide easy-to-understand information about potential health effects and technical issues so that residents and stakeholders are empowered to provide input.

Objective 3: Provide opportunities for community members and other stakeholders to ask questions, provide comments, become involved, and give feedback on project plans.

The following is a description of the activities that DTSC will conduct to achieve the objectives of public and stakeholder participation.

3.2 Public Outreach and Activities

DTSC recognizes the importance of the environmental investigation and cleanup activities at the Site and the concern of the many diverse stakeholders who value the surrounding desert habitat and the Colorado River. As the lead agency, DTSC oversees communication and public participation activities connected with the site investigation and cleanup.

A history of past public outreach activities includes distribution of fact sheets and project updates to:

- Residents and businesses in the Golden Shores and Topock communities in Arizona
- Elected officials
- Community organizations
- Other key stakeholders in Needles, California, and Lake Havasu City, Arizona
- Tribal representatives

DTSC also provides public notice to over 3,000 residents of Golden Shores, Topock, and Lake Havasu City, Arizona, and Needles, California, at regular intervals indicating how to contact the agency to provide comment.

DTSC has a responsibility to ensure effective public outreach and communication. DTSC meets its responsibility by utilizing the following outreach activities:

3.2.1 Surveys and Interviews

A community survey may be conducted by DTSC to assess and monitor the level of community interest. A written survey can also provide useful feedback about the needs and concerns within the surrounding communities. Information collected in surveys helps identify the best way for DTSC to communicate with the members of an affected community. DTSC also conducts interviews. Interviews provide additional information and help identify concerns in the community about the site. A summary of previously conducted community surveys and interviews can be found in Appendix E.

3.2.2 Briefings, Presentations and Meetings

DTSC representatives welcome the opportunity to participate in meetings sponsored by community or neighborhood organizations who are interested in learning more about the project. Comments or questions from the public will be answered during the meetings when possible, or noted and answered by DTSC at a later date if more research is required.

To request that project staff give a briefing to your community or organization, contact DTSC's Public Participation Specialist, identified under the project contacts listed in Section 3.2.11, Contact Persons.

DTSC meets on a regular basis with the CWG. The CWG is made up of representatives of various agencies and stakeholders who have an important stake in the safety of the Colorado River and the surrounding environment. As the lead agency for this project, DTSC is responsible for scheduling CWG meetings, setting the agenda, and presiding over the meetings. For a full list of members and a description of the CWG, see Section 5.3.1, Consultative Workgroup.

3.2.3 Fact Sheets

DTSC produces and 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.

Fact sheets are written in plain, easy-to-understand language. Technical terms, when used, will be explained in simple terms. Graphs, figures, and photos will be used to help improve understanding. All fact sheets list the Information Repositories (such as local libraries) where the public can find copies of project documents and the locations, names, addresses, and phone numbers of people to contact (see Section 3.2.11, Contact Persons and Appendix B). Copies of previously produced fact sheets are available in Appendix F.

The fact sheets and 1998 Public Participation Plan are also available on the following Web sites:

DTSC Web site: http://www.dtsc.ca.gov/SiteCleanup/PGE_Topock/

Topock Web site: <http://www.dtsc-topock.com/>

3.2.4 Public Notices

Public Notices provide basic information so that readers may make further inquiries. The notices will be prepared to inform the community of upcoming DTSC actions. Public notices will be kept in the Information Repositories at the beginning of any public comment period. Examples of information which may be included in a public notice are:

- Start and end dates of public comment periods and the process for submitting comments.
- Announcement of the release of milestone technical documents.
- Announcement of the time, date, and location for a public meeting, if held.
- Contact information for whom to call with questions.

The public notice will be published in local newspapers in both Arizona and California. The list of papers includes but is not limited to: the Desert Star, in the Needles, California, area; Today's News-Herald, in the Lake Havasu City, Arizona, area; and the Parker Pioneer in the Parker, Arizona, area.

3.2.5 Public Meetings

DTSC may hold formal public meetings to share information and receive comments on important project documents. Public meetings will provide an opportunity for DTSC to explain technical information, answer questions, and receive public comment. Additional public meetings may be held during the cleanup process to satisfy public interest. Meetings may be held in more than one location in different parts of California, Nevada, and Arizona.

Local officials will be briefed about the meeting's purpose and agenda in advance by phone, memo, or personal meeting. The meeting location and time will be announced via public notice in the local newspaper and/or in a fact sheet or notice posted in the Information Repositories. Meeting announcements and other meeting information will also be posted on the Topock and DTSC Web sites and, if held in Arizona, on ADEQ's Web sites. See Section 3.2.10, Topock Web Site, for these Web site addresses.

Several meeting locations have been proposed, depending on the target community. Suggested locations included public schools, auditoriums, or government-owned buildings in communities along the length of the Colorado River (see Section 4, The Colorado River and Nearby Communities). A listing of some suggested meeting locations is provided in Appendix B.

3.2.6 Public Comment Periods

As part of a continuing effort to involve the affected community in the cleanup process, DTSC invites public comments on documents such as the proposed cleanup plan. DTSC will hold a formal public comment period of at least 30 days and will give notice to the public that the documents are available for review and comment. DTSC will post public comment documents on the project Web site and in the local information repositories. DTSC takes comments in writing by email, phone, and fax, via submittal from the project Web site, or in person during a public meeting or other requested meeting. DTSC will then evaluate and consider all comments received before making a final decision on the cleanup plan (or

other documents). The original cleanup proposal may undergo partial or total revision based on the feedback and comments received. Along with its final decision, DTSC will issue a formal written response to all comments in a document called the Response to Comments. The Response to Comments and the final cleanup decision will be made available in local Information Repositories.

3.2.7 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 Interim Measures and Corrective Action process. Site tours will continue to be available as requested or as needed.

3.2.8 Mailing List

DTSC has established a mailing list of all people and parties interested in the site. The complete mailing list for this site includes:

- Approximately 1,800 residents of Golden Shores and Topock, Arizona
- Contacts from California and Arizona Indian Tribes
- Members of the CWG
- Local, state, and federal elected officials
- Local, state, and federal government agency officials
- Key individuals and organizations in Needles and the Mojave Valley area
- Other interested community individuals
- Business associations
- Local news media
- Statewide DTSC mandatory mailing list of key individuals and groups

The mailing list is updated as individuals request to be added or removed from the lists; when new members join the CWG; after meetings, site tours, or public meetings (based on sign-in sheets); and when elected officials change office. Anyone can request to be included on the list by contacting DTSC. Contact information and a copy of the mailing list can be found in Appendix A.

3.2.9 Information Repositories

Documents related to the environmental investigation and cleanup can be viewed in local Information Repositories. The Information Repositories are set up to provide easy local access to this Plan, project workplans, technical reports, fact sheets, and other important project documents. Based on the 1997 community assessment, DTSC initially established five Information Repositories. These repositories are located in Needles, at the Chemehuevi Indian Reservation, in Golden Shores and Lake Havasu City, and in DTSC's Cypress regional office file room. Additional repositories in Parker, Arizona, at the Parker Public Library and at the CRIT Library were added in March 2003 in response to interviewee requests. Appendix B provides a list of the Information Repositories and their locations and hours of operation.

3.2.10 Topock Web Site

DTSC maintains a project Web site for the PG&E Topock project. This Web site provides an overview of current site activities and other site-related information. Information that can be found on the Web site 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
- Who to contact for information

The Topock Web site is located at: <http://www.dtsc-topock.com>.

You can also access information about Topock on DTSC's main Web site at: http://www.dtsc.ca.gov/SiteCleanup/PGE_Topock/

If you are an Arizona resident, and would prefer to contact ADEQ, please visit ADEQ's Web site at: <http://www.azdeq.gov> or contact the persons listed in Section 3.2.11, Contact Persons.

3.2.11 Contact Persons

All information distributed to the public regarding the environmental investigation and cleanup will be coordinated by DTSC. DTSC's Public Participation Specialist is responsible for responding to public inquiries and coordinating the distribution of fact sheets and public notices, as well as organizing other public participation activities.

DTSC encourages all interested parties to contact the Public Participation Specialist or the Project Manager with questions or concerns regarding the project. For media inquiries, please contact the Public Information Officer. Contact information for DTSC, BLM, and PG&E are listed below.

Contacts will be updated as needed. For the most current contact information, please visit the Topock Web site.

Department of Toxic Substances Control

Jeanne Matsumoto, Public Participation Specialist
California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
(714) 484-5338
Toll free: (866) 495-5651
jmatsumo@dtsc.ca.gov

Aaron Yue, Project Manager
California Department of Toxic Substances Control
5796 Corporate Avenue

Cypress, CA 90630
(714) 484-5439
ayue@dtsc.ca.gov

Jeanne Garcia, Public Information Officer
California Department of Toxic Substances Control
1011 N. Grandview Avenue
Glendale, CA 91201
(818) 551-2176
JGarcia1@dtsc.ca.gov

Pacific Gas and Electric Company

Yvonne Meeks, Portfolio Manager, Site Remediation
Pacific Gas and Electric Company
4325 South Higuera
San Luis Obispo, CA 93401
(805) 546-5243
yjm1@pge.com

Jon Tremayne, Public and Media Relations
Pacific Gas and Electric Company
77 Beale Street, Mail Code B29D
San Francisco, CA 94105
(415) 973-8709
jht4@pge.com

Kasia Grisso, Public Participation Specialist
CH2M HILL on behalf of PG&E
155 Grand Avenue, Suite 1000
Oakland, CA 94612
(510) 587-7626
Kgrisso@ch2m.com

For questions or comments related to federal involvement please contact the lead federal agency:

Department of the Interior, Bureau of Land Management

Catherine Wolff-White, Project Manager for Interior
BLM Colorado River District
2610 Sweetwater Avenue
Lake Havasu, AZ 86406
(928) 505-1309
cwolff@blm.gov

For questions or comments from Arizona residents or related to Arizona involvement, please contact:

Arizona Department of Environmental Quality

Samantha Roberts, Remedial Projects Section Manager
1110 W. Washington Street
Phoenix, AZ 85007
(602) 771-7655
Roberts.Samantha@azdeq.gov

Jerry Smit, Voluntary Remediation Program Unit Manager
Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix, AZ 85007
(602) 771-2220
Smit.Jerry@azdeq.gov

Wendy Flood, Outreach Manager
Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix, AZ 85007
(602) 771-4410
Flood.Wendy@azdeq.gov

Cortland Coleman, Communications Director
Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix, AZ 85007
(602) 771-2215
Coleman.Cortland@azdeq.gov

4.0 The Colorado River and Nearby Communities

This section includes a profile of the Colorado River and identifies the communities surrounding or downstream of the Site, located along the river. References used in creating the following community descriptions can be found in Section 7.0, References.

