



Department of
Toxic Substances
Control

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



State of California



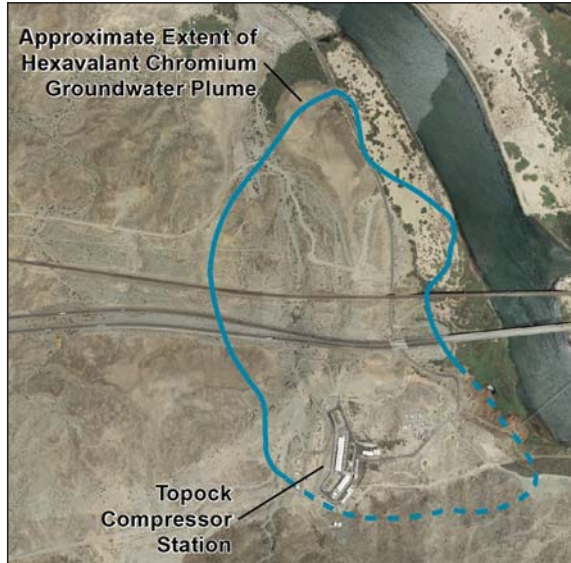
California
Environmental
Protection Agency

FACT SHEET – January 2012

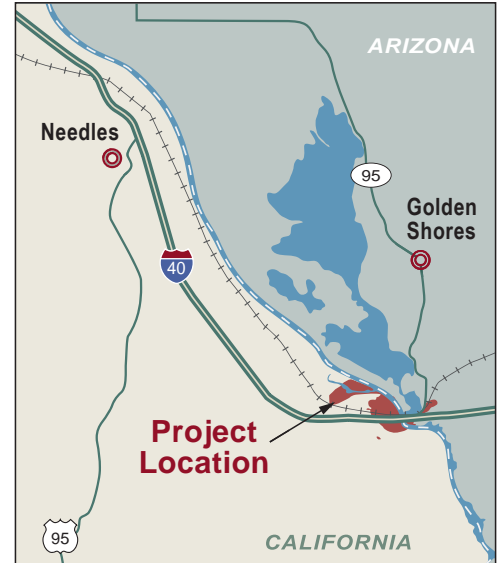
PG&E Topock Environmental Investigation Update

Introduction

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



Map of Topock project site and approximate affected groundwater plume boundary



Topock site location map showing the compressor station and surrounding communities

Site Background and History

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

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

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

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



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

Groundwater Remedy Adopted

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

Groundwater Remedy Implementation Timeline



Groundwater Remedy Design

Efforts are currently underway on the design of the approved groundwater remedy. PG&E anticipates the design to be completed by November 2012. After DTSC and DOI approve the design, construction and start-up of the remedy will occur. Operation and maintenance of the groundwater

remedy will continue until the cleanup goals are achieved. PG&E estimates cleanup will be complete in approximately 30 years.

Focused Groundwater Evaluation

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



Well drilling in the East Ravine Area

Soil Investigation is Being Planned

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

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

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



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

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

Community Outreach

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

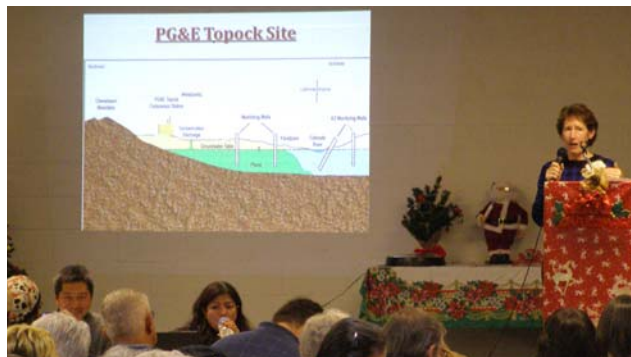
This Community Outreach Plan will be a revision of the June 9, 1998 Public Participation Plan, which was updated in February 2007 and appended in July 2009. The current plan can be found on the project website at www.dtsc-topock.com or at any of the information repositories listed on page 5 of this fact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

surveys, fact sheets, meetings, written and electronic documents. We anticipate completing the Community Outreach Plan by September 2012.

