

Final Environmental Impact Report
Volume 1
for the
Topock Compressor Station
Groundwater Remediation Project

California Department of Toxic Substances Control



SCH #2008051003

Prepared for:
California Department of Toxic Substances Control
1001 I Street
Sacramento, CA 95814

January 2011

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Volume 1

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January 2011

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PA	Programmatic Agreement
ER	Revised Addendum to the Revised Work Plan for East Ravine Groundwater Investigation, PG&E Topock Compressor Station, Needles, California December 2010
HERA	Human and Ecological Risk Assessment of Groundwater Impacted by Activities as Solid Waste Management Unit (SWMU) 1/Area of Concern (AOC) 1 and SWMU 2 PG&E Topock Compressor Station, Needles, California December 2009
PLM	Plant Uptake Memorandum
TRI	Tribal Communication Summary
PLA	Ethnobotany Plant List

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ACRONYMS AND ABBREVIATIONS

µg/l	micrograms per liter
µm	micrometers
ACEC	area of critical environmental concern
afa	acre-feet annually
AOC 1	Area of Concern 1
AOCs	areas of concern
APE	area of potential effects
ARARs	applicable or relevant and appropriate requirements
BLM	U.S. Bureau of Land Management
BMPs	best management practices
BNSF	Burlington Northern and Santa Fe Railway railroad line
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIMP	Cultural Impact Mitigation Program
CMI Workplan	Corrective Measures Implementation Workplan
CNEL	community noise equivalent level
CO ₂	carbon dioxide
COPC	chemicals of potential concern
Cr(III)	trivalent chromium
Cr(VI)	hexavalent chromium
Cr(T)	total chromium
CRHR	California Register of Historical Resources
CRIT	Colorado River Indian Tribe
CRMP	cultural resources management plan
CSLC	California State Lands Commission
CVWD	Coachella Valley Water District
CWG	Consultative Working Group
dBA	A-weighted decibels
DEIR	draft environmental impact report
DFG	California Department of Fish and Game
DOI	U.S. Department of Interior
DTSC	Department of Toxic Substances Control
EIR	environmental impact report
EPA	Environmental Protection Agency
EPNG	El Paso Natural Gas
ERGI/TCS	East Ravine Groundwater Investigation, Topock Compressor Station
FEIR	final environmental impact report
Final CMS/FS	<i>Final Corrective Measures Study/Feasibility Study for Solid Waste Management Unit 1 (SWMU 1)/Area of Concern 1 (AOC 1) and AOC 10 (CH2M Hill 2009, included in Appendix CMS of this FEIR)</i>
FMIT	Fort Mojave Indian Tribe
fps	feet per second
GHG	greenhouse gas
gpm	gallons per minute

GPS	Global Positioning System
GWRA	groundwater risk assessment
HERD	Human Ecological Risk Division
HIT	Hualapai Indian Tribe
HMBP	hazardous materials business plan
HNWR	Havasu National Wildlife Refuge
IID	Imperial Irrigation District
IM-3	Interim Measure 3
IM-3 Facility	IM-3 Groundwater Extraction and Treatment Facility
IRZ	in situ reactive zone
LCWSP	Lower Colorado Water Supply Project
LUP	linear underground/overhead project
MCL	maximum contaminant level
MDAQMD	Mojave Desert Air Quality Management District
mg/l	milligrams per liter
MLD	most likely descendent
MMRP	mitigation monitoring and reporting program
MNA	Monitored Natural Attenuation
MOU	memorandum of understanding
MWD	Metropolitan Water District
NACP	Native American Communication Plan
NALs	numeric action levels
NELs	numeric effluent levels
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOA	notice of availability
NOP	notice of preparation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OPS	operating properly and successfully
OSHA	Occupational Safety and Health Administration
PAHs	polycyclic aromatic hydrocarbons
PBA	Programmatic Biological Agreement
PCBs	polychlorinated biphenyls
PG&E	Pacific Gas and Electric Company
ppm	parts per million
PRC	Public Resources Code
RAOs	Remedial Action Objectives
RCRA	Resource Conservation and Recovery Act
RFI/RI	RCRA facility investigation/remedial investigation
RFQ	request for qualifications
ROD	record of decision
SHPO	State Historic Preservation Office
SMARTS	Storm Water Multi-Application Reporting and Tracking System
SOP	standard operating procedure
SOPs	standard operating procedures
STC	Sound Transmission Class
SWMU 1	Solid Waste Management Unit 1
SWMUs	solid waste management units

SWPPP	storm water pollution prevention plan
TDS	total dissolved solids
TPH	total petroleum hydrocarbons
TRC	Technical Review Committee
TWG	Technical Working Group
USFWS	U.S. Fish and Wildlife Service
VRM	Visual Resource Management

1 INTRODUCTION

1 INTRODUCTION

1.1 PURPOSE OF THE FINAL ENVIRONMENTAL IMPACT REPORT

This final environmental impact report (FEIR) has been prepared to respond to comments received from responsible, trustee and other public agencies, Native American Tribes, interested organizations, and members of the public on the draft EIR (DEIR) for the Topock Compressor Station Groundwater Remediation Project (the proposed project as described in Section 1.2 below). Under the California Environmental Quality Act (CEQA), the California Department of Toxic Substances Control (DTSC) in its role as the State lead agency, is required to consult with and obtain comments from public agencies that have jurisdiction by law with respect to the proposed project, to provide the general public with opportunities to comment on the DEIR (Public Resources Code [PRC] Section 21091), and is required to respond to significant environmental issues raised during the public review process. As required by CEQA, this FEIR includes the comments and recommendations received on the DEIR either verbatim or in summary, responses to significant environmental points raised in the review and consultation process, a list of persons, organizations and public agencies commenting on the DEIR, and other information added in the DEIR (CEQA Guidelines, Section 15132).

1.2 OVERVIEW

On June 4, 2010, DTSC distributed a DEIR for public review and comment on the proposed project, and which proposed Alternative E—In Situ with Freshwater Flushing as the remedy that best achieves the project objectives, to public agencies and the general public in accordance with the requirements of CEQA. The DEIR addresses the potential environmental effects of actions associated with the cleanup of the contaminated groundwater plume at the Topock Compressor Station (compressor station). As explained in the DEIR, the groundwater near the compressor station is designated for beneficial use by the California Water Quality Control Board. The groundwater beneath the compressor station has been contaminated by chemicals associated with historical releases in areas known as Bat Cave Wash and East Ravine. The main contaminant of concern in groundwater is hexavalent chromium [Cr(VI)], which was used in the past as an additive to the cooling water at the compressor station and is harmful to human health and ecological receptors in the environment. Other chemicals of potential concern identified in the groundwater, although with much lower risks, include molybdenum, selenium, and nitrates. Due to the minor incremental risk associated with the limited occurrence and concentrations of these three chemicals of potential concern, careful monitoring during the remediation of the hexavalent chromium is the only remedial action warranted. The contaminated groundwater at the site is currently not being used as a drinking water source, but the affected groundwater has the potential to come into contact with drinking water wells and the Colorado River. Cleanup of the contaminated groundwater plume is being designed to protect all identified potential receptors and maintain groundwater as a resource.

The proposed project involves moving (“flushing”) the contaminated groundwater plume related to the historical release of chemicals at the Bat Cave Wash and East Ravine through an in situ reactive zone (IRZ) of injection and extraction wells. Injection wells along National Trails Highway would deliver an organic carbon source to the subsurface to induce a reductive environment within the IRZ. Extraction wells would be installed near the Colorado River to hydraulically control the plume, accelerate cleanup of the groundwater within the floodplain, and pull the groundwater with elevated Cr(VI) through the IRZ. In this process, the harmful Cr(VI) would be reduced to a less mobile and less toxic form of chromium—trivalent chromium [Cr(III)]—that would precipitate out of the groundwater. Furthermore, because of the heterogeneity of the bedrock, the design of the hydraulic system to control plume migration toward the Colorado River in an area known as the East Ravine may include a series of extraction wells along a portion of the National Trails Highway or within other areas in the East Ravine. The precipitate would naturally bond to the subsurface formation and thus become unavailable to human or ecological receptors.

The proposed project consists of:

- ▶ creation of an IRZ between the National Trails Highway and the Colorado River shoreline;
- ▶ extraction wells near the Colorado River that would pump approximately 640 gallons per minute of contaminated groundwater amended with organic carbon to enhance chemical reduction of Cr(VI) before reinjection in the western portion of the plume;
- ▶ injection of approximately 500 gallons per minute of freshwater outside the plume boundaries to the northwest, west, and southwest to accelerate (flush) groundwater flow toward the IRZ;
- ▶ institutional controls limiting the use of groundwater at the project area until Cr(VI) concentration within the main plume area is comparable to the established background level of 32 micrograms per liter (µg/l); and
- ▶ monitoring of the chemical parameters and hydraulic properties of the groundwater at the site, including concentrations of the three chemicals of potential concern and possible byproduct of treatment within and around the groundwater plume.

1.3 CEQA REQUIREMENTS

This FEIR has been prepared to respond to comments received on the DEIR and to make appropriate revisions to the DEIR. The FEIR has been prepared by DTSC in accordance with Sections 15089 and 15132 of the CEQA Guidelines. As specified in CEQA Guidelines Section 15132, this FEIR consists of the following elements:

- ▶ a revised version of the DEIR incorporating changes accepted by the lead agency and provided as Volume 2 of this FEIR;
- ▶ comments and recommendations received on the DEIR either verbatim or in summary—Chapters 2 through 4 of this FEIR;
- ▶ a list of persons, organizations, and public agencies commenting on the DEIR—located at the beginning of Chapters 2 through 4;
- ▶ responses of the lead agency to significant environmental points raised in the review and commenting process—Chapters 2 through 4; and
- ▶ the mitigation monitoring and reporting program (MMRP)—Chapter 5.

1.4 PUBLIC REVIEW AND FUTURE STEPS

The FEIR is intended to be used by DTSC when considering approval of the proposed project or an alternative to the proposed project.

In accordance with Section 15105 of the CEQA Guidelines, a 45-day public review period was provided for the DEIR. The review period began on June 4, 2010, and ended on July 19, 2010. The DEIR evaluated the potential environmental effects of the proposed project and seven alternatives:

- ▶ Alternative B—Monitored Natural Attenuation,
- ▶ Alternative C—High Volume In Situ Treatment,
- ▶ Alternative D—Sequential In Situ Treatment,
- ▶ Alternative F—Pump and Treat,
- ▶ Alternative G—Combined Floodplain In Situ/Pump and Treat,

- ▶ Alternative H—Combined Upland In Situ/Pump and Treat, and
- ▶ Alternative I—No Project Alternative/Continued Operation of Interim Measure.

Eighteen distinct and separately written comment letters were received by DTSC on the DEIR, in addition to several handwritten comment cards, as detailed in Chapters 2 through 4 of this FEIR.

Four public meetings were held to provide an additional opportunity for public comment. These meetings took place on June 22, 2010, in Parker, Arizona; June 23, 2010, in Lake Havasu, Arizona; June 29, 2010, in Needles, California; and June 30, 2010, in Topock, Arizona. Transcripts of the substantive comments from these public hearings are included as part of the FEIR (see Chapter 3, “Individual Comments and Responses”).

Additional copies of this FEIR are available for review at:

Department of Toxic Substances Control, Cypress office
5796 Corporate Avenue
Cypress, CA 90630

Parker Library
1001 Navajo Avenue
Parker, AZ 85344

Colorado River Indian Tribes Library
Second Avenue and Mohave Road
Parker, AZ 85344

Lake Havasu City Library
1770 McCulloch Boulevard
Lake Havasu City, AZ 86403

Golden Shores/Topock Station Library
13136 S. Golden Shores Parkway
Topock, AZ 86436

Chemehuevi Indian Reservation
Environmental Protection Office
2000 Chemehuevi Trail
Havasupai Lake, AZ 86426

Needles Library
1111 Bailey Avenue
Needles, CA 92363

As lead agency, before approving the project, DTSC must certify the FEIR as adequate and completed in accordance with CEQA. DTSC must also review and consider the information contained in the FEIR, including the DEIR and all supporting documents, before considering approval of the project. DTSC will certify the FEIR, using independent judgment and analysis. In consideration of the findings of the FEIR, DTSC will also approve the project or alternative thereof, by including written findings of fact and a statement of overriding consideration for each identified significant adverse environmental impact and for any significant and unavoidable impact identified in the FEIR.

Furthermore, because some project impacts are found to be significant, DTSC will adopt mitigation measures that either avoid or reduce those impacts to less-than-significant levels. These mitigation measures are identified in the MMRP in Chapter 5 of this FEIR. For this project, several mitigation measures were incorporated into the project

to avoid or reduce impacts to less-than-significant levels. If the project is approved, a notice of determination will be filed with the Governor's Office of Planning and Research, State Clearinghouse.

1.5 ORGANIZATION AND FORMAT OF THE FEIR

This FEIR consists of two volumes: Volume 1 includes six chapters as outlined below, and Volume 2 contains an updated version of the DEIR in its entirety. Changes in the text of the DEIR are indicated by strikeouts (~~strikeout~~) where text is removed and by underlining (underline) where text is added.

Volume 1 of this FEIR is organized as follows:

- ▶ Chapter 1, "Introduction," describes the purpose and content of the FEIR.
- ▶ Chapter 2, "Agency Comments and Responses," includes a list of all public agencies that submitted comments on the DEIR during the public review period, copies of the letters submitted, and individual responses to the comments, including any revisions to the DEIR text incorporated in Volume 2 of this FEIR.
- ▶ Chapter 3 "Individual Comments and Responses," includes a list of all individuals who submitted comments on the DEIR during the public review period, copies of the letters and comment cards submitted, and individual responses to the comments, including any revisions to the DEIR incorporated in Volume 2 of this FEIR. This chapter also includes transcripts of individual comments relevant to the DEIR provided during the public hearings noted above, along with responses to those comments.
- ▶ Chapter 4, "Tribal Comments and Responses," includes a list of all Tribal representatives who submitted comments on the DEIR during the public review period, copies of the letters submitted, and individual responses to the comments, including any revisions to the DEIR text incorporated in Volume 2 of this FEIR.
- ▶ Chapter 5, "Mitigation Monitoring and Reporting Program," identifies mitigation measures required to address significant adverse environmental impacts associated with the proposed project along with the timing of implementation, parties responsible for implementation, and party responsible for enforcement.
- ▶ Chapter 6, "List of Preparers," lists the names of the individuals who prepared this FEIR.
- ▶ Chapter 7, "Bibliography," lists the references by chapter.

1.6 REVISIONS TO DEIR

DTSC has made revisions to the DEIR and has included new information in Volume 2 of this FEIR based on the comments received on the DEIR. DTSC has considered and determined that recirculation of the DEIR, or sections thereof, is not required despite these revisions and new information. The recirculation of an EIR, or sections thereof of, is governed by PRC Section 21092.1.

This section states that:

When *significant new information* is added to an environmental impact report after notice has been given pursuant to Section 21092 and consultation has occurred pursuant to Sections 21104 and 21153, but prior to certification, the public agency shall give notice again pursuant to Section 21092, and consult again pursuant to Sections 21104 and 21153 before certifying the environmental impact report.

Significant new information is defined in the CEQA Guidelines Section 15088.5(a):

As used in this section, the term 'information' can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant"

unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement.

DTSC has determined that no new significant environmental impacts would result from the project or from a new or revised mitigation measure to be implemented as part of this FEIR, and that no substantial increase in the severity of an environmental impact would result unless mitigation measures were adopted that reduce the impact to less than significant. DTSC has also concluded that there are no feasible alternatives or mitigation measures considerably different from others previously analyzed that would lessen the environmental impacts of the project, but which have not been adopted.

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2 AGENCY COMMENTS AND RESPONSES

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This chapter contains the comment letters received on the Topock Compressor Station Groundwater Final Remedy (the proposed project) DEIR and DTSC's responses to significant environmental points that were raised in those comments. Each letter, as well as each individual comment within the letter, has been given an assigned letter and number for cross-referencing. Responses are sequenced to reflect the order of comments within each letter. Table 2-1 lists all public agencies who submitted comments on the DEIR during the public review period.

Table 2-1 List of Agency Commenters			
Letter #	Commenter	Date of Comment	Page Number
A1	California State Lands Commission Cy Oggins, Chief	June 23, 2010	2-2
A2	California Department of Transportation, District 8 Daniel Kopulsky, Office Chief	July 6, 2010	2-8
A3	San Diego County Water Authority Denise Landstedt, Senior Water Resources Specialist	July 19, 2010	2-10
A4	Metropolitan Water District of Southern California Bart Koch, EHS Section Manager	July 19, 2010	2-13
A5	Colorado River Board of California Gerald R. Zimmerman, Acting Executive Director	July 29, 2010*	2-28

* Comment letter received after the close of the comment period but considered by DTSC in preparation of this FEIR.

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

Letter
A1



PAUL D. THAYER, Executive Officer
(916) 574-1800 FAX (916) 574-1810
Relay Service From TDD Phone **1-800-735-2929**
from Voice Phone **1-800-735-2922**

Contact Phone: (916) 574-1890
Contact FAX: (916) 574-1885

June 23, 2010

File Ref: SCH# 2008051003
PRC 8737.1

Aaron Yue
Project Manager
California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

**Subject: PG&E Topock Compressor Station Groundwater Remediation Project
SCH# 2008051003, Adjacent to the Colorado River, near Needles in San
Bernardino County.**

Dear Mr. Yue:

Staff of the California State Lands Commission (CSLC) reviewed the draft environmental impact report (DEIR) for the above mentioned project. Under the California Environmental Quality Act (CEQA), the Department of Toxic Substances Control is the Lead Agency, and the CSLC is a Responsible and/or Trustee Agency for any and all projects which could directly or indirectly affect sovereign lands, their accompanying Public Trust resources or uses, and the public easement in navigable waters.

As background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable waterways upon its admission to the United States in 1850. Such lands include, but are not limited to, the beds of more than 120 navigable rivers and sloughs, nearly 40 navigable lakes, and the 3-mile wide band of tide and submerged lands adjacent to the coast and offshore islands of the State. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. The boundaries of these State-owned lands generally are based upon the last naturally occurring location of the ordinary high or low water marks prior to artificial influences which may have altered or modified the river or shoreline characteristics.

A1-1

The facts pertaining to the proposed project include the construction of the following elements:

- Up to 110 extraction, injection, and in situ zone wells.
- Freshwater supply wells or a freshwater intake structure and treatment system.

A1-2

- Up to 60 monitoring wells.
- Water conveyance pipelines.
- Reductant storage facilities and above ground tanks.
- Utilities and roadways.

A1-2
con't.

Please be advised that on December 14, 2006, the CSLC approved the issuance of a 20-year General Lease – Right of Way Use, Lease No. PRC 8737.1, to PG&E for the use and maintenance of groundwater monitoring wells extending from the Havasu National Wildlife Refuge and into the bed of the Colorado River. The Lease was subsequently amended twice in 2007 to revise lease provisions and to provide for additional well sites to be drilled from the Arizona side of the bed of the Colorado River. The alteration, removal, or addition to the existing wells, or proposed new construction of improvements on sovereign State-owned land, will require a lease amendment and submittal by PG&E of an Application to the CSLC. CSLC staff understands the exact locations of the proposed elements are unknown and the locations are dependent on the final remediation system design. Once the locations of the elements are known, CSLC staff must be consulted to determine if any of the proposed elements will occupy State-owned lands.

A1-3

Review of your DEIR indicates that your project will likely require a lease from the CSLC. The CSLC, as a responsible agency, will rely on the DEIR that is produced by your agency. CSLC staff has the following comments on the DEIR.

A1-4

1. Please show all greenhouse gas (GHG) calculations for all project components and alternatives in one location to enable a reasonable comparison and evaluation. Please also use metric tons or tons (not both) for GHGs consistently throughout the EIR to facilitate calculations of total GHGs.
 - As currently written in the DEIR, the Construction GHGs are found in section 6, while the ongoing O&M GHGs, by alternative, are found in section 8. Please provide a summary section or table to show the total amount of GHGs produced as a result of this project, which should include: construction; operation and maintenance (O&M); and the indirect GHGs produced from the increased electricity demands of the project.
 - Construction estimates range from 745 to 784 metric tons per year (MT/yr) of carbon dioxide (section 6) plus O&M estimates range from 80 to 6,400 tons/yr of carbon dioxide (section 8). Please use MT/yr or tons/yr.
2. Please identify the components of O&M used to calculate the O&M GHG estimates provided.
3. The indirect electricity consumed is up to 7.6 million kilowatt hours (kWH) (section 8.4.6.2, page 8-28); the GHGs produced as a result of this new demand for electricity do not appear to be included. Analyzing this indirect and/or cumulative effect would help to meet the full public disclosure intent of CEQA.

