COMMUNITY UPDATE

Department of Toxic Substances Control - Our mission is to protect the people, communities, and environment of California from harmful chemicals by cleaning up contaminated sites, enforcing hazardous waste laws, and compelling the development of safer products.

PACIFIC GAS & ELECTRIC COMPANY (PG&E) TOPOCK COMPRESSOR STATION ENVIRONMENTAL CLEANUP UPDATE

The California Department of Toxic Substances Control (DTSC) is the lead state agency overseeing the soil and groundwater investigation and cleanup at the Pacific Gas & Electric Company (PG&E) Topock Compressor Station and adjacent land, collectively known as the Topock Site. This Community Update provides the latest information about the environmental investigation and cleanup activities at the Topock Site.

COMMUNITY UPDATE CONTENTS

SITE BACKGROUND AND HISTORY:

The Topock Site is located in eastern San Bernardino County, about 12 miles southeast of the City of Needles, California, south of Interstate 40, and one-half mile west of the Colorado River.

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 must be cooled. From 1951 to 1985, PG&E added chromium to the water used in the cooling towers and other equipment to prevent equipment corrosion. From 1951 to 1964, cooling tower wastewater containing **hexavalent chromium (Cr[VI])** was discharged into a natural wash adjacent to the Station. In addition, historical operations at the Station have resulted in contamination of soils located both outside and inside the fence line. Over time, the Cr(VI) seeped into the groundwater and created a groundwater plume that extends from below the Station towards the Colorado River. Based on results from periodic testing of the river water, the Cr(VI) contamination is not impacting the quality of the river water.

FINAL GROUNDWATER REMEDY CONSTRUCTION, STARTUP, AND INITIAL OPERATION UPDATE:

In 2011, DTSC and the U.S. Department of the Interior (DOI) selected "**In-Situ Treatment** with Freshwater Flushing" as the final groundwater remedy for the Topock Site. The plan includes a network of injection and extraction wells along the **National Trails Highway (NTH)**, approximately 600 feet west of the Colorado River. This network of wells forms the **In-situ Reactive Zone (IRZ)**.

Ethanol is added to the contaminated groundwater to stimulate the growth of naturally occurring, harmless and helpful bacteria. The bacteria temporarily alters the geochemical conditions in the groundwater and helps convert Cr(VI) to non-soluble **trivalent chromium**. Injection wells located around the Cr(VI) **groundwater plume** will pump freshwater into the groundwater aquifer to push the contaminated water toward the reactive zone.

Construction, startup, and initial operation are separated into two phases with Phase 2 split into two sub-phases, as shown in the schedule on page 4.

Phase 1, which began on October 2, 2018, is now complete. It includes the NTH IRZ with 22 remediation wells (for injection and/or extraction) and a robust network of 75 monitoring wells (for measuring water levels and quality), as well as a network of over 74,000 linear feet of water conveyance piping and 41,000 feet of electrical conduits that connect the remediation wells to the power supply system, the carbon amendment building, and the produced water conditioning system.

All systems and components were integrated and tested to make sure they function properly. On December 22, 2021, PG&E turned on the NTH IRZ remedy treatment system.

During the start-up process, water level and groundwater chemistry are closely monitored and adjusted to ensure the best possible treatment conditions. PG&E and the regulatory agencies will continue to monitor and adjust the initial operation of the NTH IRZ.

Photograph 1: Ethanol Storage Tank and Carbon Amendment Building

Photograph 2: Remedy Produced Water Conditioning System

Photograph 3: Soil Processing Yard - more than 12,600 cubic yards of excess soil was generated during Phase 1 construction, of which 90% was reused onsite

In March 2022, PG&E will begin Phase 2 of the remedy construction, which is a continuation of construction for remaining components, including freshwater injection wells and additional pipelines for water conveyance.

DTSC and DOI will continue to provide oversight of the remedy, as well as providing regular updates to the **Consultative Work Group (CWG)**. PG&E also publishes monthly construction status reports, which can be found on the project website at: https://dtsc-topock.com/documents/cleanup-implementation/groundwater/construction-documents/monthly-progress-reports

SOIL INVESTIGATION REPORT AND CORRECTIVE ACTION UPDATE:

Soil sampling related to soil investigation at the Topock Site was conducted between December 2015 - March 2016, January - March 2017, and late April 2017. After the soil sampling activities, PG&E prepared a **risk assessment** by following the approved 2008 Soil Risk Assessment Work Plan, its addenda in 2009 and 2015, as well as additional direction from DTSC provided in November 2017.