4.1 Colorado River

The Colorado River provides water supply, electricity, recreation, and natural and cultural resources to the Pacific Southwest. It spans 1,440 miles. The river has 244,000 square miles of drainage and flows 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, the system of dams provides a significant amount of electricity. The Colorado River is a recreational, economic, and, in some cases, 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.

4.2 Nearby Communities

The six major communities located near the Site are spread out along the Colorado River, often over large distances. DTSC works to communicate with all interested, or potentially interested, stakeholders who may be located well beyond the typically required distance for public outreach. A map of the Colorado River communities can be found in Figure 3, Colorado River Communities and Tribal Reservations.

The land within one mile of the Station boundary includes industrial, spiritual, recreational, and wildlife management uses. The industrial site is the PG&E Topock Gas Compressor Station. Residential properties are located in Arizona, across the river from the Station. The Indian Tribes have a spiritual connection to this land and regard it as part of a sacred area of religious significance. Recreational facilities are located at the Topock/Golden Shores Marina and Moabi Regional Park. The Havasu National Wildlife Refuge is located near the Station along both the California and Arizona sides of the Colorado River. Other lands surrounding the Station are managed by the BLM. Figure 2 shows the approximate boundaries and ownership of the properties surrounding the Station.

There are no hospitals, schools, or day care centers located near the Station. 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.

4.2.1 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. The park is approximately one mile west of the river's main channel, along the road used to access the Station from I-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. Park Moabi is on BOR land that is leased to San Bernardino County and managed by BLM.

4.2.2 Needles, California

The City of Needles is located near the borders of three states (California, Arizona, and Nevada), and has a population of approximately 4,830 people. Needles is located approximately 12 miles northwest of the Station on I-40 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.

4.2.3 Topock, Arizona

In 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 Topock 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.

4.2.4 Golden Shores, Arizona

Golden Shores is a small community of approximately 1,300 homes (population about 1,800) in Mohave County, Arizona, approximately five miles northeast of the Station on the east side of the Colorado River. The community includes small businesses, a fire station, a post office, and one elementary school. Golden Shores also 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. This center houses a Chamber of Commerce and serves as a regular meeting site for several local associations.

4.2.5 Lake Havasu City, Arizona

Lake Havasu City is located on the east shore of Lake Havasu on the Colorado River, approximately 18 miles south of the Station. With a population of 46,684, it is the largest population center of southern Mohave County, one of the fastest-growing counties in the U.S. The city offers a broad range of community facilities including four parks, one movie theater complex, a county/city library, tennis courts, several beaches, a bowling alley, and four golf courses. Recreational facilities located in the city include a marina and camping and fishing areas. Tourism and recreation are Lake Havasu City's principal economic activities.



4.2.6 Parker, Arizona

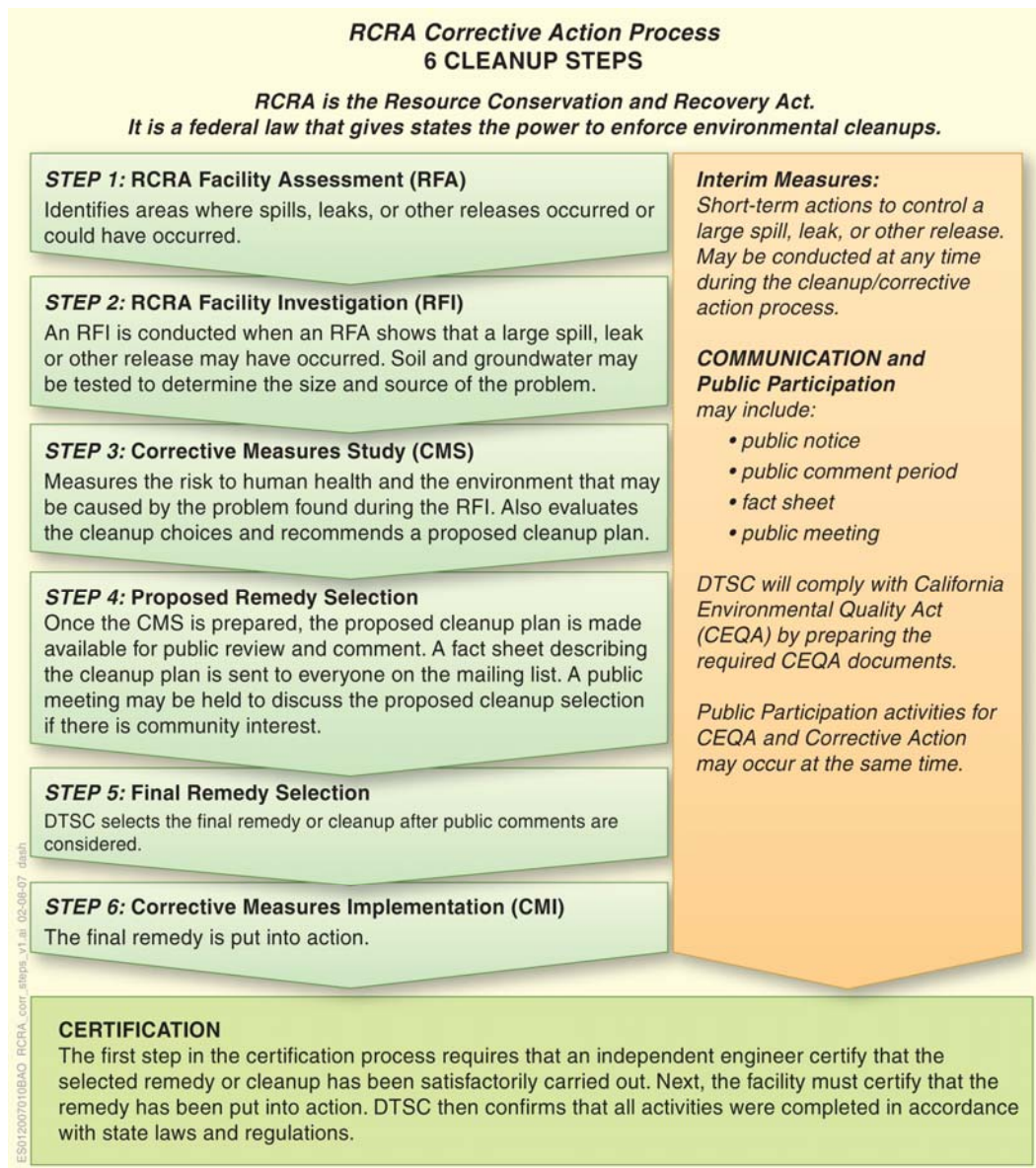
Parker is located in La Paz County, Arizona, on the eastern side of the Colorado River, approximately 20 miles south of Lake Havasu City and approximately 40 miles south of the Station. Parker sits on a mesa overlooking the Colorado River at an elevation of approximately 450 feet above sea level. Parker is almost completely surrounded by the Colorado River Indian Tribes Reservation. The community of 2,900 has an elementary school, junior high school, and high school. It also maintains its own safety and fire services and operates a hospital. Agriculture, tourism, and water sports form the basis of the economy.

5.0 Corrective Action

5.1 What is Corrective Action?

Corrective action refers to the investigation and cleanup process at a hazardous waste site. The mandate for corrective action at the Topock site is contained in the RCRA. RCRA is a federal law that regulates the use, treatment, storage, and disposal of hazardous waste. There are six steps to corrective action at hazardous waste facilities regulated by RCRA (see Figure 4 below).

FIGURE 4
RCRA Corrective Action Process Cleanup Steps



5.2 Corrective Action Steps and Associated Communication Activities

The corrective action process includes specific communication or outreach activities that are dictated by RCRA. Each of the six Corrective Action steps (Figure 4) has specific communication activities that are suggested, or required, at that stage of the process. For a more detailed description of the communication activities that will take place at each step, see Appendix C.

5.3 Corrective Action at the Topock Site

Corrective action activities are being conducted at the Site under a voluntary agreement that PG&E and DTSC entered into in February 1996. Under the terms of the agreement, PG&E is required to follow the RCRA Corrective Action investigation and cleanup process.

As the oversight agency, DTSC must do the following to protect public health and the environment: (1) determine the extent of the contamination, (2) determine what should be done to clean it up, and (3) take steps to clean it up.

5.3.1 Consultative Workgroup

From the beginning of the Topock cleanup process, DTSC has recognized the importance of involving and coordinating closely with all parties who have an important stake in the safety of the Colorado River and the surrounding environment. In 2000, DTSC established a CWG for the Site composed of various agencies that have a stake in the project. In August 2003, DTSC was established as the lead regulatory agency for the Topock project under Cal/EPA's site designation process, and the CWG was re-chartered to include all agencies and interested stakeholders. The CWG meets regularly to discuss project activities and plans as well as to provide consultation and recommendations to DTSC regarding its oversight of the project.

As of November 2006, the CWG includes the following formal members:

- Arizona Department of Environmental Quality (ADEQ)
- California Regional Water Quality Control Board - Colorado River Basin (RWQCB)
- California State Water Resources Control Board
- Chemehuevi Indian Tribe
- Colorado River Board of California
- Colorado River Indian Tribes (CRIT)
- Metropolitan Water District of Southern California (MWD)
- Mohave County Department of Health and Social Services
- Pacific Gas and Electric Company (PG&E)
- United States Bureau of Indian Affairs
- United States Bureau of Land Management (BLM)
- United States Bureau of Reclamation (BOR)
- United States Environmental Protection Agency (EPA)
- United States Department of the Interior (DOI)

- United States Fish and Wildlife Service (USFWS)
- United States Geological Survey (USGS)
- United States Indian Health Service

5.3.2 Corrective Action History at the Station

RCRA Corrective Action activities at the Site were initiated in 1987 with the completion of a RFA conducted by the EPA. The RFA identified areas of possible contamination through records review, data evaluation, interviews, and a visual site inspection. Several of these areas have been cleaned up by PG&E, including the sludge or mud drying beds, old evaporation ponds, and wastewater treatment tanks. RCRA closure of these areas or units was confirmed by DTSC in a June 1995 letter to PG&E.

PG&E and DTSC completed a Consent Agreement in February 1996. The Consent Agreement requires that PG&E conduct an investigation in and around the Bat Cave Wash where hexavalent chromium and other harmful chemicals were discharged into soils and groundwater.

In 1997, PG&E submitted to DTSC: (1) a “Current Conditions Report” summarizing background information about the Station and a description of Bat Cave Wash and surrounding area, and (2) a “RCRA Facility Investigation Workplan” outlining planned testing or investigation activities. During this time, a Public Participation Plan was developed, and PG&E began working with DTSC to assess community interest and involve members of the community and stakeholders in the cleanup process.