A1-5

A1-6

A1-7

A1-8

- | | |
|--|-------|
| 4. Please review the Attorney General's website for best practices to reduce GHGs. http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf | A1-9 |
| 5. Please indicate the velocity of the proposed surface water intake for the fresh water flushing. The U.S. Environmental Protection Agency's policy on best available practices for water intakes requires the velocity to be 0.5 feet per second or less. The EIR should provide the information to demonstrate that the projects intake will comply with this policy. Please provide all design information and indicate the point at which the velocity is to be measured. | A1-10 |
| 6. As a freshwater intake is an option of the project, an impingement and entrainment (I&E) study should be part of the EIR. The results of that study should be used to determine the impact and potential mitigation required to offset that impact if any potential adverse effects are mitigable to less than significance. If a freshwater intake is constructed and this I&E study is not included in the EIR, this may be required as a lease condition by the CSLC. | A1-11 |

If you have any questions regarding environmental issues, please contact Steven Mindt at (916) 574-1497 or by e-mail at mindts@slc.ca.gov. If you have any questions regarding the existing lease or the CSLC's leasing jurisdiction within the bed of the Colorado River, please contact Drew Simpkin, Public Land Management Specialist, at (916) 574-2275 or by e-mail at simpkid@slc.ca.gov

Sincerely,



Cy R. Oggins, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
Steven Mindt, CSLC
Drew Simpkin, CSLC

- A1-1 DTSC acknowledges the role of the California State Lands Commission (CSLC) as it relates to potential project-related activities on lands where CSLC is a responsible and/or trustee agency. Activities that may be required for project implementation are located within the ordinary high water mark of the Colorado River. This comment does not address the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- A1-2 The comment provides a brief and accurate summary of the elements that would be constructed under the proposed project. This comment does not address the environmental analysis provided in the DEIR; therefore, no response is necessary.
- A1-3 DTSC understands that PG&E may need to amend the current lease issued by the CSLC (Lease No. Public Resources Code 8737.1) as a result of the proposed project. If future activities associated with implementation of the project would affect State lands under jurisdiction of the CSLC, and would be undertaken by DTSC under the scope of its jurisdiction, DTSC will confer with CSLC staff as needed.
- A1-4 DTSC acknowledges that CSLC will rely on the EIR, if certified, for the proposed remedy as a responsible/trustee agency.
- A1-5 The commenter is correct to note that estimates of the proposed project's greenhouse gas (GHG) emissions are found in Chapter 6, "Cumulative Impacts," of the DEIR. Section 6.4.2.3, Table 6-4, of the DEIR provides a summary of the modeled construction and operational emissions for the proposed project (Alternative E), to the extent such emissions are reasonably foreseeable at this time from construction, operations (including energy) and mobile sources, as required by CEQA Guidelines Section 15064.4. All GHG emissions recorded in the DEIR are in metric tons. Under CEQA Guidelines Section 15126.6, subdivision (d), however, an alternatives analysis is not intended, nor required, to be conducted at the same level of detail as the proposed project. Rather, the alternatives analysis is intended to allow the proposed project to be compared in a qualitative and, to the extent such information is readily available, a quantitative, manner to the alternatives being considered by DTSC. The alternatives analysis in Chapter 8 of the DEIR (included herein as Volume 2 of this FEIR, Chapter 8), reflects a meaningful consideration of the differences between the proposed project and alternatives by discussing the impacts of each alternative and environmental issue area analyzed in the DEIR and relating it to the impacts of the proposed project, to the extent such impacts are reasonably foreseeable despite lacking a final implementation plan which will, among other things, include the number and location of remediation wells for example. (See *Al Larson Boat Shop, Inc. v. Board of Harbor Commissioners* [1993] 18 Cal. App. 4th 729, 741–746. EIRs for plan-level decisions need not address alternatives with the level of specificity appropriate in project-level EIRs.)
- A1-6 As stated in note 1 in Table 6-4 (see Section 6.4.2.3 of the DEIR), the output of software simulator URBEMIS is in units of tons of carbon dioxide (CO₂) per year, whereas a standard unit for reporting GHG emissions is in metric tons carbon dioxide equivalent per year. CO₂ emissions were increased by 5% to account for other GHG gases, and tons were converted to metric tons using the factor of 0.91 metric tons per ton. A reasonable comparison of the CO₂ emissions for the purposes of an alternatives analysis, as required by CEQA Guidelines Section 15064.4, is

included in Table 8-1 of the DEIR and is shown in tons/year, to be consistent with the final corrective measures study/feasibility study (Final CMS/FS).

A1-7 As stated in note 1 in Table 6-4 of the DEIR, construction, area-source, and mobile-source emissions were modeled using the URBEMIS 2007 (Version 9.2.4) computer model, based on trip generation rates contained in the traffic analysis prepared for the project (Fehr & Peers 2008), proposed land uses identified in the project description, and default model assumptions where more detailed information was not available. URBEMIS accounts for emissions from vehicles and natural gas use that would be relevant to operations and maintenance activities associated with the proposed project. As described in Chapter 2 of the DEIR, the project description for the proposed project is consistent with the description contained in the Statement of Basis and is based largely on information contained within the Final CMS/FS prepared by CH2M Hill (2009) and included in Appendix CMS of the DEIR. The Final CMS/FS was also the basis for the descriptions of the alternatives described and analyzed in Chapter 8 of the DEIR. For comparison purposes, Table 8-1 in Section 8.4.2 of the DEIR uses information from the Final CMS/FS (Table 5-6B) and information from a PG&E letter (January 11, 2010) that supplements information from the Final CMS/FS for a maximum assumption scenario for the alternatives analysis.

Indirect emissions associated with stationary sources (including increased energy consumption) were calculated using the California Climate Action Registry General Reporting Protocol (Version 3.0) and the assumption of 1.6 million kilowatt-hours per year for electrical use from the Final CMS/FS.

A1-8 As discussed in the response to comment A1-6, Table 8-1 in Section 8.4.2 of the DEIR was provided in Chapter 8, “Alternatives to the Proposed Project,” as a means to compare operational features of all alternatives, including the proposed project (Alternative E). The reference to 7.6 million kilowatt-hours by the commenter as being the “indirect electricity consumed,” and cited in Section 8.4.6.2 of the DEIR, actually refers to Alternative H and is also included in Table 8-1 for Alternative H. That is the amount of energy used to model and calculate the 4,400 tons/year of CO₂ emissions for this alternative in the Final CMS/FS (included in Appendix CMS of the DEIR). As described in Section 3.5.3 of the DEIR, in Table 8-1 of the DEIR, and in note 2 of Table 6-4 of the DEIR, 1.6 million kilowatt-hours was the energy use that was used to calculate the proposed project’s GHG operational emissions.

A1-9 DTSC has reviewed and understands the best practices to reduce GHGs described on the referenced Attorney General website. As shown in Table 6-4 in Section 6.4.2.3 of the DEIR, emissions from new mobile and stationary sources of GHGs associated with the proposed project would be well below GHG significance thresholds. Implementation of the proposed project would not result in a substantial net increase of GHG emissions from mobile or stationary sources related to short-term construction or long-term operation and no mitigation measures are required.

A1-10 The commenter identifies the U.S. Environmental Protection Agency’s (EPA’s) policy on surface water intake velocity as 0.5 feet per second (fps) or less. Additionally, the maximum allowable entrance velocity under the California Department of Fish and Game’s *Fish Screening Criteria* (DFG 2000) is 0.4 fps.

Although, not yet designed, if a water intake structure were to be included and implemented to facilitate freshwater flushing as described in the DEIR, the system would be designed to conform to all applicable federal, state, and local requirements and other best practices, including applicable DFG and NMFS fish screening criteria as required by Mitigation Measure BIO-3b and 3c, to minimize entrainment or entrapment of aquatic organisms. For example, one potential design for surface water intake under consideration could involve a series of smaller individual

pumps that would collectively supply surface water for the remedy while reducing the velocity of intake that might otherwise be concentrated in one place. In that preliminary design configuration, the entrance velocity for the individual pump intakes would be 0.13 fps, significantly lower than both EPA's policy and the California Department of Fish and Game's *Fish Screening Criteria*.

- A1-11 As stated in Section 4.3.3.3, under Impact BIO-3, of the DEIR, the proposed intake would be operated consistent with the Lower Colorado River Multi-Species Conservation Program (Reclamation 2004) and other diversions that are required to minimize the potential for entrainment and impingement of fish. As stated in the DEIR, PG&E shall be required to implement mitigation measures BIO-3b and BIO-3c. Implementation of these measures would minimize potentially significant impacts associated with entrainment and impingement, most specifically to fish eggs and larvae, by ensuring that the positive-barrier fish screen is properly designed and operating effectively and efficiently. As noted in the DEIR (Section 4.3.3.3, Impact BIO-3), impacts would be less than significant with mitigation. Because of these mitigation measures and because a final design of any future intake facility has yet to be determined, an impingement and entrainment study is not required as part of the EIR.

DEPARTMENT OF TRANSPORTATION

DISTRICT 8
PLANNING AND LOCAL ASSISTANCE (MS 722)
464 WEST 4th STREET, 6th FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4557
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Letter
A2

July 06, 2010

Mr. Aaron Yue, Project Manager
5796 Corporate Ave.
Cypress, CA 90630

Dear Mr. Yue:

Draft Environmental Report, Executive Summary
Topock Compressor Station Ground Water Remediation Project
08-SBd-40-PM-115.199

The California Department of Transportation (Caltrans) has received and reviewed the information for the above referenced project. This project involves in placing groundwater monitoring wells within Caltrans right of way. At this moment, we concurred with the findings in Topic 4.10.2 Regulatory Background.

A2-1

Issuance of a Caltrans Encroachment Permits will be required prior to any construction within State R/W. In addition, all work undertaken within Interstate 40 R/W shall be in compliance to all current design standards, applicable policies, and construction practices. Detailed information regarding permit application and submittal requirements is available at:

Office of Encroachment Permits
California Department of Transportation
464 West Fourth Street, 6th Floor, MS 619
San Bernardino, CA 92401-1400
(909) 383-4526

A2-2

We appreciate the opportunity to offer our comments concerning this project. If you have any questions regarding this letter, please contact David Lee at 909-383-6809 or me at 909-383-4557.

Sincerely,



DANIEL KOPULSKY
Office Chief
Community Planning/ Local Development Review
Division of Planning and Local Assistance

"Caltrans improves mobility across California"

**Letter
A2
Response**

California Department of Transportation, District 8
Daniel Kopulsky, Office Chief, Division of Planning and Local Assistance
July 06, 2010

- A2-1 The comment notes that the California Department of Transportation (Caltrans) concurs with the information provided in the regulatory background in Section 4.10.2 of the DEIR as it relates to potential project facilities within Caltrans right-of-way. This comment does not address the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- A2-2 After final project design, if work is required within I-40 after final design of the proposed project, PG&E would obtain a Caltrans Encroachment Permit before any construction activities begin in the state right-of-way (Section 4.10.2.2 of the DEIR). As noted in the comment, all work within I-40 would be constructed to comply with all current design standards, applicable policies, and construction practices as required by Caltrans and set forth in the Caltrans Encroachment Permit.



San Diego County Water Authority

4677 Overland Avenue • San Diego, California 92123-1233
(858) 522-6600 FAX (858) 522-6568 www.sdcwa.org

Letter
A3

July 19, 2010

MEMBER AGENCIES

Carlsbad
Municipal Water District
City of Del Mar
City of Escondido
City of National City
City of Oceanside
City of Poway
City of San Diego
Fallbrook
Public Utility District
Helix Water District
Olivenshain
Municipal Water District
Otay Water District
Padre Dam
Municipal Water District
Camp Pendleton
Marine Corps Base
Rainbow
Municipal Water District
Ramona
Municipal Water District
Rincon del Diablo
Municipal Water District
San Dieguito Water District
Santa Fe Irrigation District
South Bay Irrigation District
Vallecitos Water District
Valley Center
Municipal Water District
Vista Irrigation District
Yuima
Municipal Water District

OTHER REPRESENTATIVE

County of San Diego

Aaron Yue

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Pamela S. Innis

Topock Project Manager
U.S. Department of the Interior
Office of Environmental Policy and Compliance – Denver Region
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Pamela_Innis@ios.doi.gov

Subject: Comments – DOI Topock Groundwater Proposed Plan and DTSC Topock Draft
Statement of Basis for a Preferred Groundwater Remedy

Dear Mr. Yue and Ms. Innis:

The San Diego County Water Authority, a member of the Topock Consultative Work Group, has reviewed both the Department of Toxic Substance Control (DTSC) Draft Statement of Basis for a Preferred Groundwater Remedy at the Topock Compressor Station and the U.S. Department of Interior (DOI) Groundwater Proposed Plan for the same (collectively “Documents”). The Water Authority did not review the Draft Environmental Impact Report for the proposed final remedy. However, we have discussed the draft EIR with the Metropolitan Water District of Southern California and defer to them and support their comments submitted to you on the draft EIR.

Overall, the agencies collaborative and coordinated partnership did an excellent job in the Documents capturing years of work, volumes of data from many studies, and presenting a clear understanding of the Preferred Alternative.

The Water Authority previously reviewed and commented on the Corrective Measures Study/Feasibility Study (CMS/FS) Report for Chromium in Groundwater, which we found to be thorough and encouraging to lead to the selection of a final alternative. The results presented in the studies and ultimately summarized in the Documents demonstrate effective analysis and reasonable conclusions and consensus toward a recommendation of the Preferred Alternative.

A public agency providing a safe and reliable water supply to the San Diego region

PRINTED ON RECYCLED PAPER

A3-1

Mr. Aaron Yue
Ms. Pamela Innis
July 19, 2010
Page 2

The Water Authority's concern continues to be the potential risk to the Colorado River – a major water supply. We strongly support the recommendation to utilize Alternative E – In-Situ Treatment with Fresh Water Flushing for the Topock remediation due to its effectiveness in achieving the Remedial Action Objectives relative to costs, while substantially reducing the amount of hexavalent chromium in the groundwater in a reasonable timeframe with fewer adverse effects to cultural and biological resources than other alternatives analyzed. Selection of Alternative E for the Topock groundwater remediation meets the remedy selection criteria and will protect the Colorado River.

A3-2

Thank you for the opportunity to review and comment on these important draft decision documents. If needed, I can be contacted at dlandstedt@sdewa.org or (858) 522-6786.

Sincerely,



Denise Landstedt
Sr. Water Resources Specialist
Colorado River Programs

cc: Bart Koch, Metropolitan Water District
Eric Fordham, Geopentech
David Pettijohn, Los Angeles Department of Water and Power
Steve Bigley, Coachella Valley Water District
Abbas Amirteymoori, Colorado River Board of California

**Letter
A3
Response**

San Diego County Water Authority
Denise Landstedt, Senior Water Resources Specialist, Colorado Rivers Programs
July 19, 2010

- A3-1 DTSC acknowledges and appreciates the comment from the San Diego County Water Authority on the consideration of alternatives and development of the preferred groundwater remedy. The comment further notes that the San Diego County Water Authority did not review the DEIR, but the DEIR was discussed with the Metropolitan Water District of Southern California. Because the San Diego County Water Authority defers DEIR comments to the Metropolitan Water District of Southern California, no further response is necessary.
- A3-2 The commenter's support of the proposed project (Alternative E) is noted for DTSC's consideration during review and approval of the project. This comment does not address the environmental analysis provided in the DEIR; therefore, no further response is necessary.



THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Letter
A4

Office of the General Manager

July 19, 2010

Aaron Yue
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Dear Mr. Yue and Ms. Innis:

Topock Environmental Impact Report, Statement of Basis and Groundwater Proposed Plan

The Metropolitan Water District of Southern California (Metropolitan), a member of the Topock Consultative Workgroup and critical stakeholder, has reviewed the Draft Environmental Impact Report (EIR), Draft Statement of Basis and Groundwater Proposed Plan. Metropolitan's concerns have been and continue to be the potential risk to a major water supply (i.e., Colorado River), providing its service area of 5200 square miles and 19 million people with high quality water. We strongly support the decision to utilize Alternative E – In-Situ Treatment with Fresh Water Flushing as the means to achieve the Topock groundwater remediation.

A4-1

Metropolitan has some general and specific comments that should be addressed.

General Comments:

The draft EIR uses a number of acronyms throughout the document. It would be beneficial to create a list of acronym definitions in the appendix or as a preface to the text.

A4-2

The term “Topock Cultural Area” is cited throughout the document. There are various descriptions to the significance and scope of this area (e.g., p. 6-31). There does not appear to be a single definition that clearly describes the geographical dimensions of this area. It would be useful to have a clear description of the scope of this area and how it is addressed in the significance and mitigation determinations.

A4-3

There is discussion on the construction storm water permit requirements in various sections of the draft EIR. The State Water Resources Control Board (SWRCB) adopted (September 2, 2009) a new Construction General Permit which became effective July 1, 2010. The Regional Water Quality Control Boards are responsible for implementing and enforcing the Construction General Permit. The requirements of the new Construction General Permit include establishment of numeric action levels (NALs) and numeric effluent limitations (NELs) for construction storm water discharges for certain projects based on calculated risk level. The NELs and NALs are used to determine if best management practices (BMPs) are effective at reducing pollutants in the discharge water. The risk level of this project should be described.

A4-4

There are references in the draft EIR to a California Stormwater Quality Construction BMP Handbook (California Stormwater Association 2004). This guidance handbook (cited on page 4.7-49, 4.7-51) would not be applicable to the new requirements of the revised Construction General Permit. Requirements for construction storm water discharges and BMPs should be referenced from the new Construction General Permit (see http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml)

A4-5

There is no mention of quagga mussels and their effects on the Colorado River ecosystem in Section 4.3 Biological Resources. Quagga mussels, a species related to zebra mussels, were discovered on January 6, 2007, at Lake Mead. Subsequent inspections in January and February 2007 by Metropolitan Water District, California Department of Fish and Game, and the National Park Service detected quagga mussels in Lakes Mead, Mohave, and Havasu and in the intake of the Central Arizona Project. The detrimental effects of zebra and quagga mussels on aquatic ecology of large lake systems in the Eastern United States have been well documented. The long-term effects of quagga mussels on the aquatic ecosystem of the Colorado River have not

A4-6

been determined. It is important to distinguish potential aquatic ecology effects from the project versus effects from quagga mussel infestation. A4-6
cont.

Specific Comments:

Draft EIR

3.5.1.2 *Freshwater Flushing* p. 3-15. In the top paragraph it states that injection wells may be located in bedrock. Where would these wells be located? Is this in the East Ravine area? A4-7

4.1.1.3 *Viewer Groups Residential Views* p. 4.1-6. In the last sentence it states that “Because views of the project area are obstructed from this location, and project features in the vicinity of the residential area would be underground, the views experienced by residents during daily activities are considered more likely...”. Instead should the views experienced by residents be “less” likely because the views are obstructed and the project features are underground? A4-8

4.7.2.1 *Federal Plans, Policies, Regulations, and Laws* p. 4.7-38. The Colorado River Basin Salinity Control Program needs to be identified and then considered in the analyses in Section 4.7.3 Environmental Impacts and Mitigation Measures. A4-9

4.6.1.1 *Hazardous Materials and Wastes at the Compressor Station, Table 4.6-1, p.4.6-4.* The applicable Water Quality Standard – Most Stringent should reference the California maximum contaminant level for total chromium as 0.05 mg/L. Total chromium is inclusive of hexavalent chromium. A4-10

Statement of Basis

Summary of Site Risks, p. 7, 2nd paragraph. The last sentence should include the word “current” as follows:

“Currently, there is no direct exposure to groundwater and no **current** significant contaminant transport pathway from groundwater to surface water”.

The risk to the Colorado River should be recognized. Furthermore, the remedial action objectives (page 8) identify prevention of migration of the plume to the Colorado River, which substantiates the need to identify the risk in this document. A4-11

Mr. Yue and Ms. Innis
Page 4
July 19, 2010

Summary of Site Risks, p. 8, 2nd full paragraph. The preferred alternative identified in the Statement of Basis, or one of the other alternatives considered should read as follows, “protect public health ~~or~~ and welfare ~~or~~ and the environment from releases of hazardous substances to the environment.” Using the conditional word “or” in the statement the way it is written in the Statement of Basis relates protection for either the public or the environment and not necessarily both.

A4-11
con't.

Groundwater Proposed Plan

Summary of Site Risks, p. 6, 2nd paragraph. The last sentence should include the word “current” as follows:

“Currently, there is no direct exposure to groundwater and no current significant contaminant transport pathway from groundwater to surface water”.

A4-12

The risk to the Colorado River should be recognized. Furthermore, the remedial action objectives (page 7) identify prevention of migration of the plume to the Colorado River, which substantiates the need to identify the risk in this document.