The final Soil Risk Assessment Report was approved by DTSC and DOI in May 2020. The Report quantified the potential risks to human health and wildlife at the site based on expected activities that may occur at the site. Nine localized areas may pose elevated risks to campers, hikers, off-highway vehicle (OHV) riders and some desert animals when exposed to contaminated soil for prolonged periods. The risk assessment also calculated recommended goals if cleanup actions are to occur at those areas.

Soil investigation results and the conclusions of the Soil Risk Assessment Report are documented in the Soil Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation (RFI/RI) Report. A draft RFI/RI Report was published in December 2019 and is nearing approval. Efforts have included several meetings, with comments received from DTSC, DOI, Tribes, and the Metropolitan Water District of Southern California (MWD), with responses provided for each comment. After the comments are resolved, PG&E will finalize and submit the RFI/RI Report to DTSC and DOI for approval.

Following approval of the final RFI/RI Report, a **Corrective Measure Study/Feasibility Study (CMS/FS)** for soil will be prepared to evaluate actions that may be needed for the contaminated areas.

SOIL NON-TIME CRITICAL REMOVAL ACTION UPDATE:

Concurrent with the process of finalizing the RFI/RI report and the preparation of the CMS/FS, DOI proposed a non-time critical removal action (NTCRA) for areas with contaminated soil on federal lands adjacent to the Topock Site based on findings of the soil investigation and the approved Soil Risk Assessment Report. The National Contingency Plan (NCP) provides for the ability to conduct removal to address releases or threatened releases that require a prompt response.

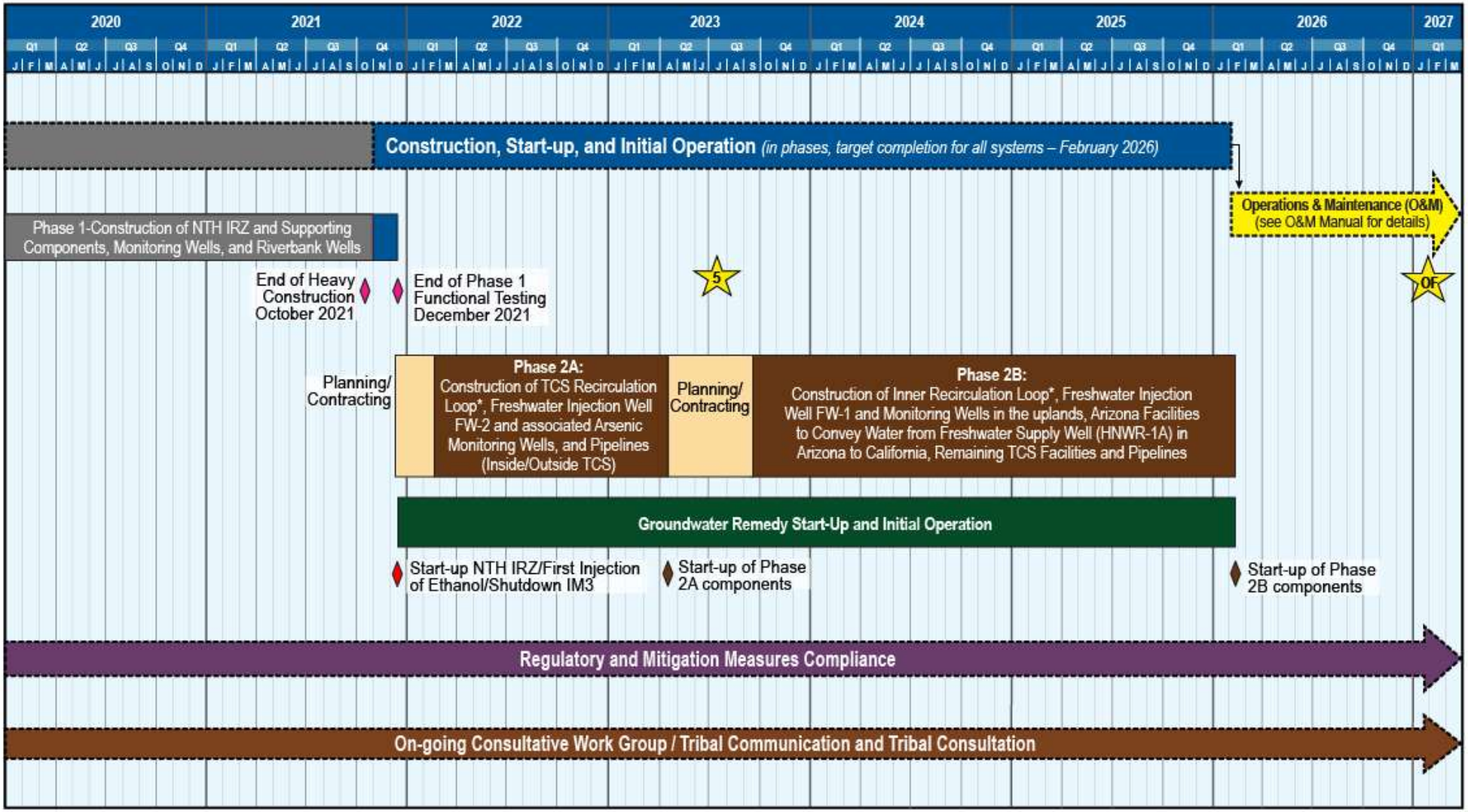
A draft Soil Engineering Evaluation/Cost Analysis (EE/CA) to evaluate actions to clean up the contaminated areas was released in May 2020 for a 60-day public review and comment period. Recognizing the importance of the environmental investigations and cleanup activities to Tribal Nations who have cultural ties to the surrounding land and the Colorado River, the U.S. Bureau of Land Management consulted with Tribes on the Soil EE/CA. DOI received comments from Tribes, DTSC, and MWD.