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

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

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



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

Glossary of Terms

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

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

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

Final Design: The final design for the groundwater remedy.

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

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

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

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

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

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

Nitrate: Nitrates and nitrites are nitrogen-oxygen

chemical compounds which combine with various organic and inorganic compounds.

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

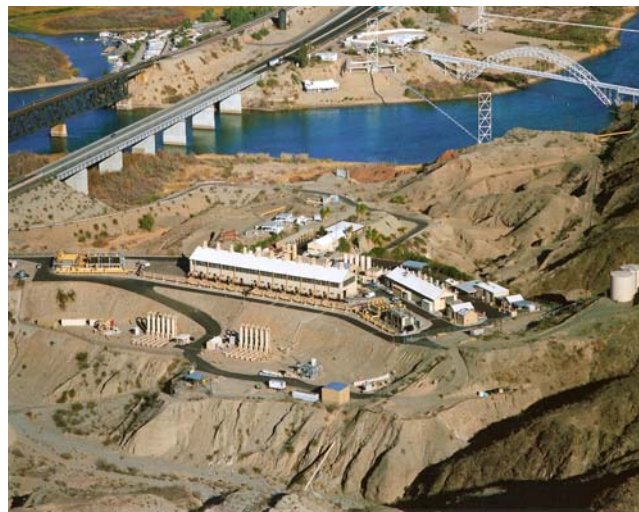
Remediation: Actions taken to remove or contain a toxic spill or a release of hazardous substances at a site.

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

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

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

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



Topock Compressor Station and Surrounding Area

Where to find Project Information

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

On the Internet

 www.dtsc-topock.com

 www.dtsc.ca.gov

Needles Branch Library

1111 Bailey Avenue

Needles, CA 92363

Contact: Kristin Mouton, 760.326.9255 ①

11am – 7pm, Monday through Wednesday

10am – 6pm, Thursday

Closed, Friday

9am – 5pm, Saturday

Golden Shores/Topock Station Library

13136 Golden Shores Parkway

Topock, AZ 86436

Contact: Kim Stoddard, 928.768.2235 ①

9am – 1pm, Tuesday, Thursday, Saturday

2pm – 5pm, Wednesday

Chemehuevi Indian Reservation

Environmental Protection Office

2000 Chemehuevi Trail

Havasu Lake, CA 92363

Contact: Tom Pradetto, 760.858.1140 ①

8am – 4pm, Monday – Friday

Lake Havasu City Library

1770 McCulloch Boulevard

Lake Havasu City, AZ 86403

Contact: Cindy Amador, 928.453.0718 ①

9am – 6pm, Monday and Wednesday

9am – 8pm, Tuesday and Thursday

9am – 5pm, Friday and Saturday

Colorado River Indian Tribes Library

2nd Avenue and Mohave Road

Parker, AZ 85344

Contact: Elvira Bailey-Holgate, 928.669.1332 ①

8am – noon, 1①m – 5pm, Monday – Friday

Parker Public Library

1001 Navajo Avenue

Parker, AZ 85344

Contact: Jeannie Smith, 928.669.2622 ①

9am – 7pm, Monday – Thursday

California Department of Toxic Substances Control

5796 Corporate Avenue

Cypress, CA 90630

Contact: Julie Johnson, 714.484.5337 ①

9 am–noon, 1 pm–4 pm, Monday–Friday

Please call for an appointment.

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

DTSC Welcomes Your Feedback

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

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DTSC Project Manager

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Cypress, CA 90630

① 714.484.5439

 AYue@dtsc.ca.gov

Mona Bontty

DTSC Community Outreach Supervisor

5796 Corporate Avenue

Cypress, CA 90630

① 714.816.1978 or Toll Free: 866.495.5651

(press 5 and 1)

 MBontty@dtsc.ca.gov

For Media Inquiries Contact

Jeanne Garcia, DTSC Public Information Officer

9211 Oakdale Avenue

Chatsworth, CA 91311

① 818.717.6573

 JGarcia1@dtsc.ca.gov

Notice to Hearing-Impaired Individuals

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

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