Metropolitan appreciates the opportunity to comment on these important draft decision documents. We believe the selection of Alternative E for the Topock groundwater remediation meets the remedy selection criteria, will achieve the remedial action objectives, and will protect the Colorado River and its users. We look forward to working with you towards the expedient implementation of the groundwater remediation. If you have any questions, please contact me at 213-217-5646 or bkoch@mwdh2o.com.

A4-13

Sincerely,



Bart Koch
EHS Section Manager
Metropolitan Water District of Southern California
P.O. Box 54153
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Mr. Yue and Ms. Innis
Page 5
July 19, 2010

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Mr. Yue and Ms. Innis

Page 6

July 19, 2010

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- A4-1 The commenter's support of the proposed project (Alternative E) is noted for the DTSC's consideration during review and approval of the project. This comment does not address the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- A4-2 In response to the comment, a list of all the acronyms used in the EIR is provided in Volume 2 of this FEIR.
- A4-3 As described in Section 4.4.3.1 of the DEIR, the boundaries of the Topock Cultural Area are unable to be completely defined due, in part, to the variety of specific native peoples' worldviews regarding the area. As stated Section 4.4.3.3 of the DEIR, "it is beyond the scope of this EIR to define whether there may be an additional historical resource area for the purposes of the CRHR [California Register of Historical Resources] or the NRHP [National Register of Historic Places] beyond the project boundaries, or to address areas that are not affected by the proposed project." DTSC, in exercising its discretion under CEQA Guidelines Section 15064.5, Subdivision (a)(3), to determine the project area historically significant does not bind the discretion of other state or federal agencies for purposes of their future and ongoing determinations. Nevertheless, for purposes of DTSC's discretion under CEQA, including DTSC's ability to impose feasible mitigation measures for significant adverse effects on the physical environment, the reader should assume that the entirety of the project area includes the Topock Cultural Area. Although, DTSC is unable to impose mitigation on other jurisdictions, state or federal agencies, the scope of the environmental analysis conducted by DTSC is based on this geographic area and determination. (See Exhibit 4.5-1 of the DEIR.)
- A4-4 The commenter correctly identifies the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order No. 2009-0009-DWQ NPDES No. CAS000002 (General Permit) applies to the project. The numeric effluent levels (NELs) and numeric action levels (NALs) are used to determine in the best management practices (BMPs) associated with the respective calculated risk level for the project.
- The commenter requests that the EIR include a calculation of risk level for the project following the methodology prescribed in the General Permit. Generally, the permit establishes three levels of stormwater risk possible for a construction site. Risk is calculated in two parts: (1) project sediment risk and (2) receiving water risk. Project sediment risk is based on a calculation that accounts for specifically defined factors to calculate expected soil loss. Examples of relevant considerations include rainfall, slope, and cover. Soil loss of less than 15 tons/acre is considered low sediment risk. Soil loss of 15–75 tons/acre is a medium sediment risk and loss of over 75 tons/acres is high (SWRCB 2009:28–29). Receiving water risk is based on whether a project drains to a sediment-sensitive water body. A sediment-sensitive water body is either on the most recent list for water bodies impaired for sediment; has an EPA-approved implementation plan for total maximum daily load of sediment; or has the beneficial uses designated as COLD, SPAWN, and MIGRATORY. A project that meets at least one of the three criteria has a high receiving water risk (SWRCB 2009:30). The project sediment risk and receiving water risk are evaluated together to determine the combined level risk as show in the fact sheet (SWRCB 2009:30). The requirements of the permit differ depending on the combined level of risk.

Absent a final design for implementation of the proposed remedy (e.g., Alternative E) considered herein, including the number and location of wells required for implementation of the remediation, it is not possible at this time to conduct a quantifiable analysis to determine the level of risk to water quality from construction of the project at this time. After the final design has been determined and before construction begins, PG&E will be required to identify risk level and demonstrate compliance with the permit's requirements. The General Permit also requires that a storm water pollution prevention plan (SWPPP) be prepared and BMPs be implemented consistent with the requirements of the General Permit. Sampling, monitoring, reporting, and record keeping will be conducted as per the General Permit.

A4-5

The commenter correctly identifies that the General Permit provides the requirements for BMPs and stormwater discharges resulting from construction based on the results of the risk calculation. The appropriate BMPs are to be implemented as outlined in Attachments C through E of the General Permit for the respective Level 1, Level 2, or Level 3 risk. The text discussing Mitigation Measure HYDRO-1 in the DEIR (Section 4.7.3.3) has been revised to cite the General Permit BMPs (Section 4.7.3.3 in Volume 2 of this FEIR). These BMPs are consistent with those previously cited in Section 4.7.3.3 of the DEIR, and no change to the DEIR's impact conclusions is necessary.

The text of Section 4.7.3.3 (under Impact HYDRO-1) of the DEIR has been revised to discuss the General Permit, risk evaluation, and selection of the appropriate BMPs:

Mitigation Measure HYDRO-1: Exceedance of Water Quality Standards.

The project shall implement BMPs to meet the substantive criteria of NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order No. 2009-0009-DWQ NPDES No. CAS000002 (General Permit) (SWRCB 2009) as well as all other applicable federal, state, and local permit and regulatory requirements, even if a permit is not required pursuant to CERCLA, for purposes of ensuring the protection of receiving water quality. As such, a BMP plan shall be prepared and implemented for the project prior to construction and decommissioning phase activities.

Impacts on water quality from pollutants, including soils from erosion, shall be controlled through use of the following types of BMPs, which shall be incorporated into the appropriate project-specific BMP plan. The General Permit requirements include specific BMPs as well as numeric effluent levels (NELs) and numeric action levels (NALs) to achieve the water quality standards (SWRCB 2009:3). Types of BMPs cited in the General Permit (SWRCB 2009:Attachment A:7) include:

- ▶ Scheduling of Activities;
- ▶ Prohibitions of Practices;
- ▶ Maintenance Procedures;
- ▶ Other Management Practices to Prevent or Reduce Discharge of Pollutants to Waters of the United States;
- ▶ Treatment Requirements; and
- ▶ Operating Procedures and Practice to Control or Respond to Site Runoff, Spillage or Leaks, Sludge or Waste Disposal, or Drainage from Raw Materials Storage.

Visual inspections and monitoring and sampling are required under the General Permit to evaluate the effectiveness of the BMPs and to determine whether modifying BMPs or implementing additional BMPs is required. The BMP designations cited below are based on those used by the ~~California Department of Transportation Storm Water Quality Handbooks, Construction Site BMPs Manual (Caltrans 2000)~~ and the *California Stormwater Quality Association Construction BMP Handbook* (California Stormwater Quality Association ~~2004~~2003) and are consistent with the types of BMPs referenced in the General Permit:

- ▶ Scheduling (SS-1): Proper scheduling assists in identifying ways to minimize disturbed areas, which allows for a reduction in the active project area requiring protection and also minimizes the length of time disturbed soils are exposed to erosive processes.
- ▶ Preservation of Existing Vegetation (SS-2): Preserving existing vegetation to the maximum extent practicable facilitates protection of surfaces from erosion and can also help to control sediments. Sensitive areas should also be clearly identified and protected.
- ▶ Hydraulic Mulch (SS-3), Straw Mulch (SS-6), and Wood Mulching (SS-8): Using various mulches is a method for temporarily stabilizing soil and can be used on surfaces with little or no slope.
- ▶ Geotextiles, Plastic Covers, and Erosion Control Blankets/Mats (SS-7): These erosion control methods can be used on flat or, usually, sloped surfaces, channels, and stockpiles.
- ▶ Stabilized Construction Entrance/Exit (TC-1): A graveled area or pad located at points where vehicles enter and leave a construction site can be built. This BMP provides a buffer area where vehicles can drop their mud and sediment to avoid transporting it onto public roads, to control erosion from surface runoff, and to help control dust.
- ▶ Runoff Control Measures (SS-9, SS-10, and SC-10): These include graded surfaces to redirect sheet flow, diversion dikes or berms that force sheet flow around a protected area, and stormwater conveyances (swales, channels, gutters, drains, sewers) that intercept, collect, and redirect runoff. Diversions can be either temporary or permanent. Temporary diversions include excavation of a channel along with placement of the spoil in a dike on the downgradient side of the channel, and placement of gravel in a ridge below an excavated swale. Permanent diversions are used to divide a site into specific drainage areas, should be sized to capture and carry a specific magnitude of storm event, and should be constructed of more permanent materials. A water bar is a specific kind of runoff diversion that is constructed diagonally at intervals across a linear sloping surface such as a road or right-of-way that is subject to erosion. Water bars are meant to interrupt accumulation of erosive volumes of water through their periodic placement down the slope, and divert the resulting segments of flow into adjacent undisturbed areas for dissipation.
- ▶ Silt Fence (SC-1): A temporary sediment barrier consisting of fabric is designed to retain sediment from small disturbed areas by reducing the velocity of sheet flows.
- ▶ Gravel Bag Berm (SC-6) and Sand/Gravel Bag Barrier (SC-8): A temporary sediment barrier consisting of gravel-filled fabric bags is designed to retain sediment from small disturbed areas by reducing the velocity of sheet flows.

- ▶ Desilting Basin (SC-2) and Sediment Trap (SC-3): Constructing temporary detention structures facilitates the removal of sediment from waters. The devices provide time for sediment particles to settle out of the water before runoff is discharged.

Secondary concerns include potential pollutants from inappropriate material storage and handling procedures and nonstormwater discharges. These will be addressed through the following types of BMPs, which shall be incorporated into the stormwater BMP plan:

- ▶ Material Delivery and Storage (WM-1): Provide covered storage for materials, especially toxic or hazardous materials, to prevent exposure to stormwater. Store and transfer toxic or hazardous materials on impervious surfaces that will provide secondary containment for spills. Park vehicles and equipment used for material delivery and storage, as well as contractor vehicles, in designated areas.
- ▶ Spill Prevention and Control (WM-4): Ensure that spills and releases of materials are cleaned up immediately and thoroughly. Ensure that appropriate spill response equipment, preferably spill kits preloaded with absorbents in an overpack drum, is provided at convenient locations throughout the site. Spent absorbent material must be managed and disposed of in accordance with applicable regulations. In particular, absorbents used to clean up spills of hazardous materials or waste must be managed as hazardous waste unless characterized as nonhazardous.
- ▶ Solid Waste Management (WM-5): Provide a sufficient number of conveniently located trash and scrap receptacles to promote proper disposal of solid wastes. Ensure that the receptacles are provided with lids or covers to prevent windblown litter.
- ▶ Hazardous Waste Management (WM-6): Provide a sufficient number of proper receptacles to promote proper disposal of hazardous wastes.
- ▶ Concrete Waste Management (WM-8): Dispose of excess concrete in specific concrete washout facilities.
- ▶ Sanitary/Septic Waste Management (WM-9): Locate sanitary and septic waste facilities away from drainage courses and traffic areas. Maintain the facilities regularly.
- ▶ Vehicle and Equipment Cleaning (NS-8): Clean vehicles and equipment that regularly enter and leave the construction site.
- ▶ Vehicle and Equipment Fueling (NS-9): Fuel vehicles and equipment off-site whenever possible. If off-site fueling is not practical, establish a designated on-site fueling area with proper containment and spill cleanup materials.
- ▶ Vehicle and Equipment Maintenance (NS-10): Use off-site maintenance facilities whenever possible. Any on-site maintenance areas must be protected from stormwater runoff and on-site flooding.

In addition to BMPs implemented to avoid or reduce impacts from the construction and decommissioning phases, BMPs shall also be implemented to avoid or reduce impacts from the operations and maintenance phases. To address potential violation of water quality standards caused by insufficient treatment, system failure at concentrations in excess of water quality standards, proper design shall include contingency measures such as safeguards to shut down the extraction wells in case of pipeline failure or malfunction.

In addition, operation of the proposed project will be governed by and follow an operations and maintenance plan.

PG&E will comply with all applicable water quality standards, the General Permit, and any SWRCB or RWQCB resolutions identified as ARAR, as well as a corrective action monitoring program. Under the corrective action monitoring program, data will be collected to measure performance of the remedy, compliance with standards, and progress of the remedial action as a part of the project description. In addition, the project will be operated to continually assess performance issues and to modify the type, method, and configuration of the treatment delivery systems to enhance performance of the remedy to attain the cleanup goals and to respond to site conditions and performance issues as described in the project description.

A SWPPP will also be prepared for the proposed project, which will contain BMPs related to industrial activities (industrial SWPPP). The BMPs are designed to reduce pollutants in discharges that may affect receiving water quality during operations and maintenance of the proposed project. As noted above, BMP designations are based on those used by the *California Stormwater Quality Association Construction BMP Handbook* (California Stormwater Quality Association ~~2004~~ 2003) and those referenced in the General Permit. The SWPPP will incorporate BMPs such as the following:

- ▶ Good Housekeeping: Maintain facility in a clean manner and train facility personnel to contribute to a safe, clean, and orderly environment by properly disposing of trash in designated containers, storing materials in appropriate locations, and keeping equipment clean and in good working condition.
- ▶ Preventative Maintenance: Prevent or minimize release of pollutants. Develop Standard Operating Procedures for operation and maintenance of facility components and train employees to follow the procedures.
- ▶ Non-Stormwater Discharges (SC-10): Ensure that used oil, used antifreeze, and hazardous chemical recycling programs are being implemented. Conduct regular inspections of high priority areas.
- ▶ Spill Prevention, Control, and Cleanup (SC-11): Store materials properly to prevent spills from entering the storm drain system or surface waters. Ensure that spill cleanup materials are located on-site and are easily accessible. Clean up leaks and spills immediately using proper absorbent materials. Absorbents used to clean up hazardous materials must be disposed of as hazardous waste. Educate employees about spill prevention and cleanup.
- ▶ Vehicle and Equipment Fueling (SC-20): Maintain clean fuel-dispensing areas using dry cleanup methods, such as sweeping or using rags and absorbents for leaks and spills. Cover the fueling area to prevent contact with stormwater. Train personnel in pollution prevention, focusing on containment of spills and leaks.
- ▶ Outdoor Loading/Unloading (SC-30): Load and unload chemicals during dry weather, if possible, and load and unload in designated areas. Check equipment regularly for leaks.
- ▶ Outdoor Liquid Container Storage (SC-31): Cover the storage area with a roof and provide secondary containment. Inspect storage areas regularly for leaks or spills.

- ▶ Outdoor Equipment Operations (SC-32): Perform activities during dry weather, cover the work area with a roof, and use secondary containment. Train employees in proper techniques for spill containment and cleanup.
- ▶ Waste Handling and Disposal (SC-34): Cover storage containers with leak-proof lids, check for leaks weekly, and clean storage areas regularly. Ensure that wastes are disposed of properly.
- ▶ Tank Design System: Ensure that tank systems have sufficient strength to avoid collapse, rupture, or failure and that they are protected against physical damage and excessive stress. Provide adequate secondary containment.

In conformance with the substantive requirements of General Industrial Permit (Order No. 2009-0009-DWQ ~~Order No. 97-03-DWQ~~), a monitoring and reporting program will be implemented to assess the effectiveness of BMPs and to modify BMPs and revise the SWPPP, if necessary, to continue to reduce pollutants and impacts on receiving waters. The monitoring program shall include the following minimum elements as per the General Permit:

- ▶ quarterly, nonstormwater visual inspections,
- ▶ storm-related visual inspections within 2 business days of a qualifying rain event (producing precipitation of one-half inch or more of discharge),
- ▶ visual inspection after a storm event,
- ▶ monitoring of nonvisual pollutants based on the calculated risk level for the project, with Risk Level 2 and 3 requiring a minimum of three samples per day during qualifying rain events (SWRCB 2009: Tables 5 and 6, 22–27), and
- ▶ monitoring and reporting for linear projects as per Attachment A of the General Permit.
- ▶ ~~sampling and analysis of the first stormwater event of the wet season (October 1 through May 30),~~
- ▶ ~~sampling and analysis of a second stormwater event during the wet season,~~
- ▶ ~~quarterly visual observations,~~
- ▶ ~~monthly visual observations of storm event discharges during the wet season, and~~
- ▶ ~~annual evaluation for site compliance.~~

Results of this monitoring shall be reported annually to DTSC and to the Storm Water Multi-Application Reporting and Tracking System (SMARTS). The annual report shall include a summary and evaluation of all sampling and analysis results, original laboratory reports, and chain of custody forms; a summary of all corrective actions taken during the compliance year; and identification of any compliance activities or corrective actions that were not implemented.

NEL Violation Reports and/or NAL Violation Reports are required for Risk Level 3 and linear underground/overhead project (LUP) Type 3 Discharges. Should the project meet these criteria, the respective reports shall be submitted within 5 days of the end of the storm event, as per General Permit requirements, and provide the required information identified (SWRCB 2009:26–27 and Attachment A).

~~The annual report shall also report noncompliance, if applicable, with either the SWPPP or substantive general permit requirements and shall include a plan to prevent recurrence of the noncompliance.~~

The implementation of stormwater plans shall include an education component to train workers on water quality concerns and proper BMP implementation, maintenance, and repair, in addition to stormwater management program training on the construction BMP plan and industrial SWPPP.

Timing:	BMPs to minimize impacts to less than significant shall be implemented before and during activities in the project area.
Responsibility:	PG&E shall be responsible for the implementation of these measures. DTSC shall be responsible for ensuring compliance.
Significance after Mitigation:	Implementation of appropriate BMPs defined in Mitigation Measure HYDRO-1 would minimize impacts on water quality by controlling runoff and by ensuring that the quality of stormwater flows meets the relevant requirements. Consequently, any impacts resulting from alterations of drainage and hydrology and water quality during construction, operation and maintenance, and decommissioning would be mitigated to a level of less than significant .

A4-6

The comment states that Section 4.3, “Biological Resources,” includes no mention of quagga mussels and their effects on the Colorado River ecosystem and points out that distinguishing the project’s potential effects on aquatic ecology from effects caused by the quagga mussel infestation is important. As stated in the comment, quagga mussels, a species related to zebra mussels, were discovered on January 6, 2007, at Lake Mead. Subsequent inspections in January and February 2007 by the Metropolitan Water District, California Department of Fish and Game, and National Park Service detected quagga mussels in Lakes Mead, Mohave, and Havasu and in the intake of the Central Arizona Project (USFWS 2007, MWDSC 2008). The detrimental effects of zebra and quagga mussels on aquatic ecology of large lake systems in the eastern United States have been well documented (summarized in California Science Advisory Panel 2007, USFWS 2007). However, the long-term effects of quagga mussels on the aquatic ecosystem of the Colorado River are uncertain (Kennedy 2007).

Analysis of potential project-related impacts on fish and the aquatic ecosystem and presentation of mitigation measures are provided in Section 4.3.3.3 of the DEIR. The uncertainties regarding how the introduction of quagga mussels has potentially influenced the aquatic ecosystem along the Colorado River in the project area would not change the analysis and conclusions presented in this discussion. Further, the proposed project would not increase the distribution or affect the extent to which quagga mussels would affect the Colorado River ecosystem because the Colorado River intake structure would be screened, involve treatment, and would not deliver water to water bodies that could sustain these invasive species. Additionally, operation and maintenance of the final groundwater remedy, including any required surface water monitoring, would not introduce watercraft from outside the local extent of the Colorado River. To the extent that surface water monitoring is a component of the final remedy, the monitoring would be conducted (as it is currently) using locally contracted boats and operators already operating on the Colorado River in the general vicinity of the project area. Therefore, the proposed project would not create opportunities to introduce the quagga mussel or other invasive species to the Colorado River.