5.4 Activities at the Topock Site

A number of environmental investigation and cleanup activities are taking place at the Site. These activities include:

- Groundwater and river water sampling and monitoring
- Extraction, treatment, and re-injection of groundwater
- Other environmental investigation activities
- Evaluation of long-term cleanup technologies and planning for selection of the final remedy

Groundwater and river water sampling, also known as “monitoring,” began in 1998 as part of initial site investigation activities, and has been incorporated into a regular monitoring program. Monitoring activities at the Site include sampling of a network of over 100 monitoring wells and 18 river sampling locations. Groundwater sampling occurs in selected wells bi-weekly, monthly, quarterly, and semi-annually. River water is sampled monthly at nine river shoreline locations and at least quarterly at nine river channel locations. Groundwater monitoring locations are shown in Figure 5, Groundwater Monitoring Locations. For Colorado River sampling locations, see Figure 6, Surface (River) Water Monitoring Locations.

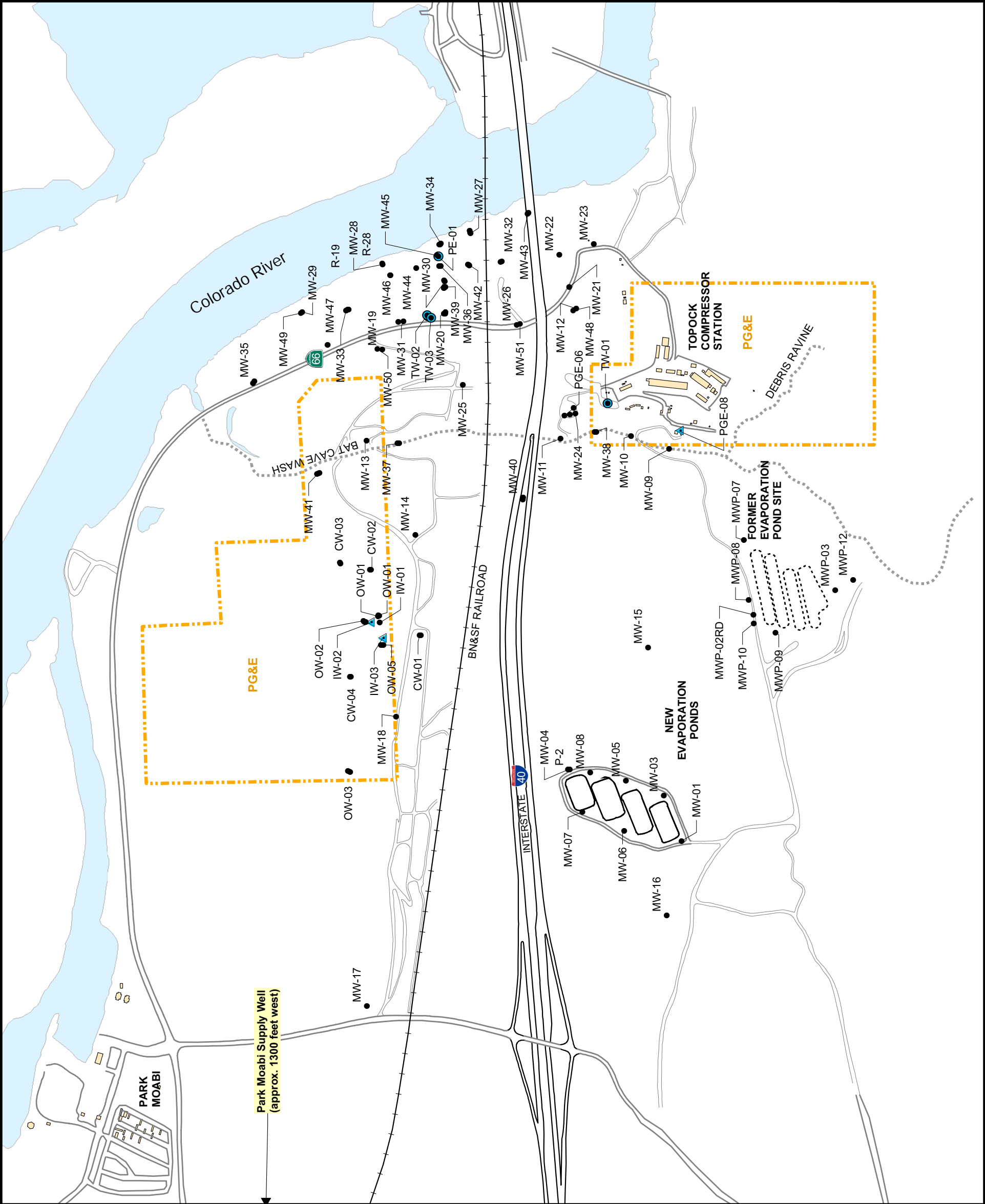
Removal and treatment of groundwater began in March 2004, when DTSC determined that Interim Measures were needed to protect the Colorado River. Interim Measures are cleanup actions that are taken to protect public health and the environment while long-term solutions are being developed and evaluated. As an Interim Measure, groundwater is being extracted from the area of groundwater containing Cr6 (known as the “plume”) and piped to a treatment facility, which removes the Cr6 and re-injects the treated groundwater back into the subsurface (see Figure 7, Interim Measures No. 3 Treatment System). The treated groundwater meets standards set by DTSC and the RWQCB. Interim Measure workplans and associated documents are available in the Information Repositories (listed in Appendix B).

Additional environmental studies are being conducted and planned at the Topock site in preparation for selection of a Final Remedy (final cleanup strategy). These studies include:

- Biological and cultural resource studies
- An Environmental Impact Report, which will assess all cleanup activity at the Topock site for potential environmental impacts, under the California Environmental Quality Act (CEQA)
- An additional phase of soil sampling for the RFI
- Additional monitoring well and hydraulic test well installation to assist with the evaluation of the interim measure performance and to further refine the chromium plume configuration in the floodplain area
- A study of naturally occurring chromium levels in the Topock area, known as the Groundwater Background Study
- A study of pore water in Colorado River bottom sediments (soils), known as the Pore Water Seepage Study
- An *In-situ* Pilot Study which will evaluate the use of *in-situ*, or “in-place,” cleanup using “food-grade” chemicals
- A Corrective Measures Study, which evaluates long-term cleanup strategies and technologies

For more information on these Site activities, please refer to the project documents in the Information Repositories listed in Section 3.2.9, Information Repositories, and Appendix B of this Plan. You may also contact DTSC’s Public Participation Specialist in the Cypress Regional Office, Jeanne Matsumoto, by phone at (714) 484-5338, or toll-free at (866) 495-5651, and by email at jmatsumo@dtsc.ca.gov.

Environmental investigation activities conducted in the State of Arizona will be directed and reported by ADEQ. For information on environmental investigation activities conducted by the State of Arizona, please visit ADEQ’s Web site at <http://www.azdeq.gov> or contact ADEQ’s Outreach Manager, Wendy Flood, by phone at (602) 771-4410, or by email at Flood.Wendy@azdeq.gov.



