FACT SHEET

First Five-Year Review on Groundwater Remedy

PG&E Topock Compressor Station Remediation Project

San Bernardino County, California

The U.S. Department of Interior (DOI), in cooperation with the California Department of Toxic Substances Control (DTSC), is beginning a Five-Year Review (FYR) process under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) that will review the groundwater remedy implemented at the Topock Compressor Station in San Bernardino County, California. The selected remedy for groundwater includes the use of in-situ treatment with fresh water flushing for groundwater contamination associated with Solid Waste Management Unit (SWMU) 1/Area of Concern (AOC) 1 and AOC 10. Construction of the selected remedy began in October of 2018, triggering the start of the FYR period. This is the first FYR of the groundwater remedy and FYRs will continue for the life of the site until hazardous substances, pollutants, or contaminants no longer remain on site at levels that do not allow for unlimited use and unrestricted exposure. This Fact Sheet summarizes the purpose and process of a FYR.

WHAT IS THE PURPOSE OF A FIVE-YEAR REVIEW?

A FYR determines if the selected remedy is/remains protective of human health and the environment. If issues affecting protectiveness are found during the FYR, recommendations are made to address these issues. A FYR evaluates three major questions:

Are the exposure levels and remedial action objectives used at the time of the remedy selection still valid?

Is the remedy functioning/being constructed as intended?

Has any other information surfaced that could affect the protectiveness of the remedy?

HOW IS A FIVE-YEAR REVIEW PERFORMED?

There are six components to performing a FYR:

1. **Community Involvement & Notification** – The DOI will notify potentially interested parties of the initiation and completion of the FYR. Notifications and the completed FYR Report will be available to the public at the Site's information repositories, included as the last page of this Fact Sheet.
2. **Document Review** – The DOI will review remedy decision documents, monitoring and maintenance reports, and technical memoranda.
3. **Data Review & Analysis** – The DOI will review sampling and monitoring plans and results from monitoring activities, operations and maintenance reports, or other documentation of remedy performance.
4. **Site Inspections** – The DOI will conduct visual confirmation and documentation of the conditions of the remedy, applicable sites, and surrounding areas.
5. **Site Interviews –** The DOI will conduct interviews with various stakeholders to obtain additional information about a site's status, and/or identify remedy issues. Individuals interested in being interviewed must notify Ms. Veronica Dickerson by May 31, 2023. Contact information is provided on the last page of this Fact Sheet.
6. **Protectiveness Determinations** – The DOI will evaluate information gathered during the Document Review, Data Review & Analysis, Site Inspections, Site Interviews, as well as climate change data to determine if the remedy is protective of human health and the environment.

SITE HISTORY

The PG&E Topock Compressor Station is located adjacent to the Colorado River in eastern San Bernardino County, about 12 miles southeast of Needles, California. The Station plays a vital role in moving natural gas into California to serve millions of business and residential customers.

To prevent corrosion of cooling tower equipment and to assist in the control of algae, fungi, and/or bacteria, additives containing chromium were historically used in cooling tower process water. The existing chromium contamination in groundwater near the Station is attributable to past discharges of wastewater from Station operations into the Former Percolation Bed in Bat Cave Wash, designated as Solid Waste Management Unit (SWMU) 1 and the area around the Former Percolation Bed, designated as Area of Concern (AOC) 1, and within the East Ravine, designated as AOC 10.

SELECTED REMEDY

In December 2010, the DOI issued a Record of Decision (ROD) identifying the selected remedy for SWMU 1/AOC 1 and AOC 10 as in-situ treatment with fresh water flushing for the treatment of hexavalent chromium in groundwater.

The selected remedy includes:	Construction of an In-Situ Reactive Zone ("IRZ") along National Trails Highway using a line of wells that may be used as both injection and extraction wells to circulate groundwater and distribute an organic carbon source to promote bacteriological reduction of the hexavalent chromium to trivalent chromium.
	Flushing accomplished through a combination of potable water injection and injection of carbon amended water in wells upgradient of the plume.
	Extraction wells near the Colorado River to provide hydraulic capture of the plume, accelerate cleanup of the floodplain, and enhance the flow of contaminated groundwater through the IRZ line.
	Bedrock extraction wells in the eastern (downgradient) end of the East Ravine to provide hydraulic capture of contaminated groundwater in bedrock. Extracted water will be conditioned and managed using the same active conditioning system that will be used to condition and manage contaminated groundwater extracted from the Alluvial Aquifer.
	Institutional controls to restrict surface land use and prevent the use of groundwater.
	Monitored natural attenuation as a long-term component to address residual hexavalent chromium that may remain in recalcitrant portions of the aquifer after in-situ treatment.

REMEDY IMPLEMENTATION

Design and implementation of the selected remedy for groundwater includes design and construction of the remedy, followed by operations, maintenance, and monitoring to assure the remedy is performing as designed.

Design: DOI conditionally approved the Final (100%) Design for the groundwater remedy on April 3, 2018 and DTSC conditionally approved it on April 24, 2018.

Construction: Construction and startup of the groundwater remedy is proceeding in phases:

Phase 1

Construction initiation began on October 2, 2018. Phase 1 included construction of NTH IRZ and supporting components, monitoring wells, and riverbank wells. On December 22, 2021, startup began for Phase 1 including startup of NTH IRZ system operation, maintenance, and monitoring.

Phase 2A

Construction began in March 2022 and is currently ongoing. Phase 2A includes construction of the TCS recirculation loop, freshwater injection well FW-2 and associated arsenic monitoring wells and pipelines.

Phase 2B

Will include construction of the inner recirculation loop, freshwater injection well FW-1 and monitoring wells in the uplands, Arizona facilities to convey water from freshwater supply well (HNWR-1A) in Arizona to California, and remaining TCS facilities and pipelines.

Additional information on the groundwater remedy can be found in the December 2009 CMS/FS; the January 31, 2011 Final Groundwater EIR; the 2013 EIR Addendum; the 100% Design and addendums; and the 2018 Final Subsequent EIR for the groundwater remedy, which can all be found in the Document Library on the PG&E remediation website: https://topockremediation.pge.com/documents

COMMUNITY NOTIFICATION

Notification of the initiation and completion of the FYR will be published in the following locations:

Daily News	Mojave, CA
Sun	San Bernardino, CA
Sun	Yuma, AZ
Today's News-Herald	Lake Havasu City, AZ
Desert Star	Needles, CA
Pioneer	Parker, AZ
PG&E Remediation Website	https://topockremediation.pge.com/documents

INFORMATION REPOSITORY

Notifications & the completed FYR Report will be available to the public at the following information repositories:

California Department of Toxic Substances Control (DTSC)	5796 Corporate Ave, Cypress, CA 90630 Contact: Julie Johnson (714) 484-5337, Jone Barrio (714) 484-5336
Chemehuevi Indian Reservation	1990 Palo Verde Drive, Havasu Lake, California 92363 Contact: (760) 858-4219
Colorado River Indian Tribes Library	26600 Mohave Road, Parker, AZ 85344 Contact: (928) 669-1332
Golden Shores Community	13136 S. Golden Shores Parkway, Topock, AZ 86436 Contact: (928) 768-2235
Lake Havasu City Library	1770 North McCulloch Blvd, Lake Havasu City, AZ 86403 Contact: (928) 453-0718
Needles Branch Library	1111 Bailey Ave, Needles, CA 92362 Contact: (760) 326-9255
Parker Public Library	1001 Navajo Ave, Parker, AZ 85344 Contact: (928) 669-2622
PG&E Remediation Website	https://topockremediation.pge.com/documents

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