- A4-7 As stated in Section 3.5 of the DEIR and Section 5.3.1 of the Final CMS/FS (Appendix CMS of the DEIR), the East Ravine may include a series of extraction wells along a portion of the National Trails Highway or within the areas in the East Ravine. Exhibit 3-4 of the DEIR shows the approximate location of the proposed bedrock extraction wells. Freshwater injection wells may be located in bedrock as described in Section 3.5.1.2 of the DEIR and page 5-24 of the Final CMS/FS. These wells may be utilized to supplement remedial efforts if needed. This comment does not address the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- A4-8 The commenter notes that the viewer group would be “less” likely, not “more” likely as stated in the DEIR. The commenter is correct. The last sentence of the paragraph under the subheading “Residential Viewers” has been revised in Section 4.1.1.3 of Volume 2 of the FEIR:
- Because views of the project area are obstructed from this location, and project features in the vicinity of the residential area would be underground, the views experienced by residents during daily activities are considered ~~more~~less likely, and are considered under vehicular, recreational, and pedestrian viewers.
- This minor text change does not affect the visual resources impact analysis.
- A4-9 The commenter states that the Colorado River Basin Salinity Control Program needs to be identified and considered in the analysis. Although, the Colorado River Basin Salinity Control Program was not specifically identified as an ARAR by DTSC or DOI in the Final CMS/FS (CH2M Hill 2009:Appendix B) or in the DEIR, the requirements will be addressed through State requirements. As identified in Section 4.7.3.3 of the DEIR, “the project shall implement BMPs to meet the substantive criteria of all applicable federal, state, and local permit and regulatory requirements, even if a permit is not required under CERCLA, for purposes of ensuring the protection of receiving water quality.” The DEIR further identifies the water quality control plan for the Colorado River Basin (Basin Plan) and the NPDES permit system as State requirements in Section 4.7.2.2. Both of these State requirements include provisions for meeting the Colorado River Basin Salinity Control Program; therefore, the Colorado River Basin Salinity Control Program requirements will be addressed through compliance with the State Basin Plan and the NPDES permit requirements.
- A4-10 Table 4.6-1 in Chapter 4.6, “Hazardous Materials,” of the DEIR cites the most stringent water quality standards for the chemicals of concern listed. The commenter states that the maximum contaminant level of total chromium [Cr(T)] (0.05 milligrams per liter or 50 micrograms per liter [µg/l]) should be referenced in Table 4.6-1. Cr(VI), not Cr(T), is the chemical of concern. Thus, the maximum contaminant level of Cr(T) was not listed to avoid incorrect and potentially misleading citation of a water quality standard that differs from the preliminary cleanup goal. The background value of 32 µg/l is the Cr(VI) preliminary cleanup goal (CH2M Hill 2009:3-8). The water quality standard applied to surface water of the Colorado River is 11 µg/l (CH2M Hill 2009:2-4), which is protective of freshwater aquatic life.
- A footnote has been added to Table 4.6-1 in Section 4.6.1.1 of the DEIR, to clarify the above discussion on maximum contaminant level of total chromium.

Table 4.6-1 Summary of COPCs in Groundwater Plume, July 1997 through September 2008			
Metal	Maximum Concentration	Percentage of Samples Exceeding Background	Applicable Water Quality Standard—Most Stringent
Hexavalent Chromium	15,700 µg/l	38.3%	Not assigned ¹
Molybdenum	301 µg/l	24.9%	Not assigned
Selenium	155 µg/l	11.1%	50 µg/l
Nitrate (as Nitrogen)	32 mg/l	Not Calculated	10 mg/l
Notes: COPC = chemicals of potential concern; mg/l = milligrams per liter; µg/l = micrograms per liter. ¹ The maximum contaminant level (MCL) for total chromium is 50 µg/l. The preliminary cleanup goal for hexavalent chromium of 32 µg/l is below the total chromium MCL. Source: CH2M Hill 2009a:Tables 6-6 and 6-8			

A4-11 DTSC agrees with the proposed edits as recommended by the comment to the Statement of Basis. DTSC also recognizes that the risk assessment is based on understanding of the nature and extent of the current groundwater plume. However, if hydraulic conditions or the natural reductive capacity by the floodplain are not properly maintained, or if there is significant movement of the plume, the plume can potentially degrade the water quality of the Colorado River. Therefore, DTSC's goal is to expeditiously remediate the contamination. As a result of this comment, the Statement of Basis will be modified as follows:

“Currently, groundwater is not directly exposed and no current or significant pathway exists to transport contaminants from groundwater to surface water.”

“...protect public health-~~of~~ and welfare-~~of~~ and the environment from releases of hazardous substances to the environment.”

A4-12 DTSC agrees with the addition of the word “current” to the second paragraph of page 6 of the Statement of Basis. Please see the response to comment A4-11 above for a discussion on the risk to the Colorado River.

A4-13 The commenter's support of the proposed project (Alternative E) is noted for the DTSC's consideration during review and approval of the project. This comment does not address the environmental analysis provided in the DEIR; therefore, no further response is necessary.



Arnold Schwarzenegger
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Letter
A5

Carmen Cox
Acting Director

August 2, 2010

Mr. Aaron Yue
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

Subject: PG&E Topock Compressor Station Groundwater Remediation Project
SCH#: 2008051003

Dear Mr. Aaron Yue:

The enclosed comment (s) on your Draft EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on July 19, 2010. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2008051003) when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

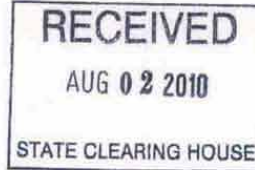
COLORADO RIVER BOARD OF CALIFORNIA

770 FAIRMONT AVENUE, SUITE 100
GLENDALE, CA 91203-1068
(818) 500-1625
(818) 543-4685 FAX



July 29, 2010

Late
Clear
07/19/10
e.



State Clearinghouse
1400 Tenth Street
P.O. Box 3044
Sacramento, CA 95812-3044

Regarding: SCH# 2008 051 003: Notice of Completion & Environmental Document Transmittal for a draft Environmental Impact Report (EIR) for the PG&E Topock Compressor Station Groundwater Remediation Project, County of San Bernardino, California

To Whom It May Concern:

The Colorado River Board of California (CRB) has received and reviewed a copy of Notice of Completion & Environmental Document Transmittal for a draft EIR for the PG&E Topock Compressor Station Groundwater Remediation Project, County of San Bernardino, California.

A5-1

At this juncture, the CRB has determined that it has no comments regarding the Notice. If you have any questions, please feel free to contact me at (818) 500-1625.

Sincerely,

Gerald R. Zimmerman
Acting Executive Director

**Letter
A5
Response**

Colorado River Board of California
Gerald R. Zimmerman, Acting Executive Director
July 29, 2010

- A5-1 The comment from the Colorado River Board of California acknowledges receipt of the DEIR and other project documents, and that the Colorado River Board of California has no comments at this time. This comment does not address the environmental analysis provided in the DEIR; therefore, no further response is necessary.

3 INDIVIDUAL COMMENTS AND RESPONSES

3 INDIVIDUAL COMMENTS AND RESPONSES

This chapter contains the comment letters received from members of the public on the Topock Compressor Station Final Remedy DEIR and DTSC's responses to significant environmental issues raised in those comments. Each letter, as well as each individual comment within the letter, has been given an assigned letter and number for cross-referencing. Responses are sequenced to reflect the order of comments within each letter. Table 3-1 lists all individuals who submitted comment letters on the Topock Compressor Station Final Remedy DEIR, including the individual comments submitted at the four public hearings, during the public review period. This chapter includes the transcripts of the comments on the DEIR that were provided during the four public hearings and responses to those comments. The parts of the transcripts that did not include public comments were removed in the attempt to be more concise, but the full transcripts are included in the public record.

Table 3-1
List of Individual Commenters

Letter #	Commenter	Date of Comment	Page Number
I1	Maryetta Patch	July 19, 2010	3-2
I2	Michael Tsosie	July 21, 2010	3-122
I3	Angie Alvarado	June 29, 2010	3-213
I4	Diane Montoya	June 29, 2010	3-215
I5	Marla Jenkins	June 29, 2010	3-218
I6	Paul Jackson	June 29, 2010	3-221
I7	Charlotte Knox	June 29, 2010	3-224
I8	De Shazer	July 2, 2010	3-227
I9	Jayde Johnson	July 19, 2010	3-230
PH1	Parker, AZ Public Hearing	June 22, 2010	3-232
PH2	Lake Havasu City, AZ Public Hearing	June 23, 2010	3-258
PH3	Needles, CA Public Hearing	June 29, 2010	3-267
PH4	Topock, AZ Public Hearing	June 30, 2010	3-304

July 19, 2010

Mr. Aaron Yue, Project Manager
State of California
Department of Toxic Substance Control
5796 Corporate Avenue
Cypress, CA 90630

Dear Mr. Yue:

On behalf of the descendants of Topock from the Mohave tribe, we are submitting formal comments on the following documents relating to the proposed remediation of the PG&E Topock Compressor Station chromium contamination: We have highlighted certain sections and made additional comments on certain topics which are attached in whole for your review and consideration

1. Draft Statement of Basis
2. Groundwater Proposed Plan
3. Draft Environmental impact Report

At this time our most significant concern has to do with the failure to protect our continued health and well being by your stated proposal to allow significant increased levels of hexavalent chromium in both the groundwater and release in to the surface waters of the Colorado River, where none or minimal levels had been detected before. Throughout the history of this Remediation process, the tribe and other concerned parties had been assured that there was no hexavalent chromium outside of the contaminated area and now we understand from your proposed remedy that we were seriously misled.

I1-1

As a matter of fact we had the distinct assurance of other project officials throughout the history of the project that the chromium contaminate was to be removed entirely and not just converted to some other "lesser" contaminant that will be hopefully monitored at a future date. The proposed remedy selection is a betrayal of our understanding and previously stated commitments of project personnel and is reminiscent of bait and switch tactics used to dispossess Indian tribes of valuable resources in the 19th century. The water in this region is our most precious resource and one that is both finite and irreplaceable. Any proposal to release increased levels of chromium contaminant or any contaminant for that matter in to any existing water resources is unacceptable. Further, conversion or other proposed strategies for essentially leaving the bulk of minimally treated and unconfirmed conversion below 100% is unacceptable as well.

The failure to understand the significance of water and its impact to the life and culture of the people here, especially, the Mohave people is your greatest failure in your proposed remedy process. At several junctures in this lengthy decades long process, we were assured of a complete and thorough formal ethnographic study to both articulate and document the complete and entire tribal understanding of the impact of the chromium on this remediation effort as it impacted our precious resources. Memorandums of Agreement had been signed previously during the Interim Measures Phase that guaranteed such a study as well as nomination for historic preservation to certain affected sites. None of this was ever honored and completed. Now, when you need this documented ethnographic information most, you don't have it and instead insert the incomplete, uninformed and unsubstantiated opinions of a few privileged and strategically placed individuals with official yet tenuous cultural connections to our tribe as the "truth" on which you base the proposed remedy selection. Our concern here is that you considered questionable and limited

I1-2

tribal input and then propose a certain remedy using a strategic manipulation of cultural arguments and so called "concern" to justify a limited removal of the chromium contaminant from the impacted area. We are formally requesting a reconsideration of your erroneous cultural information and data and believe most fervently that to proceed any further without accurate and confirmed reliable information will only lead to the selection of a faulty remedy that will ensure a slow and painful death to our way of life and our Mohave people that live down river from the PG&E chromium contamination.

I1-2
con't.

We believe it incredible that we as the tribal people from this area that are most directly affected by the chromium contamination have been available as a valuable project resource yet we were shut out of the process and not given an opportunity to participate or comment prior to this time. We are deeply concerned and believe your proposed remedy needs to be reworked and reconsidered in the light of our attached comments and expressed concerns. We expect a response to our questions and concerns and hope they will enlighten you with insights that you may not have previously considered in developing your proposed remedy.

I1-3

You may contact me directly by telephone at (623) 536-7927. Thank you

Sincerely,

Maryetta Patch
Fort Mojave tribal member and descendent from Topock

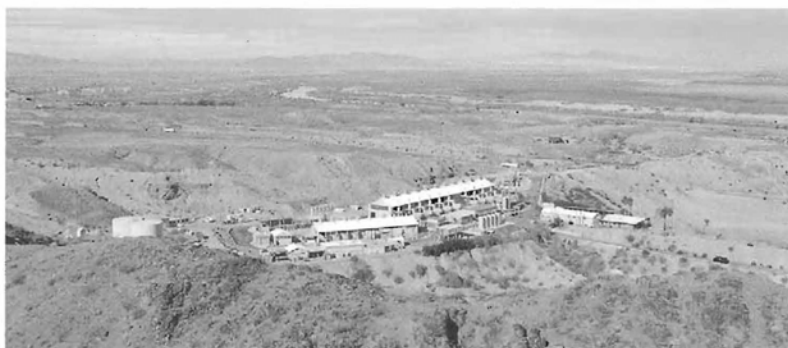
Letter
I1
Attachment 1

Draft Environmental Im

for the

Topock Compressor Station
Groundwater Remediation Project

California Department of Toxic Substances Control



SCH #2008051003

Prepared for:

California Department of Toxic Substances Control
1001 I Street
Sacramento, CA 95814

Contact:

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

Prepared by:

AECOM
2022 J Street
Sacramento, CA 95811

April 2010

AECOM

2.1.1.1 FUTURE REVIEW OF PROJECT-LEVEL DESIGNS

When PG&E reduces the proposed final remedy to specific designs associated with a discrete footprint within the project area, DTSC shall review these plans which would include the Corrective Measures Implementation Workplan and subsequent design. DTSC shall determine if the impacts associated with the project-level designs are generally consistent with the significance conclusions of this EIR, after implementation of mitigation. On this basis, DTSC shall determine whether the specific design for the final remedy is within the scope of the program EIR, pursuant to the provisions of Section 15168 of the CEQA Guidelines.

In some cases, site-specific mitigation planning may be necessary when project designs are available. This EIR evaluates these potential consequences to the extent possible and provides program-level mitigation measures and performance criteria to guide mitigation planning; however, site-specific impact or mitigation analyses have not been achievable at this juncture in project development.

2.1.2 CONTENTS AND PURPOSE OF THIS ENVIRONMENTAL IMPACT REPORT

In accordance with Section 15125 of the CEQA Guidelines, the EIR must include a description of the physical environmental conditions in the vicinity of the project as they exist at the time of the notice of preparation (NOP), or, if no NOP is published, at the time the environmental analysis begins. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The environmental analyses contained in Chapter 4 of this DEIR uses the NOP as the baseline for the description of the physical conditions that might be affected by the proposed remedial options. However, based on a 2005 Stipulation and Settlement Agreement between DTSC and the Fort Mojave Indian Tribe regarding an interim remediation system that was constructed at the compressor station in 2004, the EIR must also evaluate potential impacts (on biological and cultural resources solely) using a baseline date of January 2004, the date after which construction of the interim remediation system was initiated. Therefore, this DEIR considers two separate baselines in analysis of potential impacts for biological and cultural resources. The analyses conducted using the January 2004 baseline date are contained in Chapter 7 of this DEIR.

This document has been prepared in sufficient detail to support a decision for approval or rejection of the proposed project. DTSC intends that this EIR be used by other local, regional, and state agencies in the approval process of related permits associated with cleanup efforts within the project area. These agencies are identified in Section 2.5 of this chapter. To the extent that the CEQA streamlining processes described above are available to such agencies, they may choose to rely on them as well.

The purpose of an EIR is not to recommend approval or denial of a proposed project. Rather, an EIR is required to identify the significant adverse environmental effects of a proposed project to the physical environment, and to further identify measures that avoid or mitigate those impacts to the extent feasible. If environmental impacts are identified as significant and unavoidable in the sense that no feasible mitigation measures or alternatives have been identified, DTSC may still approve the project after adopting all feasible mitigation measures and alternatives if, through the adoption of CEQA findings and statement of overriding considerations, it finds that social, economic, legal, technological, or other benefits outweigh these impacts.

2.2 BACKGROUND OF THE PROPOSED PROJECT

2.2.1 COMPRESSOR STATION HISTORY AND ACTIVITIES

The compressor station is owned and operated by PG&E. It began operating in 1951 and is still active today. From 1951 to 1964, the compressor station was located on a 65-acre property that PG&E leased from the U.S. Bureau of Land Management (BLM). In 1964, BLM transferred the property to the State of California and in 1965 PG&E purchased the property from the state. The compressor station is used to compress and cool natural gas for transport through PG&E pipelines to customers in central and northern California. Pipeline pressure must

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 4:40:04 PM

T Did BLM and the State of California own the land during the time that contamination was discharged to the land by PG&E? Is it possible for BLM to be considered a potential responsible party under RCRA or CERCLA? Is it possible that the State of California and DTSC can be considered a responsible party under RCRA or CERCLA? If DTSC is able to be considered a potential responsible party under RCRA or CERCLA then are they able to legally act as a reasonable independent lead responsible agency without the perception that they may have a vested interest in minimizing the extent and cost of any remedial activities?

I1-4

be increased at regular distances along the pipeline to effectively transport natural gas through the pipelines. As the pressure is increased, the temperature of the gas also increases. Cooling towers located at the compressor station use water to lower the temperature of the gas before reintroducing the gas to the PG&E pipeline system.

The main structures at the facility include the cooling towers (Towers A and B), compressor building, and generator building (Exhibit 2-1). Adjacent to the main buildings are various auxiliary structures including an office, a warehouse, a vehicle garage, maintenance buildings, equipment and chemical storage buildings, and a water softening building. Aboveground tanks used for storage of water, water treatment chemicals, new and waste oil, gasoline and diesel fuel, and wastewater also are located at the facility. Exhibit 2-1 identifies existing infrastructure at the compressor station and vicinity.

When originally constructed, the facility was equipped with six compressors and could process 400 million standard cubic feet per day (scfd) of natural gas. As demand increased, PG&E added new compressors and upgraded existing compressors to increase the volume of gas that the compressor station could process. Most of the upgrades were completed by the mid-1950s. Following the upgrades, the facility is currently capable of processing 1.1 billion scfd of natural gas.

Currently, the compressor station processes between 300 million and 1.1 billion scfd of natural gas, depending on demand. The compressor station operates and is staffed 24 hours per day, 7 days a week. Operations at the compressor station have been relatively unchanged since it opened in 1951. The operations at the compressor station consist of: (1) conditioning the cooling water; (2) compressing the natural gas, (3) cooling the gas and compressor lubricating oil, (4) treating the wastewater that is generated during the cooling process, (5) maintaining the facility and equipment, and (6) miscellaneous operations.

2.2.2 CHEMICAL USE AND DISPOSAL AT THE COMPRESSOR STATION

¹From 1951 through 1985, PG&E added chromium to the water circulating in the cooling towers to inhibit corrosion, minimize scale, and control biological growth that affected the mechanical equipment. Chromium is a chemical found in air, soil, water, and food. There are two common forms of chromium: trivalent chromium [Cr(III)], which is considered an important mineral needed in small amounts for healthy human growth, and hexavalent chromium [Cr(VI)], which is considered harmful to human health at elevated concentrations, because it is carcinogenic if inhaled. While Cr(III) is the less toxic form of chromium for humans, it can have adverse impacts to the environment (e.g., plants, animals).

From 1951 to 1964, untreated wastewater (also known as “blowdown”) containing Cr(VI) was discharged directly to Bat Cave Wash, a natural wash located adjacent to the western boundary of the compressor station. During this period of uncontrolled wastewater discharge, an area of groundwater contaminated with Cr(VI), known as a plume, was formed. Beginning in 1964, PG&E began to treat the wastewater to convert Cr(VI) to Cr(III). Cr(III) is essentially insoluble and tends to bind to soil, so is not as easily transported to groundwater. PG&E also constructed a percolation bed in the wash by creating soil berms that impounded the discharged wastewater and allowed it to percolate into the ground and/or evaporate. In 1969, PG&E began treating the wastewater using a two-step process that converted Cr(VI) to Cr(III) and then removed the Cr(III).

³Beginning in May 1970, wastewater discharges to Bat Cave Wash ceased, and treated wastewater was discharged to an injection well located on PG&E property, known as PGE-8. The well facilitated the injection of the treated wastewater into the subsurface at depths in excess of 405 feet below ground surface. In 1973, PG&E discontinued use of injection well PGE-8, and wastewater was discharged exclusively to a set of four, single-lined evaporation ponds located about 1,600 feet west of the compressor station.

Page: 74

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 4:41:22 PM

T This is inconsistent with the Statement of Basis. The Statement of Basis says that PG&E also added biosides. What are biosides and what did they contain?

I1-5

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/6/2010 4:41:29 PM

T What concentration was is treated to?

I1-6

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/6/2010 4:40:52 PM

T What was the concentration of the water injected? How much water was injected?

I1-7

PG&E replaced the Cr(VI)-based cooling water treatment products with nonhazardous phosphate-based products in 1985, at which time PG&E discontinued operation of the wastewater treatment system. Use of the four, single-lined evaporation ponds continued from 1985 to 1989. In 1989, the single-lined ponds were replaced with four new, Class II (double-lined) ponds. The wastewater treatment system and the single-lined ponds were physically removed and closed between 1988 and 1993. The four, Class II double-lined ponds are used currently. The disposal of wastewater from ongoing operations at the compressor station is regulated by the State of California's Colorado River Basin Regional Water Quality Control Board (RWQCB), a department under California's Environmental Protection Agency.

2.2.3 GROUNDWATER CONTAMINATION

RCRA corrective action activities at the compressor station were initiated in 1987 with the completion of a RCRA facility assessment (RFA) conducted by the U.S. EPA. The RFA identified areas of possible contamination through records review, data evaluation, interviews, and visual site inspection. The investigation activities conducted at the compressor station are summarized in the RCRA Facility Investigation and the CERCLA Remedial Investigation (RFI/RI) report. This document has been divided into three volumes. Volume 1 contains the site background and history of the compressor station. Volumes 2 and 3 contain information regarding the nature and extent of hazardous waste and constituent releases in groundwater and soil, respectively¹.