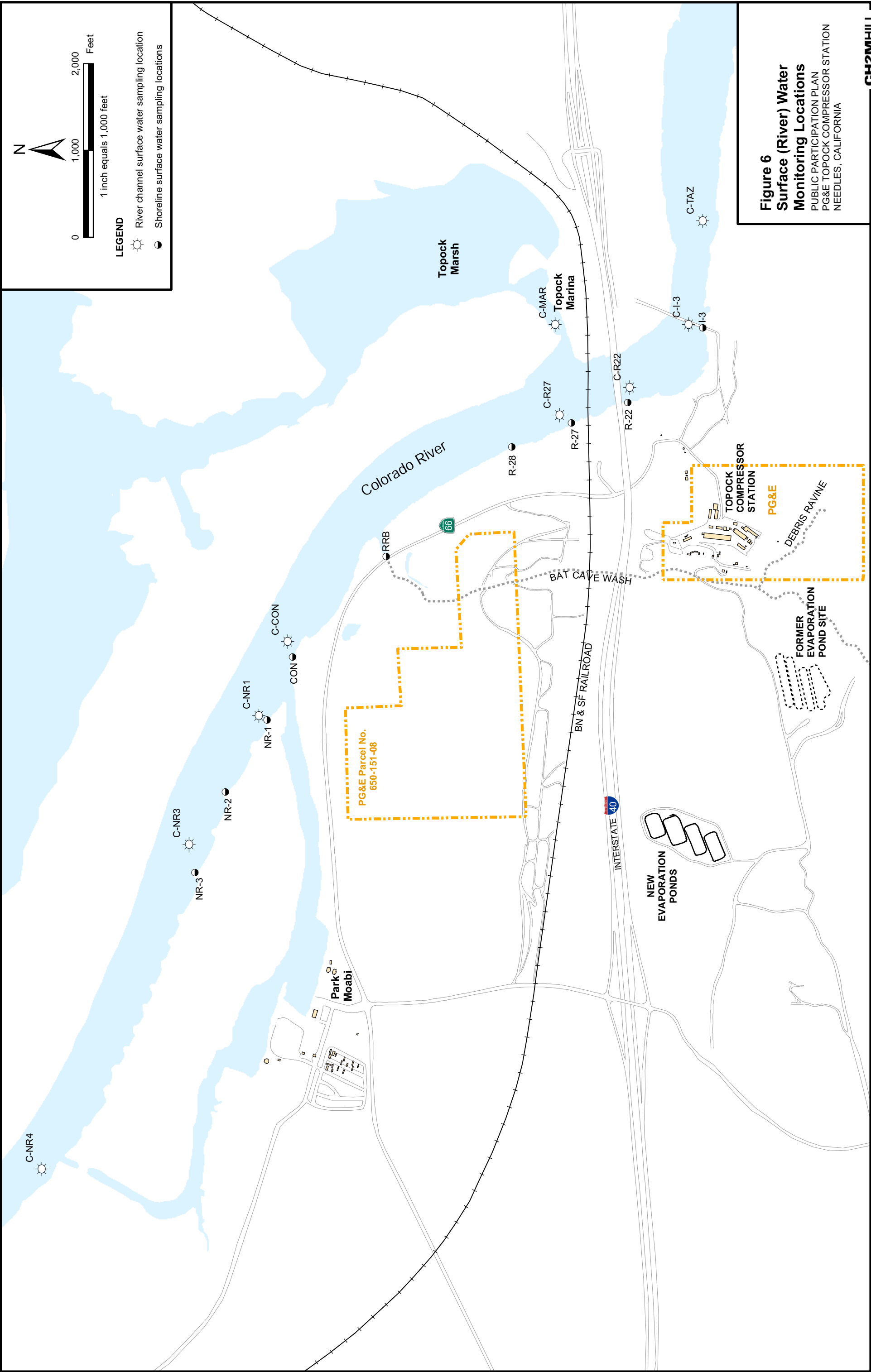
LEGEND

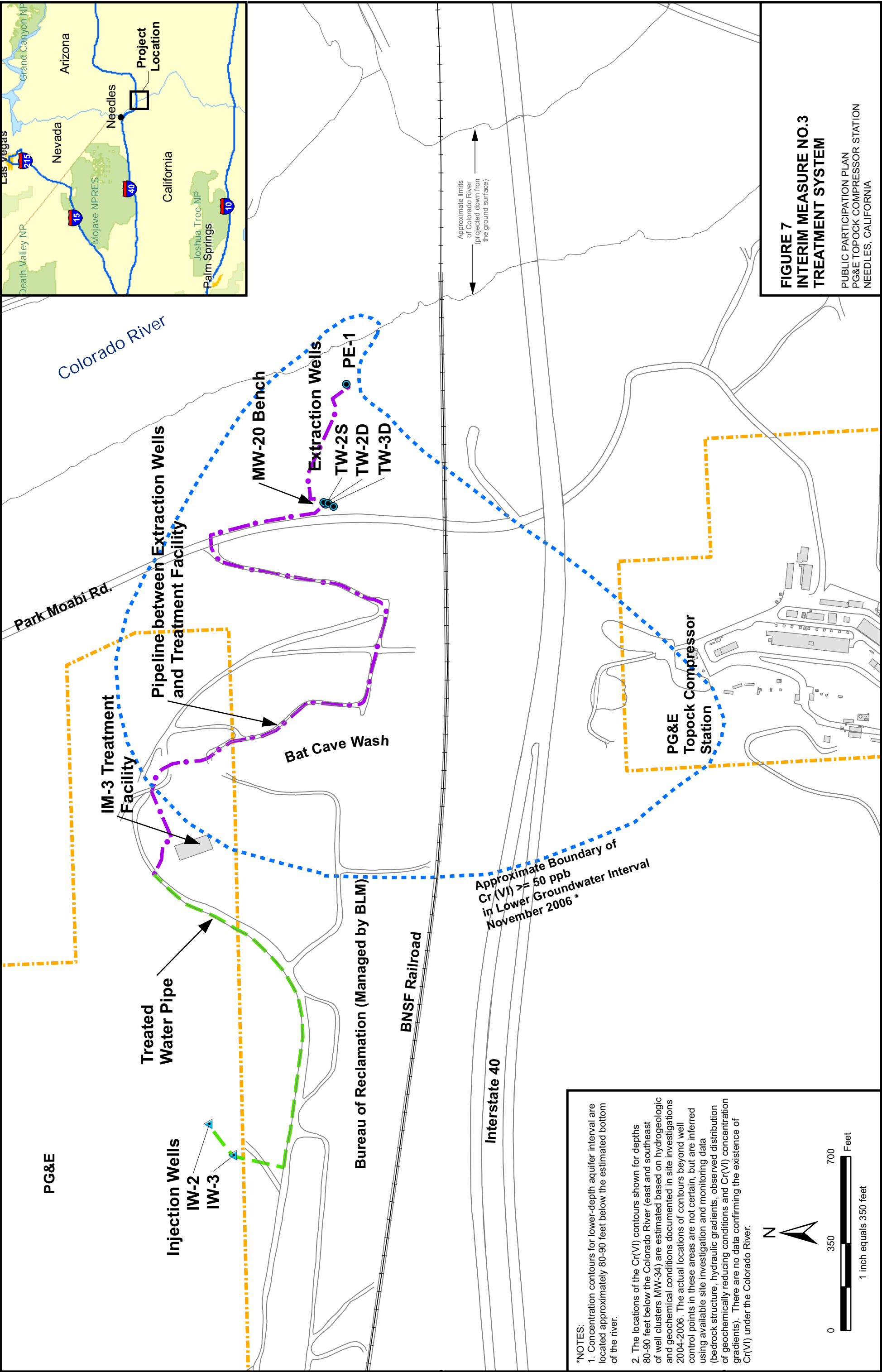
- Monitoring Well Cluster or Groundwater well
- Interim Measures Extraction Well
- Interim Measures Injection Well
- PG&E Property Boundary



1 inch equals 800 feet
California State Plane NAD83 Zone 5 US Feet

Figure 5
Groundwater Monitoring
Locations
PUBLIC PARTICIPATION PLAN
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA





***NOTES:**

1. Concentration contours for lower-depth aquifer interval are located approximately 80-90 feet below the estimated bottom of the river.

2. The locations of the Cr(VI) contours shown for depths 80-90 feet below the Colorado River (east and southeast of well clusters MW-34) are estimated based on hydrogeologic and geochemical conditions documented in site investigations 2004-2006. The actual locations of contours beyond well control points in these areas are not certain, but are inferred using available site investigation and monitoring data (bedrock structure, hydraulic gradients, observed distribution of geochemically reducing conditions and Cr(VI) concentration gradients). There are no data confirming the existence of Cr(VI) under the Colorado River.

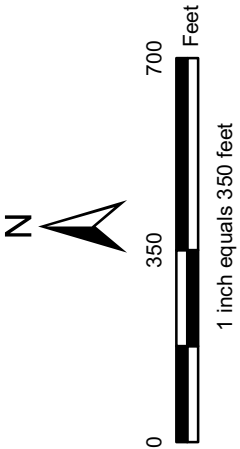


FIGURE 7
INTERIM MEASURE NO.3
TREATMENT SYSTEM

PUBLIC PARTICIPATION PLAN
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

6.0 Community Feedback

6.1 Feedback from Interviews and Surveys

DTSC, with PG&E's assistance, has conducted two formal community assessments and an additional set of community interviews. The first assessment, conducted in 1997, included both survey questionnaires and interviews. The second community assessment, conducted in June 2002, included a survey and interviews that were completed in January 2003. Additional interviews were conducted in July 2004. The questionnaire was designed to inform nearby residents/stakeholders of DTSC's involvement in environmental investigations at the Station, measure awareness of the Station and the cleanup, determine the level of interest in cleanup activities at the Site, and determine the best way to keep nearby residents/stakeholders informed.

The feedback received from the surveys and interviews can be organized into the following five topic categories:

- Environmental impacts
- Cleanup process
- Economics
- Adequate communication
- Health effects

A detailed description of the feedback received can be found in Appendix E. Copies of the survey questionnaires can be found in Appendix D.

6.2 Feedback from Meetings and Briefings

DTSC has received feedback from various community members and stakeholders during the course of many briefings and meetings held throughout the process, especially during the planning and implementation stages of the Interim Measures.

Incorporation of input from the member agencies and organizations on the CWG has helped shape project direction and has been reflected in workplans and technical decisions at every step in the process. Elected officials, staff of downstream cities, and Tribal representatives have all expressed their concern that the Colorado River be protected, since many rely on the river as a source of drinking water and a source of revenue from recreation, tourism, and other pursuits.

7.0 References

Information obtained from the documents and Web sites listed below was utilized in the preparation of this Public Participation Plan.

Documents

Department of Toxic Substances Control (DTSC). 2001. *Public Participation Policy and Procedures Manual*. October.

DTSC. 1998. *Topock Public Participation Plan*, 1998. June 9.

DTSC. 1996. *Corrective Action Consent Agreement (Revised): Pacific Gas and Electric Co.'s Topock Compressor Station, Needles, California* EPA ID No. CAT080011729. February 26.

Ecology and Environment, Inc. 2004. *Draft RCRA Facility Investigation Report, Bat Cave Wash Area, Pacific Gas and Electric Company's Topock Compressor Station, Needles, California*. February.

Web sites

Arizona Dept. of Environmental Quality
<http://www.azdeq.gov/>

Colorado River Board Homepage
<http://www.crb.ca.gov/>

Colorado River Water Users Association
<http://www.crwua.org/>

Golden Shores, Arizona
<http://www.goldenshores.net/>

Inter Tribal Council of Arizona
<http://www.itcaonline.com/>

Lake Havasu City Chamber of Commerce
http://www.havasuchamber.com/community_profile_p1.htm

Metropolitan Water District of Southern California
<http://www.mwdh2o.com/mwdh2o/pages/yourwater/supply/colorado/colorado01.html>

Southern Nevada Water Authority
http://www.snwa.com/html/%0bresources_colrvr_index.html

Town of Parker, AZ
<http://www.ci.parker.az.us/history/history.htm>

United States Census 2000
<http://www.census.gov/>
<http://factfinder.census.gov/servlet/>

**U.S. Dept. of Interior
Bureau of Land Management**
<http://www.blm.gov>

Appendix A
Topock Site Mailing List

APPENDIX A

Topock Site Mailing List

The following individuals and organizations are excerpted from the full Topock Site Mailing List. For more information regarding the full Topock Site Mailing List, please see Section 3.2.8, Mailing List, in this Public Participation Plan. If you have questions about the full Topock Site Mailing List, or would like to be added or removed from the list, please contact DTSC's Public Participation Specialist Jeanne Matsumoto at (714) 484-5338 or by email jmatsumo@dtsc.ca.gov.

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

Senator Barbara Boxer
United States Senate, California
1700 Montgomery St. #240
San Francisco, CA 94111
(415) 403-0100

Senator Dianne Feinstein
United States Senate, California
One Post St. #2450
San Francisco, CA 94104
(415) 393-0707

Senator John McCain
United States Senate, Arizona
2400 E. Arizona Biltmore Circle #1150
Phoenix, AZ 85061
(602) 952-2410

Senator Jon Kyle
United States Senate, Arizona
2200 E. Camelback Rd. #120
Phoenix, AZ 85061
(602) 840-1891

Representatives

Representative Jerry Lewis
41st District of California
United States House of Representatives
1150 Brookside Ave. Suite J-5
Redlands, CA 92373
(909) 862-6030

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 Elected Officials

Senators

Senator Roy Ashburn
18th District of California State Senate
5001 California Ave., Room 105
Bakersfield, CA 93309
(661) 323-0443

Senator Ron Gould
Third District of Arizona State Senate
1700 W. Washington, Room 303
Phoenix, AZ 85007
(602) 926-4138

Representatives

Assembly Member Bill Maze
34th District of California State Assembly
5959 South Mooney Boulevard
Visalia, CA 93277
(559) 636-3440

State Representative Trish Groe
Third District of Arizona House of
Representatives
1700 W. Washington, Room 309
Phoenix, AZ 85007
(602) 926-5408

State Representative Nancy G. McLain
Third District of Arizona House of
Representatives
1700 W. Washington, Room 344
Phoenix, AZ 85007
(602) 926-5051

State Agencies

Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
(714) 484-5300

Arizona Department of Environmental
Quality
1110 W. 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

City/County Contacts

San Bernardino County Board of
Supervisors
385 N. Arrowhead Avenue
San Bernardino, CA 92415-0120
(909) 387-2020

Supervisor Brad Mitzelfelt
District 1 of San Bernardino County
107 F Street
Needles, CA 92363

Mohave County Board of Supervisors
809 E. Beale Street, P.O. Box 7000
Kingman, AZ 86402-7000
(928) 753-9141

Supervisor Buster Johnson
District 3 of Mohave County
2001 College Drive, Suite 90
Lake Havasu City, AZ 86403
(928) 453-0724