The Soil EE/CA was finalized in April 2021, based on comments received. On October 12, 2021, DOI selected a removal action of excavation of contaminated soil and debris at fourteen target action areas within the Topock Site. The removal action consists of mechanical separation/size separation of rocks, debris and soil; and disposal of the contaminated soil and debris in approved and permitted landfills. DOI's decision is documented in an Action Memorandum, which is available online at https://dtsc-topock.com/documents/other-and-environment-impact-review/soil/non-time-critical-removal-action.

PG&E submitted a draft Soil NTCRA Work Plan to implement DOI's selected removal action on October 29, 2021. Comments were received from DTSC, DOI, Tribes, and others. Pending comment resolution, PG&E will then finalize the Soil NTCRA Work Plan. Upon approval from DOI, PG&E will implement the selected removal action detailed above.

Groundwater Remedy Construction, Start-up, and Initial O&M Schedule

PG&E Topock Compressor Station | Needles, California
October 2021



LEGEND

5 Agencies 5-year Review

OF The remedy becomes Operational and Functional (OF) either one year after completion of construction or when the groundwater is determined to be functioning properly and performing as designed

*Per the 2015 Basis of Design Report, the TCS Recirculation Loop consists of injection wells in TCS, extraction wells on the Transwestern Bench, and extraction wells in the East Ravine area. The Inner Recirculation Loop consists of IRL wells in the uplands and River Bank wells along the riverbank.

GLOSSARY OF TERMS:

Consultative Work Group (CWG): A group consisting of stakeholders, Tribal Nations, and multiple state and federal agencies that have an interest in the cleanup of the site. The CWG meets regularly to discuss project status, actions, and decisions.

Corrective Measure Study (CMS)/Feasibility Study (CMS/FS): A study conducted by the facility owner/operator to identify and evaluate remedy alternatives (i.e., cleanup options) to address contaminant releases.

Department of the Interior (DOI): The United States department charged with conservation and development of natural resources. The DOI uses sound science to manage and sustain America's lands, water, wildlife, and energy resources; honors our nation's responsibilities to tribal nations; and advocates for America's island communities.

Department of Toxic Substances Control (DTSC): The 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.

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

Groundwater 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, as well as by operation of groundwater extraction and injection systems such as the one being constructed for the final groundwater remedy at the Topock Site.