Based on the findings contained in the RFI/RI report, the principal contaminant in groundwater in the project area is Cr(VI). The majority of the Cr(VI) present in groundwater at the compressor station is believed to have been released during the 13-year period (1951–1964) when untreated wastewater was discharged to Bat Cave Wash. From the discharge locations in Bat Cave Wash, the cooling tower “blowdown” water infiltrated into the coarse sand and gravel of the wash bed and percolated downward approximately 75 feet through the unsaturated zone to reach groundwater.

In addition to Cr(VI), elevated concentrations of molybdenum, nitrate, and selenium have been detected within the boundaries of the contaminated groundwater plume. These contaminants are likely released through activities associated with facility operations including compression of natural gas, cooling of the compressed natural gas and compressor lubricating oil, water conditioning, wastewater treatment, and facility and equipment maintenance. However, due to the relatively limited sampling data and lower risks as compared with Cr(VI) at this site, these contaminants would be further addressed through monitoring and institutional controls during implementation of the remedy. Furthermore, it is anticipated that molybdenum, selenium and nitrate would be cleaned up with any of the remedial alternatives proposed by PG&E.

The Cr(VI) groundwater plume has been defined as chromium-bearing groundwater exceeding a regional background (or naturally occurring) value of 32 micrograms per liter (µg/l), or 32 parts per billion (ppb). Based on testing data to date, the majority of the Cr(VI) plume resides predominantly in the more permeable alluvial/fluvial deposits, with the southernmost portion extending into an area of less permeable bedrock known as the East Ravine. The contaminated groundwater plume underlies an area of approximately 175 acres and extends approximately 2,800 feet down-gradient of the former cooling water disposal area in Bat Cave Wash toward the Colorado River, which is adjacent to and east of the contaminated groundwater plume. The thickness of the plume varies from approximately 50 to over 150 feet. Extensive monitoring efforts indicate that the contaminated alluvial groundwater plume has not reached the surface waters of the Colorado River. Based on the results of well installations in the alluvial aquifer on the California and Arizona shores of the Colorado River, the chromium plume has not been detected in Arizona or under the Colorado River just south of I-40 (CH2M Hill 2008:3-2; CH2M Hill 2009; Figure 2-12, included in Appendix CMS of this EIR). The extent of the bedrock plume near the Colorado River is less certain. Cr(VI) concentrations range from less than 0.2 µg/l to 15,700 µg/l

¹ The revised final version of Volume 1 was issued on August 10, 2007. The final version of Volume 2 was issued on February 11, 2009. Volume 3 currently is being completed and is anticipated to be issued in 2011.

Page: 77

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 4:43:09 PM

T This is inconsistent and contradicts information presented for the proposed remedial alternative presented in the Statement of Basis. This is evidence of pre-selecting or pre-determining a remedy solution. The proposed remedy described in the Statement of Basis does not do anything to cleanup molybdenum, selenium and nitrate.

I1-8

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/6/2010 4:43:00 PM

T Is the complete extent of groundwater contamination know? Is the extent of groundwater contamination know in east ravine?

I1-9

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/6/2010 4:45:38 PM

T Has the groundwater contamination reached the Colorado River from contamination in the bedrock at east ravine? Is the contaminated groundwater at east ravine in contact with any portion of the Colorado River Water (surface or subsurface)?

I1-10

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/6/2010 4:48:10 PM

T This presents evidence that the complete extent of groundwater contamination is not defined. Therefore, an EIR can not evaluate the potential impacts since the extent of the contamination is not completely know, and the project can not be defined. The complete direct and indirect impacts as well as the cumulative impacts are not able to be evaluated, or the complete extent of the project be know.

I1-11

within the plume boundaries, with the highest concentrations observed in the area of the MW-20 and MW-24 benches (CH2M Hill 2008:Table 2-4).

A primary route of contaminant migration in the project area is through groundwater transport, given the proximity to the Colorado River. The groundwater gradient in the project area is slight, on the order of 0.0005 vertical feet per horizontal foot, and the hydraulic conductivity of the aquifer along the axis of the plume is moderate, averaging about 30 feet per day. Groundwater is therefore expected to move relatively slowly. The direction of groundwater flow from the source area in Bat Cave Wash generally is toward the north or northeast.

2.2.4 CORRECTIVE ACTION HISTORY

RCRA corrective action at the compressor station was initiated in 1987. Investigation and remedial activities have been ongoing since contamination was discovered at the compressor station in 1995. These activities include:

- ▶ groundwater and river water sampling and monitoring;
- ▶ extraction, treatment, and reinjection of groundwater;
- ▶ other environmental investigation activities; and
- ▶ evaluation of long-term cleanup technologies.

Groundwater and river water sampling, or monitoring, began in 1998 as part of initial site investigation activities, and a regular monitoring program is established at the compressor station. Monitoring activities include groundwater sampling from over 100 wells and river water sampling from 18 locations both along the shoreline and from the Colorado River channel (see Chapter 6, "Cumulative Impacts," regarding past groundwater remediation activities on-site and their corresponding level of CEQA documentation).

A total of 14 solid waste management units (SWMUs), 20 areas of concern (AOCs), and two other undesignated areas have been identified at the compressor station. The SWMUs, AOCs, and other undesignated areas have been identified at different times during the history of the RCRA corrective action process, and therefore, the status of the various sites differs. The status of sites ranges from those where no investigation has yet been performed to sites where remediation and closure have already been completed. For the purpose of developing appropriate conclusions and recommendations, the sites have been divided into three groups, identified below, according to their status within the site investigation, remediation, and closure process:

- ▶ SWMUs and AOCs for which the site investigation and closure process is complete,
- ▶ previously closed SWMUs and AOCs for which further investigation has been requested, and
- ▶ SWMUs, AOCs, and other undesignated areas to be carried forward in the RFI/RI.

Table 2-1 provides a summary of the names, locations, and status of the SWMUs, AOCs, units, and undesignated areas.

2.2.4.1 INTERIM MEASURES

As part of the corrective action process, in 2004, DTSC determined that immediate action was necessary at the compressor station, as a precautionary measure, to ensure that chromium-contaminated groundwater does not reach the Colorado River. Interim Measures (IM) were instituted to protect the Colorado River. IMs are cleanup actions that are taken to protect public health and the environment while long-term solutions are being developed and evaluated. There have been three separate but related IMs at the compressor station since 2004 in response to the need to control the groundwater plume. IM-1, IM-2, and most recently IM-3, are collectively referred to as the IM. The IM currently consists of three steps: (1) groundwater extraction from the areas of groundwater containing Cr(VI) for hydraulic control in the Colorado River floodplain, (2) treatment of extracted groundwater in a groundwater treatment plant, and (3) reinjection of the treated groundwater back into the subsurface through injection wells. This treated groundwater meets the standards set by DTSC and the RWQCB.

AECOM Introduction	2-8	Topock Compressor Station Final Remedy DEIR California Department of Toxic Substances Control
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Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 4:51:37 PM

T What is the movement of groundwater in fractured bedrock at east ravine? Is it significantly faster? This is an false and misleading statement. What are you defining as the project area for this statement?

I1-12

Notices of exemption were prepared pursuant to CEQA for IM-2 (February 2004) and IM-3 (June 2004), which are available for review on the project website at <http://www.dtsc-topock.com/>. It was determined that the notice of exemption was the appropriate level of CEQA review for IM-2 and IM-3 because the project activities were necessary to prevent or mitigate an emergency situation wherein the waters of the Colorado River may be impacted with a hazardous constituent, chromium, and immediate action was necessary to contain and reverse the flow of groundwater toward the Colorado River.

2.2.5 ONGOING EVALUATION OF SOILS CONTAMINATION

In addition to groundwater contamination, investigation activities conducted to date within the project area indicate that contaminants have been released to soils through past management practices such as those associated with hazardous materials handling/disposal, waste discharges, spills, and leaks of cooling water and other fluids at the compressor station. Investigation and cleanup of contaminated soils associated with the long-term operation of the compressor station is being conducted under both RCRA and CERCLA. The characterization of soil contamination on and around the compressor station is preliminary and is based on information collected during the RFI/RI data collection process. The nature and extent of hazardous waste and constituent releases in soil in detail, is in the process of development and is expected to be completed in 2013.

To date, the following chemicals have been detected in several soil samples at elevated concentrations: various metals (including chromium and hexavalent chromium), dioxins/furans, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). Semi-volatile organic compounds have also been detected, but at lesser frequencies. Many of the highest contaminant concentrations are associated with waste materials within the Debris Ravine area (also known as AOC 4), which is located at the southern end of the compressor station on lands managed by DOI. To address the potential for imminent impacts to the downriver Havasu Wildlife Refuge property, DOI has directed PG&E to remediate portions of the Debris Ravine on an expedited schedule under a time-critical removal action pursuant to DOI's CERCLA authority. Additional soil samples will be collected at various SWMUs, AOCs, and undesignated areas to complete Volume 3 of the RFI/RI. Following completion of the soils investigation, risk assessments will be performed to estimate potential exposure levels, evaluate potential adverse effects of exposures, and estimate potential adverse human health and/or environmental effects based on carcinogenic, noncarcinogenic, and environmental risks. These assessments will determine whether contaminants are present at concentrations that pose unacceptable risk to human health and/or the environment. If it is determined that the presence of these contaminants represents an unacceptable risk, these investigations and assessments will form a basis for determining the geographic locations where risks must be controlled or eliminated through cleanup and/or removal.

DTSC originally planned to combine in a single remedy decision the groundwater and soil investigation and remediation, and to conduct both soil and groundwater evaluation and remediation simultaneously. By June 2007,^[1] it became apparent to DTSC that legal and technical impediments would delay the soils investigations and the subsequent development of a proposed remedy for any soil contamination.^[2] For instance, DTSC learned that certain aspects of the soils remediation project would require compliance with section 106 of the National Historic Preservation Act (NHPA), which is often a time-consuming process. Thus, at that time, DTSC decided that a single remedy decision for the two projects would not be feasible. Nevertheless, DTSC remained hopeful that it would be able to gather sufficient soil information to provide a program-level evaluation of the potential soil remediation along with the groundwater final remedy in a single environmental document under CEQA. For this reason, the May 2, 2008 release of the NOP referenced a single "final remedy" to address both soil and groundwater contamination at the station. However, delays in the soil investigations have continued in the time since DTSC issued the NOP and the lack of a full soil characterization has prevented the preparation of an evaluation of feasible remedies to address the soil contamination. DTSC anticipates that it will be able to begin evaluating a soils remedy in 2014.^[3] Because the extent of the soils contamination is not fully known and because feasible remedies have not been identified, inclusion of soils remediation in this EIR would involve a high degree of speculation. Such speculation is neither required under CEQA nor helpful in decision making.

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 5:01:52 PM

T Please explain in detail what are the specific "legal" and "technical" impediments that you reference is the cause for the delay in conducting the soils investigations and the subsequent development of a proposed remedy for any soil contamination? Please list them and identify who was responsible for the delays. You state that certain aspects of the soil remediation project would require compliance with section 106 of the NHPA which is often a time-consuming process. This is for soil remediation. The sentence before you state soils investigations? What is it? Is DTSC responsible for section 106 consultation? Who is?

I1-13

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/6/2010 5:05:02 PM

T The reference to delays in the Section 106 process is not a basis or justification to piece-meal the remedy or EIR process. Who was specifically responsible for delaying the Section 106 process? Did PG&E request to delay any portions of the soil investigation? If so, please provide a summary of that PG&E request and the basis PG&E used as justification for that request?

I1-14

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/6/2010 5:02:44 PM

T Can any of the soil contamination potentially migrate, leach and/or impact groundwater?

If the potential to impact groundwater from soil contamination is not know, a complete groundwater remedy can not be determined, nor the magnitude of the project. This is further evidence of piece-mealing the EIR and actions inconsistent with the initial NOP.

I1-15

¹ Since the issuance of the NOP, DTSC has publically discussed its efforts to keep the soils and groundwater remediation projects on parallel tracks, and its subsequent decision to separate the analyses of the groundwater remedy from the soils remedy. ² This information, for instance, was evident in the published project schedules. ³ The decision to select two formally separate remedies for groundwater and soil is reflected in the June 2007 project schedule and was presented at the Topock Consultative Work Group meeting held on June 20, 2007. At that time, DTSC still hoped that the projects would remain on relatively parallel tracks and could be evaluated in a single programmatic EIR. By the summer of 2008, however, the focus to select a final remedy for the restoration of the groundwater resource and protection of the Colorado River was intensified while the schedule for investigation of the soil contamination fell further behind.

In sum, at this time, due to limited soil contamination data, it is impossible to determine the extent of soil contamination at or surrounding the site, and thus even a preliminary determination of potential remediation needs are still undetermined. Therefore, this EIR could not feasibly analyze both the groundwater and soils remediation projects as envisioned during the release of the NOP in May 2008.

⁴ DTSC could delay moving forward with the groundwater remediation project, so that the groundwater and soils remediation projects could be analyzed in a single EIR. DTSC has determined, however, that it is not in the public interest to delay the groundwater remediation project until the soils remediation project is developed. The groundwater and soil remediation activities currently are on different schedules and tracks and will be evaluated in separate environmental documents. It is important to note that while it might have been more efficient administratively to pursue the two projects in tandem because of their geographic proximity and because of the commonality of stakeholders, these two projects are not dependent on one another for completion. The soils remediation project is not an expansion of the groundwater remediation project and will not change the nature or scope of the groundwater project. ⁵ In fact, the two projects involve different contaminants and distinct environmental risks; while Cr(IV) may be present in the soil as well as the groundwater, elevated concentrations of dioxins/furans, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH), as well as some semi-volatile organic compounds, have also been detected in the soils. Because of the nature of the contamination and contaminated substrate, the two projects would necessarily employ different remediation technologies on different schedules for different durations. Potential soil contamination cleanup activities in the future may prove to be a key component of the overall cleanup efforts at the compressor station, but would represent a separate project from the groundwater remediation project and would have independent utility. If further soils investigations indicate that soils remediation is suggested, future environmental review would be required before initiating any remediation of contaminated soils.

The remedial alternatives evaluated for groundwater are anticipated to be different from the alternatives to be evaluated for soil. The RFI/RI Volume 3 and associated risk assessment will complete the evaluation of soils, and will provide conclusions about remedial objectives, if any, associated with any potential soil contamination that might migrate to groundwater. While this evaluation is not complete, it is not anticipated that this evaluation will redefine the objectives of the groundwater remedy. Thus, this DEIR does not consider future soil remediation activities as part of the proposed project; however, for the purposes of full disclosure soil remediation activities are considered a reasonably foreseeable future project and considered as part of the cumulative impacts analysis in Chapter 6 of this DEIR.

Such division of remedial activities at the Topock site is common at remediation sites. Much emphasis has been placed in recent years on reforming EPA policies for remediation sites to phase site remediation programs to focus resources on the areas or pathways of highest concern (e.g., Corrective Action Advance Notice of Proposed Rulemaking, EPA Results-based Approaches and Tailored Oversight Guidance document (EPA 530-R-03- 012 September 2003).

Sequence number: 1
Author:
Subject: Highlight
Date: 7/7/2010 4:44:51 PM

T

Sequence number: 2
Author:
Subject: Comment on Text
Date: 7/6/2010 5:07:13 PM

T

When was the actual decision made to deviate from the information provided in the NOP? Who from DTSC actually made this decision? What was the administrative record document that was approved by DTSC? Who from DOI actually made this decision? Please provide a copy of DOI approval decision document. Once a decision was made why was the NOP not revised and publicly re-noticed?
Who was responsible for publishing the project schedule? Was it PG&E? Were comments received on the NOP? If so, what were the complete comments and the response to those comments?

I1-16

Sequence number: 3
Author:
Subject: Highlight
Date: 7/6/2010 5:18:11 PM

T

This is evidence of a significant defect in the NOP and EIR process. DTSC is incorrect when stating that the NOP was publically discussed after being issued. First, please provide documented evidence that the Topock Consultative Work Group is a public meeting that any member of the public may attend? Provide documentation that these meetings were properly noticed by posting agendas at the meeting place 72-hours in advance of the meeting and that the notice of public meeting was placed in the local newspapers and at other locations. 2. Please provide a copy of the agenda that demonstrates that this was a public meeting and where the agenda states that the public was allowed and had the opportunity to comment after each agenda item was presented? The public had an expectation that the NOP accurately described the anticipated extent of the project to be considered in the EIR. This is a bait-and-switch. You told the public one thing in the NOP but when the EIR comes out it is something different. Lead agencies as well as responsible, and trustee agencies relied on information presented in the NOP. This is a defect in the process. The NOP must be re-noticed with the correct information. This bait-and-switch is not good faith effort at full and complete disclosure by DTSC.
The NOP did not meet its intended function as a procedural device used to initiate interagency dialogue. Was the NOP posted for 30 days in the office of the county clerk of the county or counties in which the project was located? The NOP did not include a consistent description of the project as presented in the EIR. Therefore, the responding agencies were misled as to the extent of the actual project and comments may have been omitted.

I1-17

Sequence number: 4
Author:
Subject: Comment on Text
Date: 7/6/2010 5:10:53 PM

T

Why is it not in the public interest? Has DTSC and/or DOI determined that there is an immediate threat or danger to the Colorado River? If so please provide the documentation that supports this statement.
Is groundwater contamination currently entering the Colorado River? If so where and how much? Is the Interim Measures facility not able to maintain a landward groundwater gradient away from the Colorado River? Has PG&E requested a delay to conduct the soil investigation? We do not see any viable stated basis or rationale to bifurcate and piece-meal the groundwater and soil remedy as well as the EIR process. We do not see any rational basis or weight of evidence that supports this piece-meal remedy and EIR approach. A complete groundwater and soil remedy with associated EIR should be conducted together so that we completely understand what the complete project is in order to evaluate all the various impacts as a result of those activities. Also PG&E will be informed as to the complete magnitude and cost associated with the cleanup.

I1-18

Sequence number: 5
Author:
Subject: Comment on Text
Date: 7/6/2010 5:11:45 PM

T

What is incorrectly being proposed is a groundwater remedy for only one chemical Cr(IV) while other contaminants exist in groundwater and other contaminants may leach from the soil into groundwater. The proposed remedy is flawed and the evaluation of impacts in the EIR is defective since a complete groundwater remedy is not known.

I1-19

~~Comments from page 81 continued on next page~~

This approach is supported by the following legal precedence and directives:

- ▶ ^[1] “project” under CEQA is defined as the whole of an action which has the potential for resulting in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment (Public Resources Code Section 21065). In this case, the “whole of the action” does not include soils cleanup activities.
- ▶ ^[2] Currently, meaningful information is not available regarding the soil cleanup activities (*No Oil, Inc. v. City of Los Angeles* [1987] 196 Cal. App. 3d 223), and CEQA does not mandate that agencies engage “rank speculation as to possible future environmental consequences” of actions that may or may not occur in the future (*Laurel Heights Improvement Assn. v. Regents of University of California* [1988] 47 Cal.3d 376, 395).
- ▶ ^[3] Information about the soils contamination and the associated cleanup is not necessary to make an environmentally informed decision whether to proceed with the groundwater contamination cleanup (*No Oil, Inc. v. City of Los Angeles* [1987] 196 Cal. App. 3d 223).
- ▶ ^[4] The soils project is not a reasonably foreseeable consequence of the groundwater project, nor would the soils project change the scope or nature of the initial project (*Laurel Heights Improvement Assn. v. Regents of the University of California* [1988] 47 Cal.3d 376.) Rather the soils and groundwater projects, while geographically proximal, are separate distinct actions, and DTSC’s decisions on the groundwater project will not affect its decisions on the soils project, and vice versa. Thus, the soils cleanup appears independent of, and not a contemplated future part of the groundwater cleanup efforts (*Christward Ministry v. County of San Diego* [1993] 13 Cal. App. 4th 31; *Del Mar Terrace Conservancy, Inc. v. City Council* [1992] 10 Cal.App.4th 712).
- ▶ ^[5] CEQA Guidelines section 15165 provides that, “[w]here one project is one of several similar projects of a public agency, but is not deemed a part of a larger undertaking or a larger project, the agency may prepare one EIR for all projects, or one for each project, but shall in either case comment upon the cumulative effect.”
- ▶ ^[6] The EIR does consider the potential for the soils and groundwater remediation projects to result in cumulative impacts, the potential for such cumulative impacts is disclosed, and appropriate mitigation measures are identified.