Mayor Pete Dwyer
City of Needles
817 Third Street
Needles, CA 92363
(760) 326-2113

Mayor Harvey Jackson
Lake Havasu City
2330 McCulloch Blvd N.
Lake Havasu City, AZ 86403
(928) 453-6909

Mayor Sam Heeringa
Town of Parker
1314 11th Street
Parker, AZ 85344
(928) 669-9265

Appendix B

Information Repositories

Information Repositories

Information Repositories

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

Needles Public 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
Havasupai Lake, CA 92363
Contact: David Todd (760) 858-1140
8am – 4pm, Monday – Friday

Golden Shores/Topock Library Station

13136 Golden Shores Parkway
Topock, AZ 86436
Contact: Avis McKinnon (928) 453-0718
8am – 2pm, Tuesday and Thursday
3pm – 6pm, Wednesday

Lake Havasu City Library

1770 McCulloch Boulevard
Lake Havasu City, AZ 86403
Contact: Sharon Lane (928) 768-2235
9am – 6pm, Mon. and Wed.
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

Appendix B: Suggested Meeting Locations

If a public meeting or meetings is required, suitable locations will be determined based on public input. The following are meeting sites recommended by residents and stakeholders during interviews and project meetings:

Fort Mojave Indian Reservation

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

Needles, California

Needles Council Chamber
1111 Bailey Avenue
Needles, CA 92363
(760) 326-2113
Meeting Capacity: 50 people

Needles High School
1600 Washington Avenue
Needles, CA 92363
(760) 326-2191
Meeting Capacity: Approximately 1,500 people

Topock/Golden Shores Area

Topock Civic Association Building
13136 Golden Shores Parkway
Topock, AZ 86436
(928) 768-2121
Meeting Capacity: Approximately 200 people

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

Chemehuevi Indian Reservation

Chemehuevi Community Center
1978 Valley Mesa
Havasupai Lake, CA 92363
(760) 858-5104
(760) 858-4219 Main Administration
Meeting Capacity: Over 150 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

Colorado River Indian Reservation and Parker, AZ

Bluewater Resort and Casino
11300 Resort Drive
Parker, AZ 85344
(928) 669-7000
(888) 243-3360 Toll-free

Appendix C
Schedule of Activities for RCRA

Schedule of Activities for RCRA

RCRA Milestone Public Participation Activities

Communication and outreach activities will be performed according to the requirements set out by RCRA for corrective action. The table below was excerpted from DTSC's *Public Participation Manual October 2001* (Chapter 4) and summarizes some of the public participation requirements, or activities, that correspond with RCRA corrective action milestones.

Corrective Action Process	Corresponding Public Participation Activities
RCRA Facility Assessment (RFA): A detailed, preliminary site assessment of a treatment, storage, and disposal facility that may be required to undergo some form of corrective action under RCRA.	Update or complete Community Profile Public availability of RFA Update mailing list Mail fact sheet (and place on DTSC Web site) Initiate Public Participation Plan Public meeting Add RFA to repositories
RCRA Facility Investigation (RFI): An investigation in which the owner of a site (PG&E in this case), under the direction of DTSC, investigates the nature and extent of potential contamination and prepares an RFI report to summarize results. DTSC oversees fieldwork, reviews and approves the RFI report, and involves the public through fact sheets and public meetings.	Develop a fact sheet summarizing RFI Add RFI to repositories Public notice in newspaper (and place on DTSC Web site) Public meeting/open house/comment (if necessary) Public Participation Plan
Interim Measures: Urgent cleanup actions taken to protect public health and the environment while long-term solutions are being developed. DTSC required Interim Measures to accelerate removal of chromium contamination and protect the Colorado River.	Fact sheet Public notice/hearing/open house (if necessary) 30-day comment period (if necessary) Place documents in the repositories Respond to comments (if necessary)
Corrective Measure Study: 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.	Public notice in newspaper Fact sheet Public hearing/meeting/open house (if necessary) Update repositories

Corrective Action Process	Corresponding Public Participation Activities
<p>Remedy Selection: After a preferred remedy is tentatively selected, DTSC solicits public review and comment. After considering and responding to public comment, DTSC may adopt the remedy, adopt the remedy with changes, or reconsider other alternatives.</p>	<p>Public notice in the newspaper</p> <p>Fact sheet</p> <p>Public hearing</p> <p>45-day review and comment period</p> <p>Update repositories</p> <p>Respond to comments</p> <p>Notification of final decision</p>
<p>Corrective Measures Implementation Requirements: Description of the nature of work, the dates, hours of work, and any impacts on surrounding neighborhoods.</p>	<p>Public meeting/notice (if necessary)</p> <p>Place remedial design plans in repositories</p> <p>Fact sheet</p>
<p>Remedy Completion</p>	<p>Public review/comment</p> <p>Prior to completion, hold a 45-day comment period</p>

Appendix D
2003 and 2004 Community Interview
Questionnaires

2003 and 2004 Community Interview Questionnaires

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: _____

Appendix E

Community Assessment Results

Community Assessment Results

1997 Community Assessment

The first community assessment, 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.

Concerns expressed during this assessment fell into two major categories — communication and health. Concerns about communication stemmed from the fact that interviewees had very little knowledge of the investigation prior to being contacted for the 1997 assessment. As a result, DTSC determined the need to produce a fact sheet and set up Information Repositories. DTSC published the first fact sheet in March 1998. To facilitate information dissemination to the widespread interested communities, DTSC initially established five Information Repositories (and subsequently added two more), which are listed in Appendix B of this Plan.

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. One individual asked about health risks from wading in the Colorado River. Some individuals asked about potential effects on drinking water supply wells in the area. DTSC addressed these concerns with the statement that, although chromium had been detected in soil and groundwater at the Site, the affected groundwater was not used for drinking or agricultural purposes. DTSC published a second fact sheet in September 1999 that provided an update on the RFI activities and results to date.

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. When two of the interviewees could not make the interviews as scheduled, they were asked to complete questionnaires and mail them to DTSC. A copy of the questionnaire used in the assessment can be found in Appendix C.

As a result of these interviews and responses to the questionnaire, DTSC learned that most interviewees were aware of the environmental investigation (only one was not). Interviewees expressed a moderate to high level of concern, with two stating they had no concern. Issues raised can be broken down into five categories which are discussed below:

- Environmental impacts
- Cleanup process
- Economics
- Adequate communication
- Health effects

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.

Adequate Communications

During the interviews, questions came up about whether information has continued to flow from DTSC and PG&E to all stakeholders. To make information available to the population within and near the CRIT reservation, a few interviewees requested that additional

Information Repositories be set up on the reservation and in Parker, Arizona. A request was also made for a tour of the compressor station.

Additional Interviews During July and September 2004

On July 30, 2004, DTSC conducted three additional interviews; two interviewees were Golden Shores residents and one was a Topock business owner. Concerns expressed in these interviews fell into the same broad categories covered in the 2003 interviews. One resident had a high level of concern about the project, expressing concerns about what the impacts might be to the water quality of the Colorado River, if there were impacts to the fish and other wildlife and to people who use the river. This interviewee wanted more information about how it would get cleaned up and what the prognosis was for the site. The other two interviewees expressed a low to moderate level of concern, but only one of the two had heard about the site prior to the interview. The primary concern expressed by the interviewee was how people in the area might be affected by hexavalent chromium, what effect the contamination could have on the river, and what impact there might be to businesses that depend on the river for their livelihood.

All three interviewees suggested that the Golden Shores Civic Association would be a good group to contact to disseminate information locally and felt that a public meeting to discuss the project would be beneficial. They felt that the Information Repositories were well located and provided good coverage for those seeking information.

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. One interviewee said he had "a great amount of concern." One interviewee considered the site "a serious problem." One interviewee was "very concerned." One interviewee had a high level of concern. Two interviewees rated themselves as having a low to moderate level of concern. One interviewee had low concern. Concerns expressed fell into the same large categories as concerns expressed in the January 2003 interviews: environmental impacts, cleanup process, economics, adequate communication, and potential health effects.

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.

Cleanup Process

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.

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 McCulloch 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 Communications

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 Web sites; others took down the Web site address for DTSC and for ADEQ, where current fact sheets are posted. DTSC indicated that they are working on creating a Web site to house project information.

All but one of the interviewees did not feel that the public outreach materials need to be translated. Although several interviewees mentioned local Hispanic residents, all but one

felt that the Spanish-speaking local population was bilingual enough to read English documents.

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 turnout could be low. Meeting locations suggested by these and previous interviewees are listed in Appendix B of this Plan.

Appendix F

Fact Sheets

Fact Sheets

February 2007

DTSC issued an informational work notice to inform local residents and users of the river (e.g., boaters), as well as other stakeholders, that PG&E would be conducting drilling activities on the California shoreline just south of the I-40 bridge during February and March 2007. The notice described the type of drilling as, “slant drilling,” a method that allows for installation of groundwater monitoring wells 100 feet below the bottom of the Colorado River without any work being conducted in the river itself. The notice was emailed to the CWG and Tribal representatives and mailed to Golden Shores and Topock, Arizona, residents, as well as to elected officials, key organizations who take an interest in the project, the Project Information Repositories and ten Indian Tribes: Fort Mojave Indian Tribe, Colorado River Indian Tribe, Chemehuevi Indian Tribe, Cocopah Indian Tribe, Fort-Yuma Quechan Indian Tribe, Havasupai Indian Tribe, Hualapai Indian Tribe, Torres-Martinez Desert Cahuilla Indian Tribe, Twenty-Nine Palms Indian Tribe, and the Yavapai-Prescott Indian Tribe.

October 2006

DTSC issued a fact sheet to announce the DTSC Topock Project Web site, the Environmental Impact Report process, provide an update on the Topock Project, and introduce the independent contractor, EDAW, who will support DTSC in performing the EIR. 1,310 fact sheets were mailed to Topock and Golden Shores residents and businesses, elected officials in California and Arizona, Lake Havasu City’s public information officer, CWG members, other key individuals and organizations in Needles and the Mojave Valley area, Topock Project Information Repositories, and the ten interested Indian Tribes.

July 2005

DTSC issued a fact sheet to provide a summary and description of the expanded Interim Measures (IM No. 3). The IM No. 3 Treatment System began receiving and treating contaminated groundwater on July 17, 2005. The fact sheet explained the reasons for Interim Measures being implemented at the site and detailed those measures’ operations. The fact sheet was mailed to residents in California and Arizona and to Native American Tribes who had expressed concern about the project.

August 2004

The need for expanded Interim Measures prompted production of a fourth fact sheet in August 2004. This fact sheet provided an update on the rationale and plans for expanded Interim Measures at the site and was distributed to the CWG, Tribes and Topock Site Mailing List, as described for fact sheets above.