Hexavalent Chromium (Cr[VI]): Cr(VI) is a form of chromium, a metal naturally found in rocks, soil, and the tissue of plants and animals. Hexavalent chromium can be found naturally at low concentrations, but it is also used in industrial products and processes and is a known carcinogen.

In-Situ Reactive Zone (IRZ): An interconnected series of injection and extraction wells installed along NTH to target and remediate Cr(VI)- impacted groundwater.

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.

National Trails Highway (NTH): Also known as Route 66, more than 250 miles of the NTH are in San Bernardino County.

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

Resource Conservation and Recovery Act (RCRA) Facility Investigation/ Remedial Investigation (RFI/RI): An RFI/RI is an investigation that occurs in the corrective action process following a Facility Assessment under RCRA and/or a Site Inspection under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). It is an in-depth study designed to gather data needed to determine the nature and extent of risks posed by uncontrolled hazardous waste sites and for evaluating the need for remediation.

Risk Assessment: A study prepared to assess health and environmental risks due to potential exposure to hazardous substances.

Trivalent Chromium: A trace element that is naturally present in many foods and available as a dietary supplement.

WHERE TO FIND PROJECT INFORMATION

Soil Investigation reports, Final Design Report, Environmental Impact Reports, Soil Risk Assessment, fact sheets/Community Updates, and other project documents can be found online and at the Information Repositories listed below.

Online: **www.dtsc-topock.com/documents** or
www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=80001836

NEW PROJECT WEBSITE COMING SOON: www.topockremediation.pge.com

Scan for additional information on DTSCsites through our EnviroStor database.

PROJECT REPOSITORIES:

Needles Branch Library
1111 Bailey Avenue
Needles, California 92363
Phone: (760) 326-9255
Hours of Operation:
Monday-Wednesday: 11am-7pm
Thursday: 10am-6pm
Friday & Sunday: Closed
Saturday: 9am-5pm

Golden Shores/Topock Shores Library
13136 South Golden Shores Parkway
Topock, Arizona 86436
Phone: (928) 768-2235
Hours of Operation:
Monday, Friday & Sunday: Closed
Tuesday, Thursday & Saturday: 9am-1pm
Wednesday: 2pm-5pm

Chemehuevi Indian Reservation
Environmental Protection Office
2000 Chemehuevi Trail
Havasu Lake, California 92363
Phone: (760) 858-1140
Hours of Operation:
Monday-Friday: 7:30am – 4pm
Saturday & Sunday: Closed

Colorado River Indian Tribe Library
26600 Mohave Road
Parker, Arizona 85344
Phone: (928) 669-1332
Hours of Operation:
Monday-Friday: 8am–5pm
Saturday: 9am-12pm Sunday: Closed

Department of Toxic Substance Control
5796 Corporate Avenue
Cypress, California 90630
Phone: (714) 484-5337
Hours of Operation:
Monday-Friday: 9am-noon & 1pm-4pm
*Please contact Julie Johnson for an appointment

Lake Havasu City Library
1770 North McCulloch Boulevard
Lake Havasu, Arizona 86403
Phone: (928) 453-0718
Hours of Operation:
Monday-Thursday: 9am – 6pm
Friday & Saturday: 9am – 5pm
Sunday: Closed

NOTE: Information Repository hours may be modified due to COVID-19 restrictions.

DTSC INFORMATION CONTACTS:

Aaron Yue, Project Manager
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630-4732
Email: Aaron.Yue@dtsc.ca.gov
Phone: (714) 484-5439

Criss Trinidad, Public Participation Specialist
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630-4732
Email: Criss.Trinidad@dtsc.ca.gov
Phone: (714) 484-5488

MEDIA INQUIRIES:

Sanford Nax, Public Information Officer
Department of Toxic Substances Control
PO Box 806
Sacramento, California 95812-0806
Email: Sanford.Nax@dtsc.ca.gov
Phone: (916) 327-6114

ALTERNATE FORMAT:

Documents made available to the public by DTSC may be made available in an alternative format (Braille, largeformat print, etc.) or in another language as appropriate,in accordance with state and federal law. Please contact Criss Trinidad, DTSC Public Participation Specialist, for assistance with alternative formats.

THIS PAGE LEFT INTENTIONALLY BLANK

Criss Trinidad
DTSC Public Participation Specialist
5796 Corporate Avenue
Cypress, California 90630-4732

COMMUNITY Update