2.3 AGENCY ROLES AND RESPONSIBILITIES

^[7] The CEQA Guidelines identify the lead agency as the public agency with the principal responsibility for carrying out or approving a project (14 California Code of Regulations Section 15367). DTSC is the CEQA lead agency for the proposed project because DTSC has the primary approval authority for the project. In addition to approving the final remedy, DTSC would approve the subsequent Corrective Measures Implementation Workplan, preliminary design, intermediate design (if needed), and final remedial design.

A number of other agencies in addition to DTSC will serve as Responsible and Trustee Agencies, pursuant to CEQA Guidelines Section 15381 and Section 15386, respectively. This DEIR provides environmental information to these and other public agencies, which may be required to grant approvals or otherwise coordinate with DTSC, PG&E, or other agencies as part of project implementation. For the purposes of CEQA, the term “responsible agency” includes all state and local public agencies other than the lead agency that have discretionary approval power over the project (14 California Code of Regulations Section 15381). “Trustee agencies” are state agencies that have jurisdiction by law over natural resources affected by the project and held in trust for the people of the state, such as the California Department of Fish and Game and the State Lands Commission (CEQA Guidelines Section 15386). Future discretionary approvals may include issuance of a permit, if not otherwise exempt as explained below, or other required action. Responsible agencies may consider and use the analysis provided in this DEIR to satisfy their responsibilities under CEQA, as they deem appropriate. Federal

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Sequence number: 1 Author: Subject: Comment on Text Date: 7/6/2010 5:20:00 PM	
<p>T Since the complete extent of the groundwater contamination is not know, the direct physical change to the environment or the reasonably foreseeable physical change as a result of the project is not know. Therefore, this EIR is deficient in its ability to know the defined limits of the project area as well as the potential direct and indirect impacts as well as potential cumulative impacts.</p>	I1-20
Sequence number: 2 Author: Subject: Comment on Text Date: 7/6/2010 5:20:54 PM	
<p>T The failure of DTSC/DOI to not direct PG&E to conduct the soil investigation as a result of PG&E's request to delay this investigation is not a legal basis to bifurcate and piece-meal the EIR process.</p>	I1-21
Sequence number: 3 Author: Subject: Comment on Text Date: 7/6/2010 5:21:51 PM	
<p>T The administrative record is clear that DTSC previously determined that information about soil contamination is necessary to make an environmentally informed decision. This is evidence by the NOP as well as other DTSC technical documents indicating the concern for leaching of soil contamination to potentially effect groundwater, in addition to directing PG&E to conduct the soil investigation.</p>	I1-22
Sequence number: 4 Author: Subject: Comment on Text Date: 7/6/2010 5:22:23 PM	
<p>T The administrative record is clear that the soils project is a reasonably foreseeable consequence of the groundwater project as documented in the administrative record.</p>	I1-23
Sequence number: 5 Author: Subject: Comment on Text Date: 7/6/2010 6:25:13 PM	
<p>T Since the complete project is not know it is impossible to evaluate or consider a potential cumulative effect.</p>	I1-24
Sequence number: 6 Author: Subject: Comment on Text Date: 7/6/2010 6:25:22 PM	
<p>T How does it actually do what you are stating such that anyone can make an informed decision?</p>	I1-25
Sequence number: 7 Author: Subject: Comment on Text Date: 7/6/2010 5:23:08 PM	
<p>T What is DTSC's CEQA authority in Arizona? How will DTSC enforce mitigation measures in Arizona? Is this a joint CEQA/NEPA document? If so were noticing requirements set forth in the NEPA regulations (40 CFR 1500.1 et seq) followed?</p>	I1-26

Lake Havasu City, Arizona:

Lake Havasu City Aquatic Center
 100 Park Avenue
 Lake Havasu City, AZ 86403
 Wednesday, June 23, 2010
 Open House—5:30 p.m. to 7:00 p.m.
 Public Hearing—7:00 p.m. to 8:30 p.m.

Needles, California

Needles High School
 1600 Washington Street
 Needles, CA 92363
 Tuesday, June 29, 2010
 Open House—5:00 p.m. to 6:30 p.m.
 Public Hearing—6:30 p.m. to 8:00 p.m.

Please submit your written comments on the DEIR, with the subject line “Topock DEIR Comments,” postmarked or dated (for e-mails) no later than July 19, 2010, to:

Aaron Yue
 Project Manager
 California Department of Toxic Substances Control
 5796 Corporate Avenue
 Cypress, CA 90630
 ayue@dtsc.ca.gov
 Phone: 714-484-5439
 Fax No.: 714-484-5411

2.5 SCOPE OF THIS ENVIRONMENTAL IMPACT REPORT

The scope of the analysis contained within this DEIR is focused on the environmental resource areas that could be affected by construction or operation of the proposed project. The DEIR therefore addresses the following environmental issues:

- ▶ aesthetics
- ▶ air quality
- ▶ biological resources
- ▶ cultural resources
- ▶ geology and soils
- ▶ hazardous materials
- ▶ hydrology and water quality
- ▶ land use and planning
- ▶ noise
- ▶ transportation
- ▶ utilities and service systems
- ▶ water supply

^[1] was determined that several issue areas would not be affected by implementation of the proposed project based on a review of the NOP, public comments received on the NOP, comments from the public scoping meetings, and review of existing information. These issue areas include agricultural resources, mineral resources, population and housing, public services, and recreation. Section 5.3 of this DEIR provides a summary of those issue areas for which a detailed analysis is not included and the basis for those determinations.

2.6 DEIR ORGANIZATION

This DEIR is organized into chapters, as identified and briefly described below. Chapters are further divided into sections (e.g., Section 4.2, “Air Quality”).

Chapter 1, “Summary”: This chapter presents a summary of the proposed project activities and the potential environmental impacts. It describes mitigation measures that would be implemented and level of significance after mitigation (as fully described in Chapter 4). It also provides a summary of alternatives to the proposed project, a summary of known controversial issues, and issues to be resolved.

AECOM
 Introduction

2-18

Topock Compressor Station Final Remedy DEIR
 California Department of Toxic Substances Control

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 6:26:17 PM

1 Who provided public comments? What were the comments and what were the responses to those comments?

11-27

Park in California (Exhibits 3-1 and 3-2). The compressor station is approximately one-half mile west of the community of Topock, Arizona, which is situated directly across the Colorado River and is 5 miles south of Golden Shores, Arizona. The compressor station is approximately 1,500 feet west of the Colorado River and less than 1 mile south of Interstate 40 (I-40). The compressor station is within a 66.8-acre parcel of land owned by the Pacific Gas and Electric Company (PG&E). The area of the compressor station that is developed is fenced and encompasses approximately 15 acres. As shown in Exhibit 3-2, the area within which corrective action activities would occur (the “project area”) includes 40.3 acres of the 66.8-acre PG&E-owned parcel as well the immediate surrounding area that could be affected by construction, operation, and/or decommissioning activities associated with the proposed project. This project area encompasses 779.2 acres. The lands adjoining the PG&E parcel are owned and/or managed by a number of government agencies and private entities, including the Havasu National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service; lands managed by the U.S. Department of Interior, Bureau of Land Management; U.S. Bureau of Reclamation managed by the U.S. Bureau of Land Management; the Burlington Northern Santa Fe Railway (BNSF); California Department of Transportation–leased land; lands owned by the Fort Mojave Indian Tribe; and privately owned lands. Exhibit 3-3 depicts the division of land ownership within the project area and the horizontal limits of the contaminated groundwater plume.

3.3 PROJECT PURPOSE

Past activities at the compressor station have resulted in contamination of groundwater with Cr(VI), Cr(T), molybdenum, selenium, and nitrates, which have the potential to affect human health and the environment. Protection of California’s groundwater resources, including the Colorado River, which is adjacent to the contaminated groundwater plume, is one of DTSC’s highest priorities. DTSC has directed PG&E to take actions, which include operation of the existing IM-3 Facility, to control the groundwater gradient in the floodplain area of the site from the compressor station to protect the Colorado River (see Section 2.2.5). This measure has proved successful to date in preventing contaminated groundwater from reaching the Colorado River. However, further actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA) corrective action process, which is a process designed to evaluate the nature and extent of releases of hazardous substances and implement appropriate protective measures, are needed to ensure the long- term effectiveness and protection of human health and the environment. Thus further cleanup actions are needed to treat the contaminated groundwater plume.

The long-term cleanup options are summarized in the Final CMS/FS (CH2M Hill 2009, included in Appendix CMS of this EIR). The Final CMS/FS was evaluated by stakeholders, agencies, and tribal governments interested in the site. The CMS/FS identifies the cleanup objectives, evaluates remedial alternatives, and provides the basis for selecting a recommended alternative to address the defined objectives for the remedial action. As the lead agency under the RCRA, DTSC reviewed the alternatives considered in the Final CMS/FS and agrees with PG&E’s recommendation in the Final CMS/FS that Alternative E—In Situ Treatment with Freshwater Flushing provides the best balance within the regulatory selection criteria framework identified in the Final CMS/FS and the potential site impacts identified within this EIR. The Alternative E—In Situ Treatment with Freshwater Flushing remedy is, therefore, carried forward in the statement of basis under the RCRA corrective action process and for analysis as the proposed project in this EIR.

3.4 PROJECT OBJECTIVES

The objectives of this project are defined based on the conclusions of the Ground Water Human Health and Ecological Risk Assessment and identification of applicable or relevant and appropriate requirements (ARARs). The remedial action objectives (RAOs) for the project are intended to provide a general description of the cleanup objectives and to provide the basis for the development of site-specific remediation goals. In accordance with CERCLA guidance, RAOs specify the COPCs, the exposure routes and receptors, and an acceptable contaminant concentration for each exposure pathway (EPA 1988a and 1988b, cited in CH2M Hill 2009:3-7, included in Appendix CMS of this EIR). Protectiveness can be achieved by limiting or eliminating the exposure pathway,

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T Who previously owned this land? When and how did the Fort Mojave Indian Tribe (FMIT) obtain this land from PG&E? Was it a gift of land from PG&E to FMIT? How much did FMIT pay for this land? Was there any agreement with FMIT that in exchange for this land that PG&E would recommend a reduced or lessor cleanup of the contamination in consideration for the land transfer?

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reducing or eliminating chemical concentrations, or both. Guidance from the RCRA corrective action describes goals for final cleanup both in terms of protecting human health and the environment as well as performance standards that must also include controlling future sources of releases (EPA 2004, cited in CH2M Hill 2009:3-7, included in Appendix CMS of this EIR). Further, California State Water Board Resolution 92-49 requires the selection of a remedial alternative that would achieve compliance with RAOs within a reasonable timeframe.

The primary objective of the proposed project is to clean up the groundwater contamination related to the historical release of chemicals into Bat Cave Wash and the East Ravine near the compressor station in a manner that would be consistent with all applicable regulatory requirements and to do so within a reasonable period of time when compared between viable alternatives. These objectives establish specific cleanup goals for Cr(VI) and Cr(T), and address the other identified COPCs (molybdenum, selenium, and nitrates) through monitoring and institutional controls. The proposed project RAOs for groundwater are to:

- ▶ prevent ingestion of groundwater as a potable water source having Cr(VI) in excess of the regional background concentration of 32 micrograms per liter (µg/l) Cr(VI);
- ▶ prevent or minimize migration of Cr(T) and Cr(VI) in groundwater to ensure concentrations in surface waters do not exceed water quality standards that support the designated beneficial uses of the Colorado River [11 µg/l Cr(VI)];
- ▶ reduce the mass of Cr(T) and Cr(VI) in groundwater at the project area to comply with ARARs,¹ which would be achieved through the cleanup goal of 32 µg/l of Cr(VI); and
- ▶ ensure that the geographic location of the target remediation area (contaminated groundwater plume) does not permanently expand following completion of the remedial action.

3.5 DESCRIPTION OF THE PROPOSED PROJECT

This section describes the proposed project, or the final remedy, that would be implemented at the compressor station in order to meet the objectives stated above. This project description is consistent with the description contained in the statement of basis and is based largely on information contained within the Final CMS/FS (CH2M Hill 2009, included in Appendix CMS of this EIR). The Final CMS/FS examined nine remedy alternatives. This project description is based on what is identified in the Final CMS/FS as Alternative E—In Situ Treatment with Freshwater Flushing.

¹ Specifically, the proposed project involves flushing the contaminated groundwater plume through an in situ reactive zone (IRZ) and installing extraction wells near the Colorado River to hydraulically control the plume, accelerate cleanup of the groundwater within the floodplain, and flush the groundwater with elevated Cr(VI) through the IRZ. The proposed project consists of five main elements: (1) an IRZ zone along a portion of National Trails Highway, (2) extraction wells near the Colorado River that would pump approximately 640 gallons per minute (gpm) of contaminated groundwater that would be amended with organic carbon before reinjection in the western end of the plume, (3) approximately 500 gpm of freshwater that would be injected west of the plume to accelerate groundwater flow, (4) institutional controls on groundwater use, and (5) monitoring. The project description is divided into sequential phases of project implementation: construction, operations and maintenance, long-term monitoring, and decommissioning. It is estimated that the duration of these phases is 3 years, 29 years (could be up to 110 years), 10 years, and 2 years, respectively.

¹ CERCLA Section 121 requires cleanups to meet “ARARs”: any “legally applicable or relevant and appropriate standard, requirement, criteria or limitation” that has been promulgated under federal or state environmental laws. The ARARs include such things as the federal and state “Safe Drinking Water Act” and the Solid Waste Control Act’s land disposal restrictions.

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T Will this remediation method move any portion of the mass of the groundwater plume closer to the Colorado River? If so how and how much?

Will this method also move other contaminants contained in groundwater closer to the Colorado River? If so what are they and where will they move to? How will this method treat the other contaminants besides CR(6)? Where will these other contaminants end up? Will they eventually enter the Colorado River?

The groundwater gradient is currently away from the Colorado River in order to protect it. What will be the direction of groundwater gradient when this process starts?

When the pumping begins what is the quality of the water pumped? Will it be contaminated? Where will the initial contaminated go. Injecting any contaminated water into the aquifer is not acceptable. Will other contaminants besides CR(VI) be removed from the aquifer? Will these other contaminants be allowed to be injected into the aquifer? How long will it take before clean water reaches the extraction wells and the extraction wells pump clean water?

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of well size would be between 4 and 12 inches in diameter. As discussed for IRZ wells, not all new extraction and injection wells would need to be constructed at the outset of the remedy, but could be constructed as needed during the operation and maintenance period to optimize the cleanup process.

Reductant Storage and Associated Facilities

Up to 240,000 gallons per year of reductant chemicals would be used for the remediation. The reductant for the in situ portion of the proposed project would be stored in aboveground tanks, which would be located within the defined project area shown in Exhibit 3-4, ideally near the injection wells for efficient management of the material. Other likely locations for reductant storage facilities are at the compressor station, existing monitoring well 20 bench (MW-20 bench), which is adjacent to the east side of National Trails Highway in the project area (see Exhibit 1-1), or near the existing IM-3 Facility. The maximum footprint of the area in which the tanks, control buildings, and associated equipment would be located is estimated to be a maximum of 35,000 square feet, which may consist of facilities at multiple locations. Tanks and equipment may be located within a permanent enclosed structure. Alternatively, final design of the project may be based on a mobile delivery system involving a central reductant storage area with one or more concrete or steel tanks built in the project area, ideally at the compressor station within the existing fence line. The tanks would be sized for the demand and are expected to have a storage capacity of up to 100,000 gallons. If multiple tanks are necessary, each tank would be approximately 12 feet wide, 24 feet long, and up to 15 feet tall, with a capacity of 24,000 gallons. The storage or delivery areas would have fencing and lighting for safety and security purposes.

3.5.1.2 FRESHWATER FLUSHING

Freshwater flushing involves using injection wells to introduce clean water to the aquifer. These injection wells may be located beyond the margin of the plume (but within the defined project area shown in Exhibit 3-4) and would contribute to flushing groundwater through the IRZ. These injection wells may be located in bedrock or along the leading edges of the plume to control movement of groundwater. The injection of freshwater at an assumed rate of approximately 500 gpm would induce a hydraulic gradient to accelerate the movement of the contaminated groundwater through the IRZ, where it would be treated. In addition to the 500 gpm of freshwater, 640 gpm of treated groundwater extracted from the plume would be reinjected. This combined freshwater and treated groundwater injection would also serve to constrain westward movement of the carbon amended water from the IRZ and flush much of this water eastward toward the extraction wells.

¹ Freshwater injection would involve piping water in from an off-site source. Currently, the compressor station receives freshwater from two wells located on the Arizona side of the Colorado River through a Lower Colorado Water Supply Project subcontract with the City of Needles. The water is pumped across the Colorado River through piping mounted on a bridge and then through an aboveground pipeline to two aboveground water tanks located south of the compressor station, where it is stored for use in the operation of the compressor station on an as-needed basis. Freshwater for the flushing portion of the proposed project would come from PG&E's existing Lower Colorado Water Supply Subcontract entitlements and would be pumped either from new or existing Arizona wells, from new wells in California north of the compressor station, or from a new surface water intake at or near the Colorado River (as shown in Exhibit 3-4). Freshwater would be transported by pipeline to injection wells located north, west, and/or south of the plume. Any water pipelines that may be needed to deliver water from freshwater wells and which may extend through or adjacent to the communities of Moabi Regional Park and Topock would be built underground and primarily within existing utility corridors or roadways. The source of freshwater may change during the operation and maintenance period of the remedy; not all freshwater supply structures (wells, intakes, pipelines) would need to be constructed at the outset of the remedy, but could be constructed as needed during the operation and maintenance period. To accommodate the flow volume that would be required for remediation, new pipelines would likely need to be constructed connecting the water supply with the injection wells.

All off-site freshwater delivered to the site may need to be adjusted to match the water quality at the injection point to prevent water fouling. This could require minor pH adjustments to make the water chemically compatible

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The EIR is defective because it fails to consult and evaluate the impacts with public and private water systems agencies. The EIR fails to identify who will provide water service for the project and ask those suppliers whether water demand associated with the proposed project has been included and accessed. How has this EIR and DTSC addresses water supply issues? How will this pumping impact water quality?

I1-30

3.5.4.3 DECOMMISSIONING OF THE FRESHWATER FLUSHING

While most facilities would be expected to be decommissioned following the completion of the remedial action, it is possible that water supply wells or the surface water intake structure may not be decommissioned and that it could be transferred to another use.

3.5.4.4 WATER CONVEYANCE, UTILITIES, AND ROADWAYS

Pipelines would be decontaminated as appropriate. Aboveground piping would be removed and either reused or disposed off-site as scrap material. Subsurface pipelines would likely be abandoned in place following decontamination. Decontamination wash water would be treated on-site or disposed off-site as described above. Electrical utilities would be disconnected from their service points and underground conduit would be left in place. Electrical or piping vaults would be excavated and removed, with the piping or conduit left in place. The excavation would be backfilled. Aboveground conduit would be removed with the piping. Electrical cable would be disposed of or sold for salvage value. Waste materials described above would be disposed of at a permitted off-site disposal facility located within approximately 200 miles of the site.

As wells and other infrastructure are removed and it is determined that access roads are no longer necessary, roads would be decommissioned from further use. The efforts involved in decommissioning would be dependent on the type of road (could be paved with asphalt, covered in gravel, or left unpaved) and the location of road (such as in previously disturbed areas or areas that were in a more natural state prior to the proposed project). Areas that are decommissioned from further use as roads would be restored back to preproject conditions. After deconstruction and decommissioning of the facilities, the areas would be restored using decompaction and grading techniques designed to decrease erosion and accelerate revegetation of native species or as directed.

3.5.4.5 DECOMMISSIONING OF IM-3

¹IM-3 facilities include extraction wells, injection wells, pipelines, an aboveground treatment plant and brine storage and loading facilities. IM-3 facilities that are not incorporated into the final remedial action are expected to be decommissioned following the determination that the facilities are not needed to meet remedial goals. Methodologies for decommissioning are described below.

The two interim measure injection wells (IW-02 and IW-03) and four extraction wells (PE-1, TW-2D, TW-2S, and TW-3D) would be decommissioned using similar practices as described for well decommissioning as described above. Pipelines would be decontaminated as appropriate. Aboveground piping from the treatment plant to the injection well field would be removed and either reused or disposed off-site as scrap material. Subsurface pipelines from the extraction wells to the treatment plant would likely be abandoned in place following decontamination. Decontamination wash water would be treated on-site or disposed off-site as appropriate. Electrical utilities would be disconnected from their service points and underground conduit left in place. Aboveground conduit would be removed with the piping. Electrical cable would be disposed of or sold for salvage value.