May 2004

A third fact sheet was issued in May 2004. This fact sheet provided an update on environmental investigation and cleanup activities at the site and gave detailed information regarding Interim Measures. The fact sheet explained the reasons for Interim Measures being implemented at the site and detailed those Interim Measures operations. Since it had been a while since a fact sheet was issued for the site, this fact sheet also provided basic information regarding site history, hexavalent chromium, and future steps under the corrective measures process. Over 3,500 copies of the fact sheet were distributed.

September 1999

DTSC issued a second fact sheet in September 1999 that detailed additional fieldwork performed since the March 1998 fact sheet. These results indicated that hexavalent chromium at the Station was not an immediate threat to human health or the environment and that affected groundwater was not reaching the Colorado River.

March 1998

DTSC prepared the first fact sheet in March 1998 to detail the implementation of the RFI workplan and to inform the public of the investigation field work and planned site activities. This fact sheet also announced the establishment of the original five Information Repositories and the availability of technical and public participation documents.



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:

Needles Public Library

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

Colorado River Indian Tribes Public Library

2nd Avenue and Mojave Road
Parker, AZ 85344
Amelia Flores: 928-669-1285

Chemehuevi Indian Reservation

2000 Chemehuevi Trail
Havasupai Lake, CA 92363
Dave Todd: 760-858-1140

Parker Public Library

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

Golden Shores/Topock Library Station

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

Department of Toxic Substances Control

5796 Corporate Avenue
Cypress, CA 90630
Julie Johnson: 714-484-5337

Lake Havasu City Library

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





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

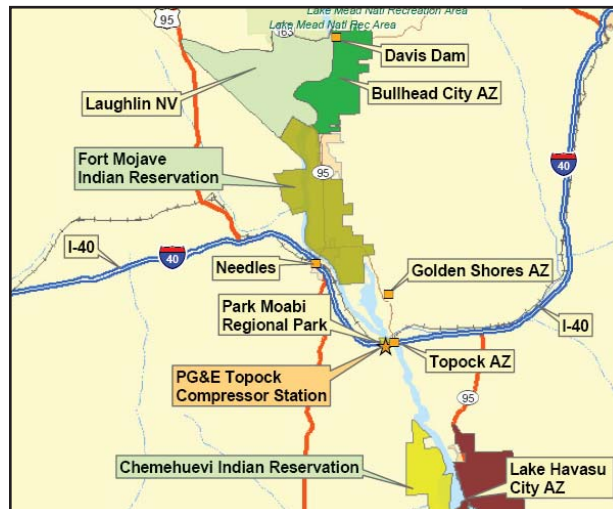
FACT SHEET – October 2006

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.

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



PG&E Topock Compressor Station Location and Surrounding Communities

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).

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.

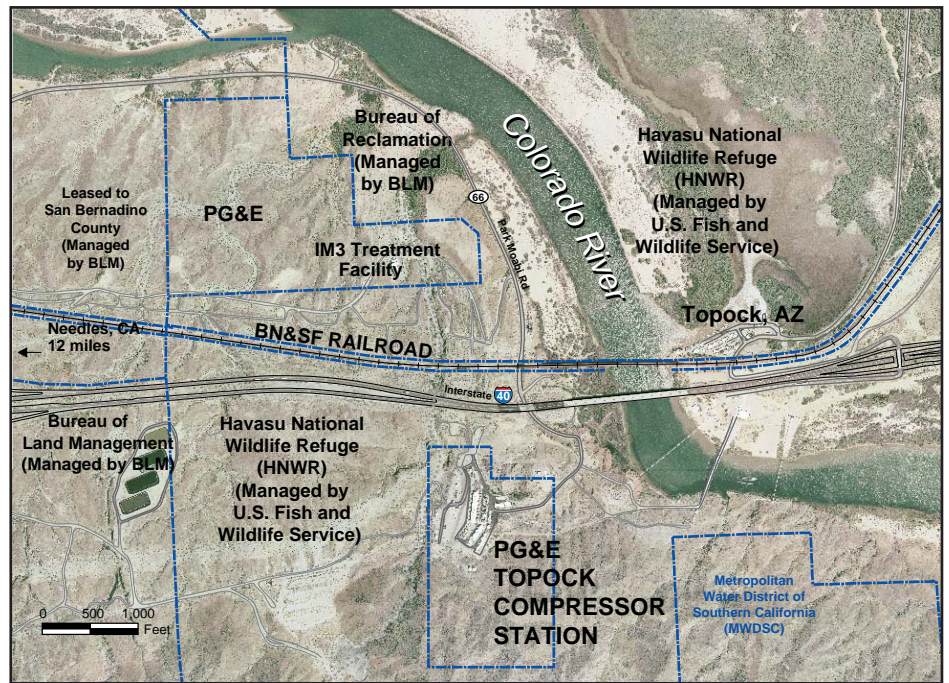
Two new groundwater extraction wells were installed under the IM3 treatment system to allow for the increased pumping rate to 135 gallons per minute.

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



Topock Project Site and Surroundings

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.

Aaron Yue

DTSC Project Manager

5796 Corporate Avenue
Cypress, CA 90630
(714) 484-5439
ayue@dtsc.ca.gov

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:

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

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

Havasus 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: _____

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 – 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

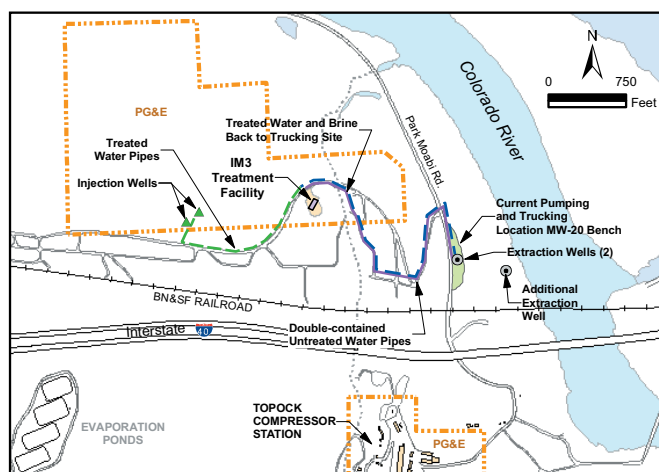
Two extraction wells are located above the floodplain on the MW-20 bench, in the area of the plume where the highest concentrations of hexavalent chromium have been detected. These extraction wells are also being utilized for the current pumping and trucking of groundwater under IM2. A third extraction 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.

Derrick Alatorre

DTSC Public Participation Specialist

5796 Corporate Avenue

Cypress, CA 90630

714-484-5474, DAlatorr@dtsc.ca.gov

Norman Shopay

DTSC Project Manager

700 Heinz Avenue, Suite 200

Berkeley, CA 94710

510-540-3943, NShopay@dtsc.ca.gov

Media inquiries please contact:

Jeanne Garcia

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

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 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
Havasus 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
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



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 complete 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.



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

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)

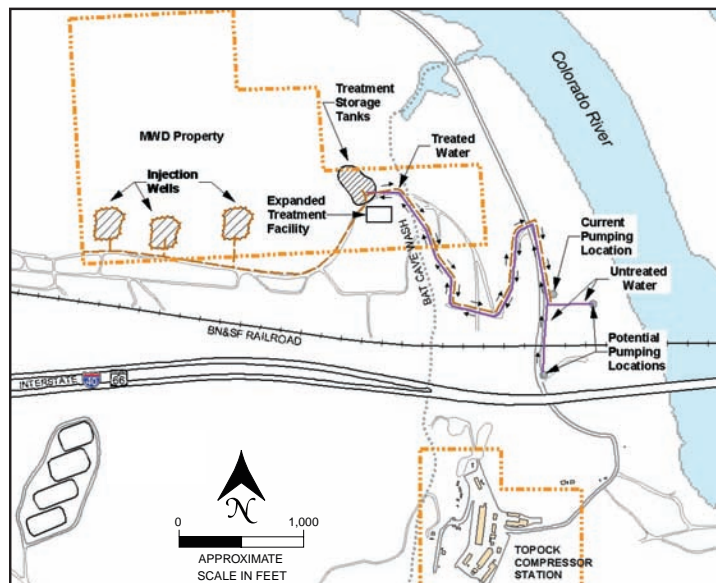
reach its lowest levels from October 2004 through January 2005.

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



Proposed location of expanded groundwater extraction and treatment system

northwest of the current pumping and storage site.

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

DTSC Project Manager
700 Heintz Ave., Suite 200
Berkeley, CA 94710
510-540-3943, NShopay@dtsc.ca.gov

Derrick Alatorre

DTSC Public Participation Specialist
5796 Corporate Ave.
Cypress, CA 90630
714-484-5474, DAlatorr@dtsc.ca.gov

Jeanne Garcia

DTSC Public Information Officer
1011 N. Grandview Ave.
Glendale, CA 91201
818-551-2176, JGarcia1@dtsc.ca.gov

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

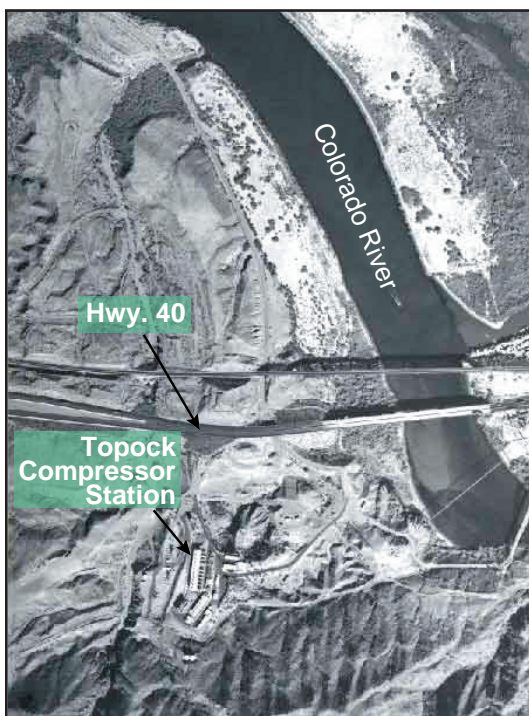
What's Happening?

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.