Decommissioning of the existing IM-3 Facility and brine storage and loading facilities would include removing the exterior structure, interior treatment equipment, and associated tanks and facilities from the site. Related process piping, conduit, incandescent lights, electrical trays, concrete, road surfacing, and sunshade metal cladding would be removed and either reused or transported to a local nonhazardous waste landfill. Other components such as the control trailer, sunshade steel supports, tanks, pumps, polymer system, microfilter system, reverse osmosis system, mixers, control panels, switchgears, panels, and generators are expected to be removed and either sold for salvage value or stored at the compressor station as shelf spares.

Similar to well decommissioning, the decommissioning of the treatment plant would generate solid and liquid waste. Waste streams would be identified and evaluated prior to decommissioning. This effort would involve

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T Decommissioning of the IM3 treatment system is premature and should not be considered until such time as a complete remedy (soil and groundwater) is approved and it is determined that the proposed remedy is meeting objectives and the Colorado River can not be potentially impacted.

I1-31

hunting-and-gathering lifestyle, and eventually resulting in intensive agriculture with irrigation strategies and substantial dietary shifts. Archaeological evidence of this shift is seen in the establishment of increased use of storage pits, increased population, and domesticated varieties of plants, including corn, becoming more common in the assemblage over time.

Discovery of Patayan sites near the project area have not typically resulted in a clear subsistence history. However, one site identified by Geib and Keller in 2002 (CH2M Hill 2004:3-6), Bighorn Cave, suggests a rich plant-based diet that complemented hunting and gathering expeditions. The earliest components of the Bighorn Cave site include agave parts, cactus stems, screwbean mesquite pods, juniper bark, and goosefoot or pigweed greens. Domesticated corn kernels, squash rinds, and a bean were also found, although in small quantities in the earliest components of the site (CH2M Hill 2004:3-6).

Population increases during the Patayan II and III phases occurred in conjunction with increases in cultural complexity and differentiation, including the adoption of some ceramic decorative styles (recurved rims, stucco finishes) and the abandonment of others (incised decoration). Increased complexity and regional differentiation appears to be related to increases in migration of people from the Lake Cahuilla area sometime near 600 B.P., with ceramic traditions such as Colorado Buff, Palomas Buff, and Parker Buff found at Patayan sites and throughout the region (CH2M Hill 2004:3-6).

Ethnographic Setting

Several culturally distinct Native American groups have long-standing historical and cultural ties to the project area and the surrounding region. The following section contains ethnographic information regarding these cultural groups, including the Mojave, Chemehuevi, Hualapai, Quechan, Cocopah, Halchidoma, Maricopa, Serrano, Cahuilla, Yavapai, and Havasupai peoples.

Mojave

The Mojave, or Aha Makav, are a Yuman-speaking people whose territory, according to the ethnographic literature, included both riverine and inland areas; their riverine settlement area was mainly north of the Bill Williams River up to the present Nevada border. This main area of Mojave occupation extended on both sides of the lower Colorado River from south of Davis Dam to Topock (Stewart 1983:55). At one time, however, they also occupied Cottonwood Island farther to the north, and the Chemehuevi and Colorado valleys to the south (Stewart 1969:257–276). The historical record indicates that the Mojave were encountered by the Juan de Onate Spanish expedition as far south as the present Colorado River Indian Reservation in 1604 (Stewart 1969:257-276) and that they intermittently controlled areas as far south as Palo Verde valley. Sherer (1965:5) describes their settlement area thusly:

Their river holdings stretched from Black Canyon, where the tall pillars of First House of *Mutavilya* loomed above the river, past *Avi kwame* or Spirit Mountain, the center of spiritual things, to the Quechan Valley, where the lands of the Indians began. Translated into present landmarks, their lands began in the north at Hoover Dam and ended about one hundred miles below Parker Dam. Their tribal name was *Aha macave*, meaning the people who lived along the water (the river).

In addition to the Mojave occupation of the river, there are ethnographic accounts and archaeological evidence that groups of Mojave also occupied interior regions in both California and Arizona for extended periods of time. Habitation patterns and types during the ethnographic past typically consisted of flat-topped shade structures during the summer months and low, rectangular, sand-covered structures during the winter months. The roofs were typically covered with arrowweed thatch, upon which a thick layer of muddy sand was created for insulation (Kroeber 1925:731–735).

Subsistence for the Mojave was dependent partially on agriculture, with crops such as maize, tepary beans, pumpkins, and melons forming the foundation of their diet. Maize was by far the most principal of all the crops,

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TWho conducted and prepared the ethnographic information contained in this section? How does this information relate to the requirements in the IM3 MOU mitigation measures that PG&E was required to prepare an ethnographic study? Did any Tribal entity request to PG&E, DTSC, DOI or any other agency that they be allowed to prepare an ethnographic study for purposes of this EIR in order to present information on their Tribal beliefs? What was the decision regarding any such request? Was PG&E ask by any Tribe to fund such a study? Did PG&E agree to fund such a study? Did DTSC provide any specific direction to PG&E to fund any requested Tribal ethnographic study? Previously the Interim Measures 3 Memorandum of Understanding (MOU) identified mitigation measures that were required of PG&E. What was the effective date of the MOU? What were the required mitigation measures? What has been accomplished related to these required mitigation measures by PG&E? Who was responsible to ensure that these required mitigation measures were enforced? Was an ethnographic study a required mitigation measure? Why has it not been completed? This is documented evidence that demonstrates PG&E's lack of regard for complying with agreement terms and required mitigation measures. Therefore, PG&E can not be trusted to fulfill any future requirements related to mitigation measures or any other requirement. All the requirements of the previous MOU must be completed before the EIR can move forward. To ignore these requirements is a serious and significant deficiency of this EIR.

11-32

along with a list of Native American tribes, communities, groups, organizations, and individuals with historical ties to the area that should be involved in the process. The NAHC replied on October 18, 2007 that a search of the Sacred Lands File failed to indicate the presence of Native American cultural resources in the area. The NAHC also provided a list of 10 tribal contacts that may have knowledge of cultural resources in the project area. This NAHC tribal contact list was expanded to 13 based on prior experience in the region and ongoing existing tribal interest in other compressor station projects.

On February 15, 2008, a letter was mailed to each of the Native American tribal contacts informing them of the proposed project. The letter included a brief project description, project location and vicinity maps, a copy of the NAHC tribal contacts who received the letter, and a response form soliciting feedback. Follow-up calls to each tribal representative were completed by DTSC staff to ensure receipt of the contact letter and to solicit comments directly. In the instances that phone calls were unsuccessful, a follow-up e-mail was sent to the tribal representative.

At the beginning of the Notice of Preparation (NOP) process for this EIR, members of the Native American community were invited to scoping meetings held for purposes of assisting DTSC in determining the scope and content of the environmental document. A series of five scoping meetings were held during which oral and/or written comments were submitted. Written comments to DTSC were also collected throughout the NOP commenting period, including written comments from Native Americans. Table 4.4-2 outlines the tribal concerns, both oral and written, expressed regarding cultural resources that emerged during the NOP process.

Following the NOP process, DTSC and its consultants prepared and implemented a separate Native American Communication Plan (NACP), due in large part to traditional cultural concerns about potential impacts on the Topock Maze (a large geoglyph in the area with substantial cultural significance to some tribal members; see below for full description of this feature), the Colorado River, and the surrounding landscape. The NACP was intended to inform Native American tribal representatives about the EIR process and provide them with adequate opportunity beyond the NOP process to comment. The NACP was also meant to provide a forum to elicit sensitive and confidential information as part of the identification and evaluation of cultural resources for the EIR. Finally, the NACP provided the opportunity for tribal representatives to offer input into the evaluation of potential project impacts, cumulative impacts, and possible mitigation measures. Tribes included in the NACP were those identified early in the EIR process by the NAHC and other nearby tribes that were known historically to have concerns about the Topock region and the Colorado River. Exhibit 4.4-2 shows the various Native American tribes contacted through the NACP in relation to the proposed project area. The following sections briefly describe the communications among DTSC, its subconsultants, and the tribes as part of the NACP process, including a summary of project concerns.

Chemehuevi Indian Tribe

The chairman of the Chemehuevi Indian Tribe expressed that the tribe does not have any cultural resource concerns in the project area. However, the tribe does have pronounced water-quality concerns in regard to the Colorado River and possible contamination from the groundwater plume. As the Chemehuevi reservation and riverside resort casino are downriver of the project area and contaminated groundwater plume, the tribe believes that an unsuccessful remediation of the groundwater plume may result in socioeconomic and environmental impacts on the tribe.

Cocopah Indian Tribe

The vice chairman of the Cocopah Indian Tribe expressed that the Colorado River is an important cultural element to all tribes along the river, and the region has been occupied and utilized by Yuman-speaking tribes throughout history. Equal in importance to the river, however, are the cultural resources in the surrounding landscape, which the tribes consider irreplaceable and unique to the region. The tribe has great concern over the destruction of cultural resources in the area and believes that the preservation of a feature known as the Topock

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Subject: Comment on Text

Date: 7/7/2010 10:57:43 AM

TA distinction needs to be made that identifies and defines what is considered an actual Tribal government concern for the administrative record. An individual tribal member who may provide a comment is most likely not be speaking on behalf of the Tribal government and the Tribal members. Only the Tribal council can provide and present Tribal concerns. This demonstrates the lack of understanding that the author of this DEIR has in relation to the understanding of what is consider an individual concern related to what is considered a Tribal government concern. The author further takes these individual concerns and inappropriately frames them as Tribal concerns when in fact they are not. The author inappropriately attempts to use this limited undocumented and unverified information as a basis to support PG&E's desire to limit the overall extent of the remedial activities. What Tribal document supports the reference to these concerns? If none exists then they need to be documented and treated as general individual stakeholder concerns and not Tribal concerns and should be listed and documented as such.

I1-33

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 10:59:59 AM

TPlease identify the specific individuals that have expressed this concern and their tribal affiliation. What was the specific cultural significance that that was provided by the Tribal Government that documents this significance by the Tribal government and their members?

I1-34

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 10:56:32 AM

THow were these Tribal representatives determined to be actually authorized to speak, represent, and provide information on behalf of the Tribal governments. If an individual US citizen states to you that he/she is speaking on behalf of the US Government would you require some documentation and authorization that they actually represent and speak for the US Government? If an individual from a foreign country stated that they represent their country, would you require and confirmation? Were any authorized governmental resolutions presented by any Tribes?

I1-35

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 10:56:24 AM

TFor Exhibit 4-4-2 Please provide a mileage radius circles originating form the source of the contamination so that we can understand how close each Tribes physical Tribal land is related to the contamination. Please identify what Tribes are upstream? What Tribes are downstream?
Please provide on the map information on the total number of Tribal members enrolled in each Tribe and currently living on the reservation at the location referenced. Please provide on the map information on the total number of acres of land that each Tribe has.

I1-36

Table 4.4-2 Summary of Cultural Resources Concerns Communicated During the NOP Process	
Tribal Entity	Comment
Colorado River Indian Tribes	The tribe is in the process of preparing an ethnographic study and requests updates as to the EIR schedule so that information from the ethnographic study can be incorporated. Additional questions were posed by the tribe through its attorney. ¹ See Letter to Aaron Yue, DTSC, from Greg deBie, Deputy Attorney General, CRIT [June 13, 2008].
Fort Mojave Indian Tribe	<p>The Mojave people are affiliated deeply with the land, air, water and all living things within the region. The protection of the Colorado River and sacred land areas are the primary concerns to the tribe. The EIR should recognize the tribe's strong and continuing cultural affiliation to the area.</p> <p>² The EIR should include a thorough cultural resources technical report and ethnographic study.²</p> <p>The area of the proposed project is critical to the beliefs, especially those beliefs related to the afterlife, and the area should be treated with respect and acknowledged as sacred despite evident ground disturbance in the area.</p> <p>The EIR should contain an honest assessment of the cumulative past, current, and planned impacts on the sacred area, which is considered to be a cultural and ethnographic landscape by the Tribe.</p> <p>Regulatory agencies are required under federal law and the recent settlement agreement to consult with the tribe.</p> <p>The tribe will be hosting a forum for tribal members to discuss the project. The tribe would like the comments to be incorporated into the NOP process and to inform the EIR.</p> <p>All efforts must be made to avoid and minimize impacts on the cultural and spiritual values the tribe ascribes to the landscape, air, and water subject to effect.</p> <p>Cultural resource management must fully consider the cultural value attributed by the tribe to the entire landscape and its constituent parts, and not focus on the research value of specific sites.</p> <p>Residual data gaps may be acceptable and decisions regarding the need for additional data acquisition should be balanced against further impacts on the sacred area and legal obligations to prevent or minimize such impacts.</p> <p>All efforts must be made to correct the damage that has already been sustained and the tribe must be consulted on such matters.</p> <p>The EIR should be consistent with the settlement agreement in <i>Fort Mojave Indian Tribe v. Department of Toxic Substances Control, et al.</i>, Sacramento Superior Court Case No. 05CS00437.</p> <p>The EIR must include a consideration of the entire Topock area as a traditional cultural property and determine its eligibility for the California Register of Historical Places and the National Register of Historic Places.</p> <p>The project must be consistent with, and the EIR must fully evaluate, Public Resources Code Section 5097.97 on project design and impacts on both state and federal lands.</p> <p>Consultation between DTSC, its consultants, and the tribe should occur regarding each and every alternative prior to the finalization of the EIR, as different alternatives may affect cultural resources differently.</p>
Morongo Band of Mission Indians	<p>If human remains are encountered during grading and other construction excavation, work in the immediate vicinity shall cease and the county coroner shall be contacted pursuant to State Health and Safety Code Section 7050.5.</p> <p>In the event that Native American cultural resources are discovered during the project development/construction, all work in the immediate vicinity of the find shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find.</p> <p>If significant Native American cultural resources are discovered, for which a treatment plan must be prepared, the developer shall contact the Morongo Band of Mission Indians. If requested by the tribe, the developer shall, in good faith, consult on the discovery and its disposition.</p>
<p>Notes: DTSC = California Department of Toxic Substances Control, NOP = notice of preparation. Source: Data compiled by AECOM in 2009.</p>	

² The Fort Mojave Indian Tribe later recommended that an ethnographic study not be conducted (FMIT letter to Arizona SHPO, August 17, 2009).

Sequence number: 1

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Subject: Comment on Text

Date: 7/7/2010 11:03:38 AM

T Why are the comments of this Tribe marginalize and the reader is referred to a corresponding reference when the statements from the FMIT are given more weight and detailed presentation and discussion in this section. This is evidence of addressing the concerns of only specific individuals at the FMIT while attempting to reduce the concerns of other Tribes. Why is DTSC and DOI allowing this to occur? All comments related to the NOP should be presented equally, and a determination made if they represents the views of the Tribe or the views of individuals. It is incorrect to assume that statements by individuals represent the views of the Tribe.

I1-37

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 11:18:29 AM

T Since an ethnographic study would be a significant document that would assist DTSC/DOI in understanding and definition of the complete religious, spiritual, and cultural history of the area, what was the reason that the FMIT did not want to conduct an ethnographic study? Was this a formal request by Tribal Council? or an individual or group that had a vested interests in limiting the preparation of documented factual verifiable information? What was the relation of this request to the FMIT settlement agreement? Was this action before or after the date of the settlement agreement and the proposed gift of land to FMIT?

I1-38

Is any decision regarding the remedy or the evaluation of potential direct and/or indirect impacts related to Tribal religious or spiritual concerns being considered or evaluated by DTSC and/or DOI in the EIR or decision making process?

What is the basis under CEQA for the evaluation of religious and spiritual concerns?

I1-39

What is the defined extent of the religious and spiritual area that was identified and is being considered by DTSC and DOI and considered part of the Project area?

By conducting a complete ethnographic study DTSC and DOI would be able to evaluate if in fact the Topock Maze is or is not a religious and spiritual significant relate to historical and current practices of Mohave. To allow a few individuals to invent Mohave cultural traditions would not be appropriate.

I1-40

visited and described for purposes of the EIR. The field trip began with a visit to Spirit Mountain and ended with a visit to Locus A of the Topock Maze.

¹According to Fort Mojave Indian Tribe representatives, the Topock Maze is the area where deceased spirits go to pass on to the next world. The Maze, which is an array of windrows, is not considered to be a true Maze with an entrance and exit, but is represented as a place where a final test of character for a deceased spirit occurs. There is a belief that the remaining parts of the Topock Maze are part of a larger system of cultural sites that once existed that were important areas for rituals and celebrations. For tribal members, the Topock Maze is more than an archaeological site, as it is representative of larger, intangible cultural beliefs.²In example given by one tribal member likened the Topock Maze to Arlington National Cemetery, with both areas serving not only as the final resting place of those who have passed on, but also a symbolic image of honor, sacrifice, and shared history.

The Fort Mojave Indian Tribe also expressed a deep cultural connection to the Colorado River and the water in the area. It is widely noted that the Mojave term for themselves, the AhaMaKav, means “People of the Water,” which suggests a strong connection by itself. Tribal representatives also noted that the linguistic part “MaKav” is also used in the term for “diaper” and has a connotation similar to “swaddle,” suggesting that “People Swaddled by Water” could be a more literal translation of AhaMaKav. This is an important distinction because it suggests a more nuanced connection between the Mojave people and the Colorado River. Aside from being a people in close proximity to the river, the Mojave believe that they are protected and secured by the river, as it provides everything for them and is a constant, reliable force in the Mojave culture as a source of water and nourishment.

In addition to the field trip described above, the Fort Mojave Indian Tribe has met and spoken with members of the NACP team on a number of occasions over the course of the CEQA process. During these confidential conversations, as well through comments submitted to DTSC on the CMS/FS, representatives of the Fort Mojave Indian Tribe expressed concerns about cultural resources. Generally, the Fort Mojave Indian Tribe believes that the area surrounding the compressor station, the Topock Maze, and the entire surrounding landscape are of paramount importance to the tribe. The Fort Mojave Indian Tribe notes that the cultural resources of importance to the tribe not only include the artifacts found within the project area and that, “the cultural landscape within which the artifacts are located...has the deepest importance to the tribe, and the desecration of this landscape, not simply the disturbance or destruction of artifacts that needs to be, and must be, acknowledged.” (FMIT 2009a). Due to the strong cultural ties to the area, the Fort Mojave Indian Tribe believes that any remediation activity that requires the construction of additional facilities would be detrimental and continue the historic and contemporary desecration of the area. The tribe believes that the naturally occurring reactive zone in the fluvial sediments of the Colorado River is, “owed to the wisdom of Providence,” and believes that, “this is earth’s natural process of self-healing after an unnatural intrusion.” (FMIT 2009a).

Specific concerns regarding cultural resources identified over the course of the NACP outreach include:

- ▶ The Fort Mojave Indian Tribe has a cultural affiliation with an expansive traditional territory extending from north of Las Vegas, south/southeast to the Phoenix area, east into Kingman, and as far west as Santa Barbara. Representatives state that Mojave have lived within this area since time immemorial and, although tribal lands are now confined to reservations, the Mojave people still have very strong cultural affiliation with the entire traditional territory.
- ▶ The Tribe has concerns about the many areas of cultural and spiritual connection throughout the Colorado River valley. The traditional beliefs about these areas are very important in defining tribal identity and are critical to how the Mojave people continue to exist as a people.
- ▶ The Tribe is affiliated deeply with the land, plants and animals, air, and water of the region. The Tribe feels a responsibility to be stewards of its historical land and the environment. The tribe respects the land and the spirit of the place, and believes they were put there by the Creator for a purpose. They’ve never severed their relationship with the land and the entire environment.

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Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 11:21:47 AM

T This is inconsistent with actual historical and current Mohave Tribal beliefs as would be evident if an ethnographic study was conducted. Please identify who made these statements and what was their gender and Tribal origin.

I1-41

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 11:23:47 AM

T Please identify this person? Was this person Mohave? Is this an individual viewpoint or an authorized position of the Tribal government? This is an example of DTSC's invention of cultural tradition. The final resting place according to Mohave tradition is not the Topock Maze.