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



PG&E Topock Compressor Station near Needles, California

* 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

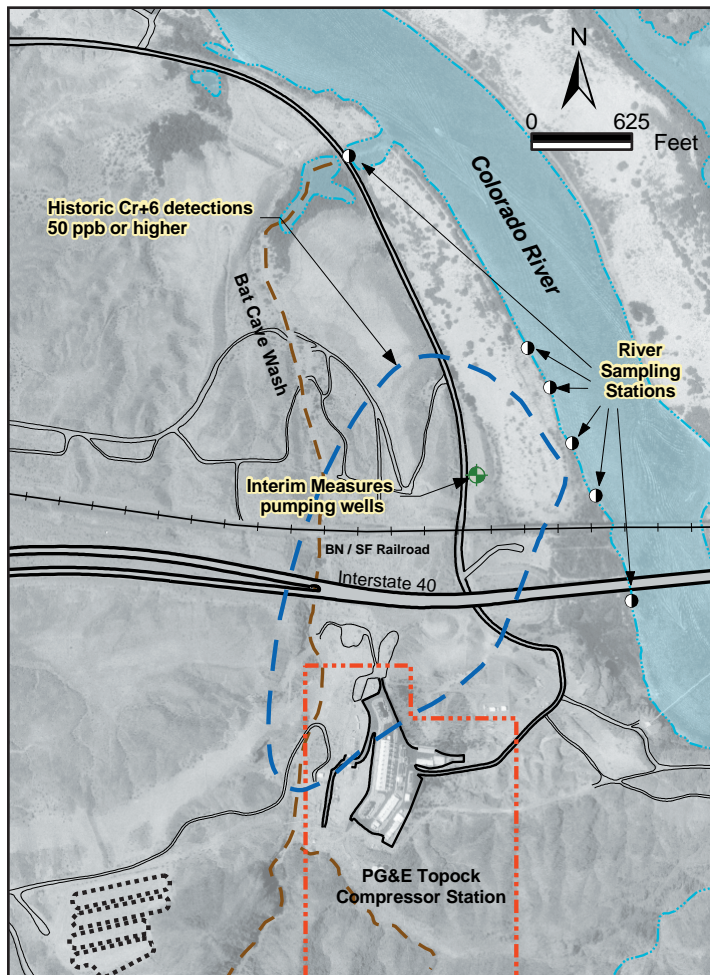
Interim Measures are urgent actions taken to clean up the site while the long-term remedy is being evaluated. DTSC required Interim Measures to accelerate removal of chromium contamination and to protect the Colorado River. Planning and implementation of the Interim Measures is being closely coordinated 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.

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.



Area of historic maximum hexavalent chromium detections (50 ppb or higher) in the area associated with the discharge

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

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

Lake Havasu City Library

1787 McCulloch Blvd., Lake Havasu City, AZ

Sharon Lane: 928-453-0718

Colorado River Tribes Public Library

2nd Ave and Mohave Rd., Parker, AZ

Amelia Flores: 928-669-1285

Parker Public Library

1001 Navajo Ave., Parker, AZ

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: _____



*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.

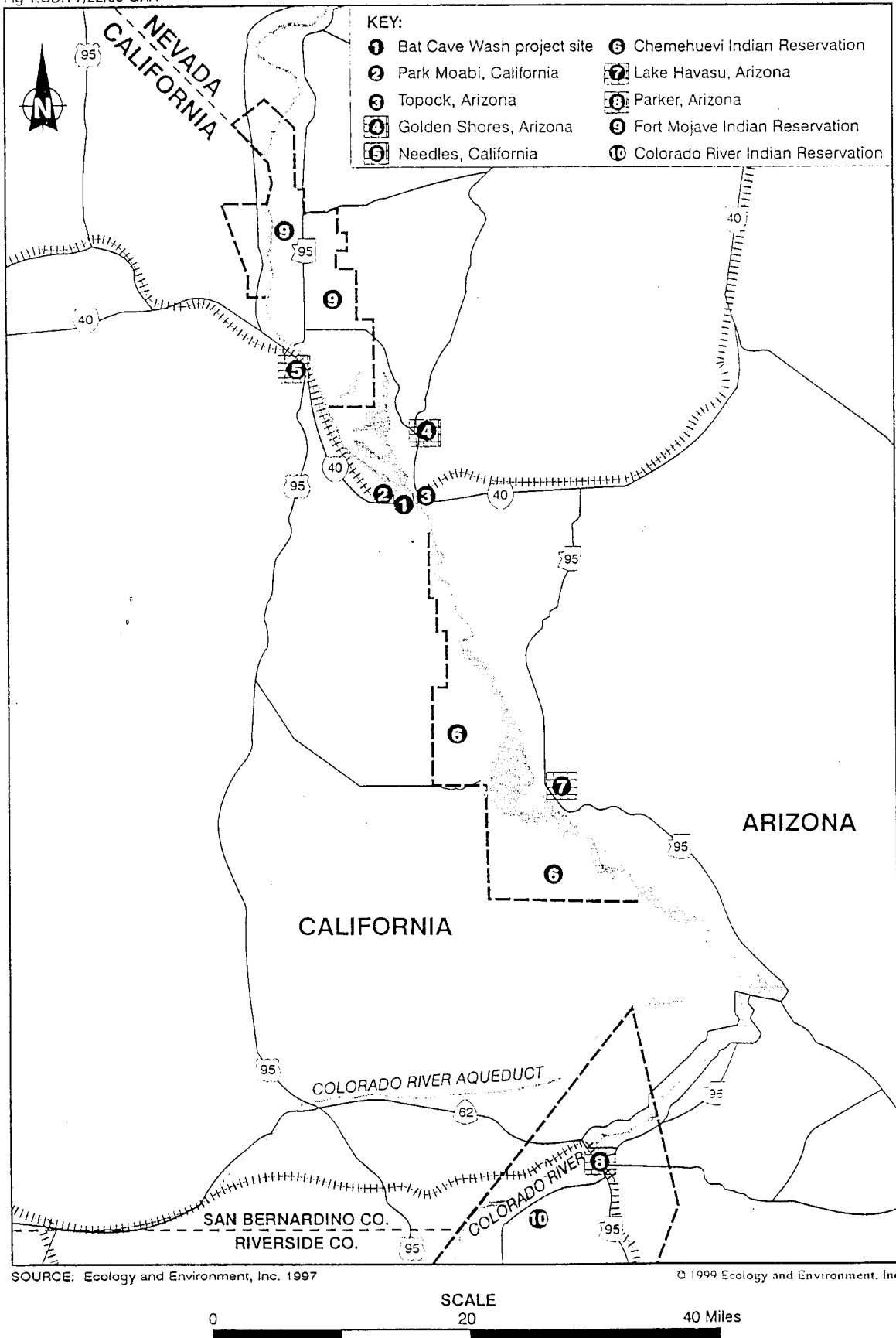
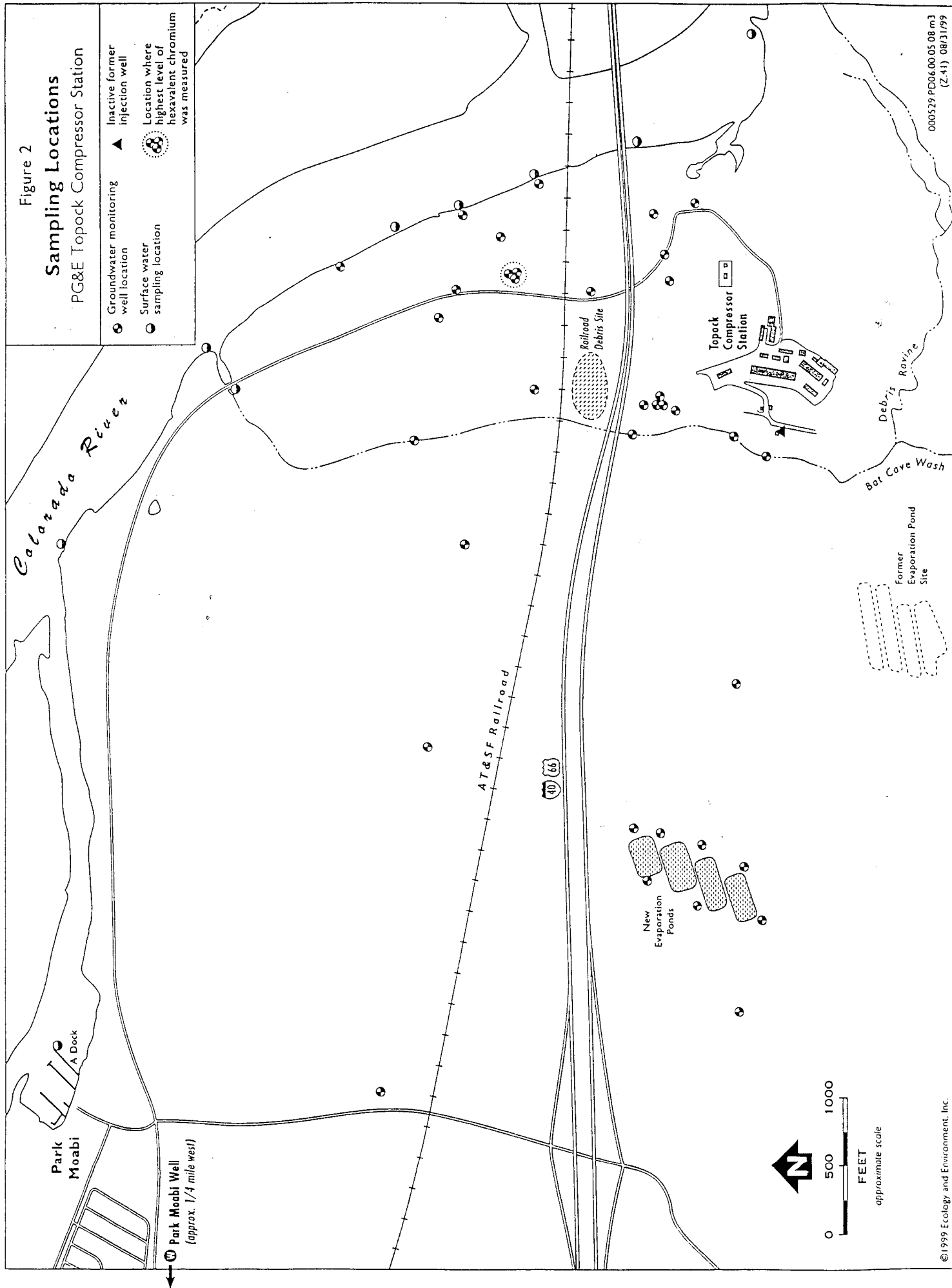


Figure 1 REGIONAL LOCATION AND SURROUNDING COMMUNITIES



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

Chemehuevi Valley Indian Reservation
1980 Palo Verde Drive, Havasu Lake, CA 92363
Contact: Mr. Ed White, (760) 858-1116
7:30am - 4pm, Mon - Fri

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

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

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

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
ATTN MARTIN PRISCO
1011 N GRANDVIEW AVENUE
GLENDALE CA 91201



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.

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 implemen-

tation. 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.

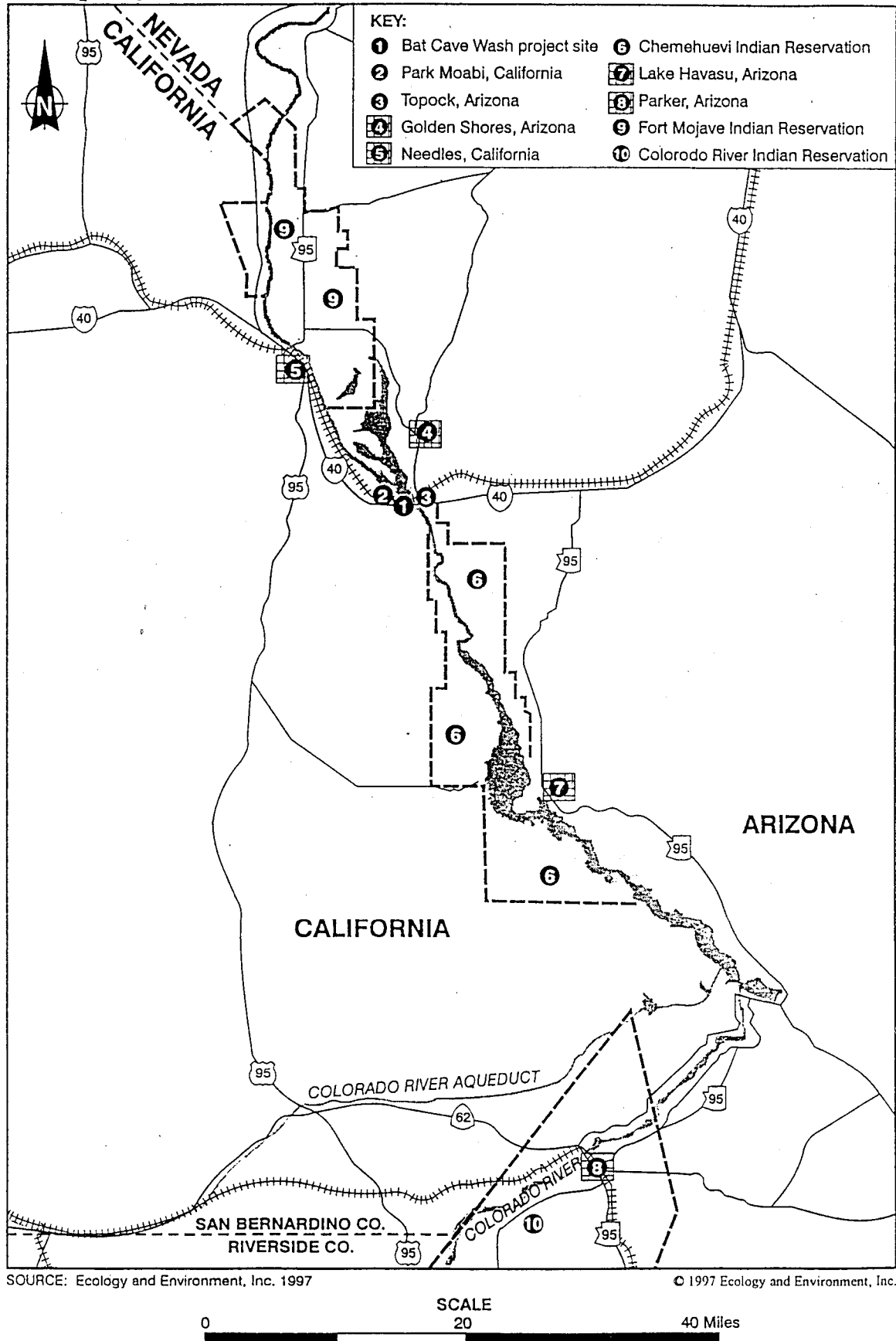
Pacific Gas and Electric Company (PG&E): A subsidiary of PG&E Corporation, PG&E is an investor-owned electric and gas utility serving more than 13 million people in Northern and Central California. As part of its operations, PG&E transports gas supplies from the Southwest and Canada through a system 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.



SOURCE: Ecology and Environment, Inc. 1997

© 1997 Ecology and Environment, Inc.

Figure 1 REGIONAL LOCATION AND SURROUNDING COMMUNITIES

Appendix G
Comparison of State (RCRA) and Federal
(CERCLA) Outreach Activities

APPENDIX G

Comparison of State (RCRA) and Federal (CERCLA) Outreach Activities

There are two federal laws which establish programs that govern the investigation and cleanup of contamination at sites. The Resource Conservation and Recovery Act (RCRA) regulates the use, treatment, and storage of hazardous waste. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, also known as Superfund) was created to fund the cleanup of hazardous waste sites. The two programs include similar landmark decision documents, and include similar community involvement steps.

Public Participation and Community Involvement activities outlined under RCRA and CERCLA are essentially the same activities, including (for example) public notices, fact sheets, public meetings, and public participation/community involvement plans. Public participation activities are conducted in accordance with agency guidance and at the discretion of DTSC's Public Participation Specialist for RCRA sites or EPA's (or other federal lead agencies [e.g., BLM]) Community Involvement Specialist for CERCLA sites. For a comparison of RCRA and CERCLA activities, see Table G-1.

Community outreach guidance can be found in several locations:

The California Department of Toxic Substances Control (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>

TABLE G-1

RCRA and CERCLA Documentation and Associated Communication Outreach Activities

General Activity	RCRA Document	RCRA Public Outreach Activities (per DTSC guidelines)	CERCLA Document	CERCLA Public Outreach Activities (per EPA guidelines)	Comments
Evidence of Contamination Discovered or Reported	Establish a lead agency for Corrective Action		Establish a lead agency		
Evaluate Contamination	RCRA Facility Assessment (RFA)	1. Publish Public Notice in newspaper* 2. Public Comment Period*	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)	The Topock site is not proposed for listing on the federal NPL

TABLE G-1
RCRA and CERCLA Documentation and Associated Communication Outreach Activities

General Activity	RCRA Document	RCRA Public Outreach Activities (per DTSC guidelines)	CERCLA Document	CERCLA Public Outreach Activities (per EPA guidelines)	Comments
Evaluate Community Interest	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*	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*	Use PPP or CIP to specify community involvement procedures
Investigate the Nature and Extent of Contamination	RCRA Facility Investigation (RFI)	1. Publish Public Notice* 2. Publish Fact Sheet* 3. Public Comment Period* 4. Public Meeting*	Remedial Investigation (RI)	1. Publish Public Notice* 2. Publish Fact Sheet* 3. Public Comment Period* 4. Public Meeting*	RI and FS are often combined in one (RI/FS) document
Identify and Analyze Alternative Actions to Address Site Contamination	Corrective Measures Study (CMS)	1. Publish Public Notice* 2. Publish Fact Sheet* 3. Public Comment Period* 4. Public Meeting*	Feasibility Study (FS)	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 Remedy Selection	1. Publish Public Notice 2. Publish Fact Sheet* 3. Public Comment Period 4. Public Meeting*	Proposed Plan (Pre-ROD Significant Changes)	1. Publish Public Notice 2. Publish Fact Sheet* 3. Public Comment Period 4. Public Meeting*	
Select Final Remedy	Statement of Basis	1. Publish Notification of Final Decision	Record of Decision (ROD)	1. Publish Public Notice of ROD	
Revisions to Final Remedy (if necessary)	Revise Statement of Basis	1. Publish Public Notice* 2. Publish Fact Sheet* 3. Public Comment Period* 4. Public Meeting*	Post-ROD Significant Changes Explanation of Significant Differences (ESD)	1. Publish Public Notice* 2. Publish Fact Sheet* 3. Public Comment Period* 4. Public Meeting*	
Conduct Cleanup Operations	Corrective Measures Implementation (CMI)	1. Publish Fact Sheet* 2. Add Remedial Design Plans to Repository	Remedial Design and Remedial Action (RD/RA)	1. Publish Fact Sheet on Final Engineering Design	
Evaluate Effectiveness of Final Remedy			5-Year Review	1. Publish Public Notice	
When Cleanup Goals are Achieved	Certification of Remedy Completion		NPL De-listing		
* if necessary, as determined by the Public Participation or Community Involvement Specialist					

Appendix H

Glossary of Terms

Glossary of Terms

Aquifer: An underground geological formation, or group of formations, containing groundwater that can supply wells and springs. Geologists on this project performed well pumping tests to assess the physical characteristics of the aquifer and movement of groundwater near the Topock Compressor Station.

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 Consent Agreement: A voluntary agreement between a lead agency and responsible party in which the company commits to investigate the nature and extent of contamination at and surrounding a site governed by RCRA, and to take corrective action.

Corrective Action Process: A process designed to evaluate the nature and extent of releases of a hazardous substance and implement appropriate measures to protect public health and the environment.

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.

Chromium: A naturally occurring metal found in rocks, soil, and the tissue of plants and animals. It is present in the environment most commonly in two different forms: hexavalent chromium (Cr(VI) or “Cr6”) and trivalent chromium (Cr(III) or “Cr3”). Hexavalent chromium is considered a human carcinogen when inhaled at high concentrations.

Department of Toxic Substances Control (DTSC): A department within the California Environmental Protection Agency (Cal/EPA) that oversees the investigation and remediation of hazardous waste sites.

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.

Hydraulic Control: The control of the movement of groundwater.

Information Repository: Designated locations that provide public access to site-related documents as required by the DTSC.

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

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

Mohave: Used when describing the Arizona desert or agencies.

Mojave: Used when describing the Indian Tribe or California desert.

Natural attenuation: Any combination of physical, chemical, or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater.

Notice of Exemption: The environmental document that is prepared for projects or actions that meet specific criteria for exemption from the requirements of the CEQA. Examples of actions meeting such criteria include those taken to restore property damaged in a disaster area and specific actions designed to prevent an emergency.

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.

pH: A measure of the acidity or alkalinity of a solution, numerically equal to 7 for neutral solutions, increasing with increasing alkalinity and decreasing with increasing acidity. The pH scale commonly in use ranges from 0 to 14.

Plume: A body of contaminated groundwater flowing from a specific source.

Public Participation Plan: A plan that documents community concerns about a site and identifies specific actions to respond to them. The Plan outlines the preferred ways to involve the community in the DTSC decision-making process.

RCRA Facility Investigation (RFI): An investigation in which the site owner of a site (PG&E in this case), under the direction of DTSC, investigates the nature and extent of potential contamination and prepares an RFI Report to summarize results. DTSC oversees fieldwork, reviews and approves the RFI report, and involves the public through fact sheets and public meetings.

Resource Conservation and Recovery Act (RCRA): A federal statute for safely managing and disposing of waste generated nationwide.

Remedial Plan: A plan that describes a specific program to address contaminants at a site.

Remediation: Cleanup, which may include control, containment, treatment, excavation, and/or disposal.

Responsible party: An individual or corporate entity considered legally liable for contamination found at a property and, therefore, responsible for cleanup of the site.

Statement of Basis: A milestone document in the RCRA process that describes the basis for a lead agency's proposed remedy and cleanup standards. The Statement of Basis is issued by the agency once the alternative remedies have been evaluated and the Corrective Measures Study is complete.