I1-42

- ▶ The Tribe did not create and had no power to stop the contamination of the Topock area, but now it has to live with the consequences of that, including impacts to its culture, religion, and people.
- ▶ The Tribe's traditional songs are evidence of strong cultural ties to the Topock area and are tied to the land on and surrounding the project site. The songs describe the Tribe's creation, history, and provide guidance about the Creator's commandments about how to live life.
- ▶ Members of the Tribe want to be able to continue to conduct traditional religious activities in the area.
- ▶ The area of the proposed project is critical to tribal cultural beliefs, especially those beliefs related to the afterlife, and the area should be treated with respect and acknowledged as sacred despite previous impacts and desecrations to the area. According to the Fort Mojave Indian Tribe, the Topock area is place where deceased spirits go to pass on to the next world. It is very important to living tribal members that the spirits of the departed can pass properly from this world.
- ▶ 1 The Topock area is also a place for purification after engaging in warfare or other actions.
- ▶ Any approach to cultural resource management must fully consider the cultural value attributed by the Tribe to the entire landscape and its constituent parts (e.g., landforms, water, plants, animals, spiritual relevance), and not focus only on the research value of specific sites that are of interest to archaeologists.
- ▶ The Fort Mojave Indian Tribe asserts that the entire Topock area is a traditional cultural property and deserves protection. The Tribe believes that an area larger than what has already been listed on the NRHP since 1978 is eligible for listing on the NRHP and the California Register of Historical Resources (CRHR). According to the Tribe, the TCP includes essentially the entire area potentially affected by the proposed project. If desecration occurs to the area, the damage cannot be repaired. The BLM has recognized the cultural importance of the Topock area in designating the Beale Slough ACEC and the Topock-Needles Special Cultural Resource Management Area.
- ▶ The protection of the Colorado River is the primary concern to the Tribe, as well as other tribes along the Colorado River, but the remediation process should minimize impacts to religious and cultural resources. In the studies necessary for remediation, residual data gaps may be acceptable to the Tribe, and decisions regarding the need for additional data acquisition (which may involve the construction of test wells or other ground disturbance activities) should be balanced against further impacts to cultural resources and tribal members.
- ▶ The Tribe is concerned about potential visual impacts from viewpoints the general public may have in the area, as well as those viewsheds enjoyed by Tribal members as they look out and toward the Topock Maze area while carrying out spiritual activities. Sensitive viewsheds may also include those that include the river, the mountains, and other features of the landscape.
- ▶ The Tribe is concerned about potential noise impacts to the Topock area and surrounding landscape. The EIR should include an assessment of impacts on existing sensitive receptors, as well as impacts to tribal members who may be in the area engaging in cultural or spiritual activities.
- ▶ Lithic scatters at Topock are important to the Tribe. There is an overwhelming sense of connection there. These sites are markers of what is still there, and what remains of their ancestors. These sites deserve to be protected.
- ▶ The Tribe expects that impacts in the Topock area be as limited as possible. The Tribe believes that some groundwater and soil remediation technologies are more damaging than others and will comment on the alternatives. They have stated that a complete analysis of alternatives must include Tribal views on the relative impacts. Consultation between DTSC, its consultants, and the tribe should occur regarding each and

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Cultural Resources

4.4-30

Topock Compressor Station Final Remedy DEIR
California Department of Toxic Substances Control

Page: 150

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 11:24:18 AM

T Please define the general Topock Area that this relates to. Is it across the river in Arizona?

I1-43



Source: Photograph taken by AECOM in 2009

Aerial Photo of the Topock Maze Locus A with Compressor Station in the Distance

Exhibit 4.4-3

only the faintest hint that rows once existed. The evidence suggests, and interviews with the Mojave confirm, that all Topock Maze loci and nearby geoglyphs form a complex suite of an associated cultural complex that has been partially destroyed by the construction of the railroad, interstate, and various other linear features in the area and by off-road vehicle activity. As discussed above, members of the Fort Mojave Indian Tribe assert that the Maze as understood by archaeologists is only part of the Maze as they understand and value it; the tribally valued property includes the disturbed inter-locus areas as well as surrounding lands and is linked conceptually and spiritually to other landforms in the area.

¹The origin of the Topock Maze has been disputed. Some arguments support a Native American origin, while others have suggested that the Maze is a byproduct of railroad construction, which occurred between 1888 and 1893. On the assumption that the Maze is of Native American origin, there is also little agreement as to its age or how it was created. Those who consider its origin related to the construction of the railroad typically cite a memo from a railroad engineer in 1891 that describes the collection of gravel into windrows by Mojave workers, prior to the gravel being hauled and used to support a bridge caisson. Photographic evidence of the bridge construction, interviews with railroad workers from that time, and statements from Needles residents present at the time of the bridge construction all suggest, however, that the Maze was present prior to bridge construction, even if portions of it were later collected for ballast or support.

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Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 11:25:35 AM

 An ethnographic study would have evaluated this and made a conclusion regarding potential Native American origins.

I1-44

We request funding and authorization to conduct an ethnographic study.

Earle's draft report (2005:42–44) notes that some interviews conducted with Mojave tribal members in the early 20th century have been cited to suggest that the Topock Maze did not have a strong cultural affiliation with the Mojave people, and that its origin can be attributed to a tribe that had lived in the area prior to the Mojave, perhaps the Maricopa. Interviews conducted with Fort Mojave Indian Tribe representatives for this EIR as part of the NACP indicate that the Tribe considers it inappropriate for them to discuss who made the Maze; however, interviewees believed that the Maze is of ancient origin and of deep cultural importance to the Mojave people.

Other interviewees suggested that stories or songs telling of its construction were present in the Mojave culture, but these stories are only told in some family lines and are not known by everyone (FMIT, pers. comm., 2008). Other interviews in the 20th Century suggested that the Mojave would use the Maze to purify themselves by running through the Maze or by navigating through the Maze without walking over a windrow, leaving evil spirits or ghosts in the Maze, or that the purpose of the Maze is to help the deceased atone for their life before fully passing to the afterlife.

Taking into account the numerous comments of Native American representatives throughout the EIR process, the Topock Maze and the surrounding area—including many of the other cultural sites and geoglyphs in the vicinity—are an integral part of the worldview of the Fort Mojave and other Yuman tribes. Earle's draft report (2005:50–52) outlines the many other cultural sites in the region, as well as many Mojave song cycles that speak of the Topock area, and concludes that the Topock area is a key location for supernatural events and mythical feats for the Mojave. The Topock Maze is believed by some Tribes to form part of a geoglyph tradition for the lower Colorado River valley that has “its origin in the sacred song and story traditions of the prehistoric and historic Yuman-speaking cultures of the region” (Earle 2005:51). For example, official statements from the Fort Mojave Indian Tribe state the cultural significance of the Topock area: “Archaeologists may view [the Topock Maze] as three archaeologically distinct areas,¹¹ but as the Tribe has commented many times, the Tribe sees the Maze as a spiritual whole and within the context of the surrounding landscape” (FMIT 2009b).¹² As stated above, the Hualapai, Quechan, and Cocopah tribes have also expressed cultural concerns for the Topock area during the EIR process, and the CRIT has stated that some of its members also view the area as culturally significant.

4.4.1.4 PALEONTOLOGICAL RESOURCES

A paleontological records check was conducted by Dr. Samuel McLeod, Vertebrate Paleontology Division of the Natural History Museum of Los Angeles County (LACM) on March 2, 2010 and by Eric Scott, Curator of Paleontology Division of Geological Sciences Museum of San Bernardino County (SBCM) on March 8, 2010. The records check from the SBCM indicated that three fossil localities (SBCM 1.39.1, SBCM 1.39.2 and SBCM 1.39.3), lie within the proposed project area. The fossil localities SBCM 1.39.1, SBCM 1.39.2 and SBCM 1.39.3 are located just west and south of the existing PG&E Topock Compressor Station and are associated with the presumed Pleistocene age from the sediments of the Chemehuevi Formation. In addition, the LACM records check indicated that one locality (LACM 4090), has been documented in the general vicinity but is not within the project area itself.

Quaternary Alluvium

The project site contains within its boundaries, a layer of Quaternary Alluvium of the late Pleistocene and/or Holocene age that is deposited at the surface level in the western and southwestern areas of the proposed project. Quaternary lake sediments in this region have undetermined paleontologic sensitivity; if confirmed to be of Pleistocene age, they likely have high paleontologic sensitivity.

Bouse Formation

Marine late Miocene Bouse Formation has also been documented in the western and southwestern portions of the proposed project area in slightly elevated terrain. One locality (LACM 4090) is not located within the proposed project boundaries but, shares the same sedimentary deposits of the Bouse Formation and is situated south of the

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Cultural Resources

4.4-34

Topock Compressor Station Final Remedy DEIR
California Department of Toxic Substances Control

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Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 11:27:16 AM

T Has the Mohave Tribal elders or the Tribal members provided this information? Or is this the comments of only one or two people?
What is the defined area that is considered culturally significant? Please identify this area on a map.

I1-45

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 11:26:09 AM

T You have omitted the views of the Chemehuevi Tribe. This appears to be a purposeful exclusion. Why?

I1-46

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 9:45:47 PM

T How is this relevant to the EIR process? Why is it included? Was this at the request of any one Tribal group? Does a TCP currently exist? What is the conclusion here?

I1-47

Prehistoric and Historic-Era Resources

As described in Section 4.4.1, “Existing Setting,” above, 193 prehistoric and historic resources were documented within the 1,815-acre survey area and by subsequent surveys conducted by PG&E, with approximately 80 of these resources located within the proposed project area (see Table 4.4-3). A formal determination of eligibility for inclusion in the CRHR has not been performed for most of the individual prehistoric and historic-era sites within the project area. However, several resources have been evaluated and recommended or determined eligible for listing on the NRHP, and thus are historical resources for the purposes of CEQA. Thus, documented sites analyzed for this project fall into two main categories: those sites that have been determined eligible for inclusion in the NRHP (which makes them historical resources subject to CEQA) and those sites for which a determination of eligibility has not yet been made.

NRHP-eligible and listed sites within or immediately adjacent to the project area include CA-SBR-219 (Topock Maze Loci A–C, which is adjacent to the project footprint), historic-era resources such as CA-SBR-2910H (Historic Route 66 and portions of the National Old Trails Road), CA-SBR-6693H (Atlantic and Pacific Railroad Company rail line, which is adjacent to the planned project activities), and CA-SBR-11701, which consists of numerous lithic artifacts, stone tools, and features such as an aboriginal trail.

The remaining resources documented within the project area have not been formally evaluated for eligibility for listing on the NRHP or CRHR as formal eligibility evaluations are not required by CEQA. Historic-era resources that have not been evaluated may be significant for a number of reasons, for example, for their association with important historical themes such as transportation and westward migration along historic highways such as Route 66. Such resources may also be significant because they contain information about these historic themes that would be of importance in historic research. If such resources are significant for these reasons, or meet other criteria for listing on the NRHP or CRHR and have sufficient integrity to convey this significance, they would qualify as historical resources under CEQA.

Also, many of the archaeological resources in the group of unevaluated resources may be significant under CEQA because of their association with the Topock Maze. A high probability also exists that some of these resources are significant because they contain information that is important in prehistoric research.

Topock Cultural Area

In addition to the cultural resources recorded by these previous surveys, DTSC has determined, based on the weight of the evidence, that the Topock Maze and the surrounding area appear to qualify as a historical resource under CEQA as an area that is significant in the social and cultural annals of California. This section explains DTSC’s determination that the Topock Cultural Area is a historical resource for purposes of impact evaluation under CEQA.

As noted above, PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) establish three analytical categories for use in determining whether a historical resource exists for purposes of CEQA. These are (1) mandatory historical resources; (2) presumptive historical resources; and (3) discretionary historical resources. A mandatory historical resource is one that has been listed on or determined eligible for listing on the CRHR. Only an official determination by the State Historical Resources Commission triggers this mandatory determination. A presumptive historical resource is one that has been listed on a local register or included in a local survey that meets specified criteria, unless the preponderance of evidence demonstrates otherwise.

A discretionary historical resource is a resource that does not fit within the mandatory or presumptive categories, but that is determined to be a historical resource in the exercise of the lead agency’s discretion. Under CEQA case law, a lead agency evaluating potential project impacts under CEQA has broad discretion to determine whether a particular resource that may be affected by a proposed project is a historical resource for purposes of CEQA, provided the lead agency determination is supported by substantial evidence. When such a determination is made, the criteria to be applied include the criteria for listing on the CRHR.

Sequence number: 1

Author:

Subject: Highlight

Date: 7/7/2010 11:42:34 AM

DTSC has incorrectly concluded using a significantly bias and narrow weight of evidence based on limited information (without appropriately requiring an ethnographic study) obtained from a minority fringe Tribal group that possibly may be considered an outlier to basic traditional tribal values and beliefs. DTSC is assisting and enabling this to continue without fully investigating, verifying, and requiring substantiated factual and documented evidence. This supports our continued concern that DTSC is contributing to only what may be called as the "Invention of Mohave Cultural Tradition" and not "Mohave Cultural Preservation". Mohave Elders are a formal standing committee of the Tribal Council for some Tribes. The Tribal Council has delegated authority to the Mohave Elders to consider and act on: All cultural issues affecting Mohave people; Protection and retention of the natural resources of the reservation. Genealogies of Mohave people. The purpose of this committee is to promote and protect the interests and needs of the Mohave people in a responsible and respectful manner by actively participating in the affairs of tribal government. What has DTSC done to communicate with this group, engage and use this process? speak to Elders? and obtain documented information that represents a Tribal view of cultural issues?

DTSC has neither the skills, expertise or authority to make such a determination.

11-48

The administrative record further documents how DTSC has restricted and limited the preparation and submission of information that would dispute any such evaluation of this determination by not allowing the preparation of or directing PG&E to fund the preparation of ethnographic studies by anyone who wanted to prepare and provided this information.

By DTSC not directing PG&E to fund these efforts and by PG&E not funding these efforts to groups who do not have the ability or resources to fund such a study by themselves, DTSC and PG&E supporting a pre-determined outcome and decision by limiting input as desired by DTSC in order to provide support to a pre-determined decision.

DTSC further incorrectly makes a concluding determination based on limited comments from a few select individuals that do not represent the views of the majority of Tribal members.

DTSC is further hobbled, bound, and is being influenced by terms and fear related to a previous DTSC settlement agreement in addition to the PG&E settlement agreement is not allowing DTSC to evaluate and make decisions in the best interest on behalf of the people of the State of California and Arizona.

Please provide a detailed summary of how this determination was made, the verifiable facts, including, names and documented information that was used to lead to this determination. Who at DTSC was the person that made this determination? What consultation occurred with Tribes before making this decision? What consultation occurred with Arizona and California SHPO before making this decision? What were their responses? What consultation occurred with the DOI and BLM before making this decision?

11-49

Please identify on a map what DTSC has determined to be the entire extent of the "Topock Cultural Area". How far does this area extend? Does it extend into Arizona? Does DTSC have the legal authority to make a determination that the Topock Cultural Area is a historical resource for areas in Arizona?

11-50

Therefore, DTSC has looked beyond the specific cultural resources recorded by previous archaeological surveys, and has determined, based on the weight of the evidence, that the Topock Maze and the surrounding area within the project area appears to qualify as a historical resource under CEQA as an area that is significant in the social and cultural annals of California. The historical resource consisting of the project area depicted in Exhibit 3-2 and the Topock Maze is referred to in this EIR as the "Topock Cultural Area."

In making its discretionary determination under CEQA, DTSC has carefully weighed the evidence, including (1) the testimony of Native American tribal representatives received during the confidential NACP tribal consultation process, (2) the ethnographic and historical literature and the archaeological record, and (3) California and federal regulations and guidelines. DTSC has also consulted the federal government's guidance regarding TCPs provided in National Register Bulletin 38 (NPS 1998). The Topock Cultural Area is of cultural significance to several different Native American tribes as described above. In accordance with federal guidelines, the significance of a TCP is derived from the "role the property plays in a community's historically rooted beliefs, customs, and practices" (NPS 1998:1). The consultations during the NACP process identified various aspects of the significance of the Topock Cultural Area.¹ For example, the Fort Mojave Indian Tribe indicated that the Topock area has symbolic value akin to the Arlington National Cemetery. Acknowledged representatives of this tribe stated during the EIR process that the Topock area is critical to tribal cultural beliefs, especially those beliefs related to the afterlife. They also stated that conducting cultural practices, including religious practices, within the Topock area is very important to the continuation of tribal traditions.

The Fort Mojave Indian Tribe attributes high cultural value to the entire area in which the project is located including the constituent parts of that area (landforms, water, plants, and animals), although for purposes of this analysis, it is not necessary to make any findings with respect to historical resources under CEQA beyond the area that may be affected by the proposed project (that area being the Topock Cultural Area as defined in this EIR).² Any ground-disturbing activity or impact to the plants, wildlife, visual characteristics, or setting of the Topock Cultural Area is considered by the Fort Mojave Indian Tribe to be a desecration of their religious and cultural beliefs. These kinds of impacts are experienced as a loss and sorrow akin to the passing of a loved one or family member.³ As noted above in Section 4.4.1.3, other Colorado River tribes, including the Hualapai, Cocopah, and Fort Yuma-Quechan, also expressed strong cultural concerns for Topock, and the Colorado River Indian Tribes indicated that some tribal members have cultural concerns for the Topock area.

Although the Topock Cultural Area has sustained some damage, the cultural significance ascribed to the resource by these Native American tribes appears to demonstrate that the Topock Cultural Area generally has sufficient integrity of relationship and condition to these communities. Tribal representatives have repeatedly stated that, despite existing impacts from highway, railroad, pipeline, and recreational developments, the resource continues to be important in their culture.⁴ Based upon the Native American testimony it appears that the Topock Cultural Area can still function for traditional cultural purposes despite the modern intrusions.

Certain tribes have repeatedly stated that the cultural significance of the Topock Cultural Area goes beyond the bounds of the Maze itself. For example, the Fort Mojave Indian Tribe stated, "the cultural landscape within which the artifacts are located...has the deepest importance to the tribe," (FMIT 2009a).⁵ This tribe also stated that the Topock Cultural Area includes the entire project area. Native American representatives have stated that the Topock Cultural Area is tied in with the larger regional landscape that includes the Colorado River corridor and that within that larger landscape, the Topock Cultural Area has distinctive importance because of the traditional cultural values at Topock itself. However, it is beyond the scope of this EIR to define whether there may be an additional historical resource area for purposes of the CRHR or the NRHP beyond the project boundaries, or to address areas that are not affected by the proposed project. As discussed above, a lead agency's evaluation under CEQA as to whether there is a discretionary historical resource on a project site is not a formal eligibility determination for the CRHR or NRHP, and CEQA does not require a formal eligibility determination. As such, in compliance with CEQA,⁶ DTSC has only referenced the federal TCP guidelines in weighing the balance of the evidence in order to determine if the proposed project would adversely impact the physical characteristics of the Topock Cultural Area that convey its historical significance as a historical resource under CEQA. DTSC has not

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 11:42:52 AM

T Was this a documented position of the Fort Mojave Tribal Government or a comment from one individual Tribal member?

I1-51

Please provide the information and documentation that supports this statement.

What is meant by the "Topock Area" please describe this area and identify it on a map.

Further clarification is needed here since the "Topock Area" is a small portion of the wider area related to cultural beliefs. To characterize or suggest that it is the center most important or most critical is not consistent with basic Mohave beliefs related to the afterlife. When someone says Topock Area there needs to be a defined reference of what specific area they are talking about.

I1-52

What cultural practices including religious practices are conducted and where are they conducted that is consistent with both current and historical traditional cultural values of the Mohave or any other tribal entity?

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 11:45:00 AM

T What are the defined limits of the Topock Cultural Area? Please identify this area on a map

I1-53

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 11:44:19 AM

T What were the specific cultural concerns that were expressed? by who? Was this an individual concern or a documented concern expressed by the majority of Tribal members that represented a Tribal government position?

I1-54

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 11:45:15 AM

T What testimony? Please provide copies of this testimony.

I1-55

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 11:46:05 AM

T What did the Tribe define on a map as the Topock Cultural Area? Please provide this information

I1-56

Sequence number: 6

Author:

Subject: Comment on Text

Date: 7/7/2010 11:44:45 AM

T Please describe this specific analysis and procedures used in weighing the balance of evidence as stated? Please state who made this decision and their technical qualification. what is the definition of "Physical Characteristics"

I1-57

1 Surface Faulting

The approximate locations of major faults in the southern California region and their geographic relationships to the project site are shown in Exhibit 4.5-5. Table 4.5-3 summarizes pertinent information regarding major active fault zones in the region.

Table 4.5-3 Major Regional Active Faults					
Fault Name	Moment Magnitude (Minimum–Maximum)	Fault Type	Approximate Slip Rate (mm/yr)	Peak Ground Acceleration (g)	Approximate Distance from the Site in Miles
Pinto Mountain Fault Zone	6.5–7.5	Sinistral	1.0	0.011	93.5
Pisgah-Bullion Fault Zone	6.0–7.1	Dextral	0.8	0.011	94.6
Mesquite Lake Fault	6.0–7.0	Dextral	Not Reported	0.011	94.6
Camp Rock–Emerson– Copper Mountain Fault Zone	6.0–7.3	Dextral	0.5	0.008	103.3
Calico-Hidalgo Fault Zone	6.4–7.1	Dextral	0.5–2.6	0.010	103.5
Lavie Lake Fault	7.1	Dextral	Not Reported	0.003	106.3
Landers Fault	4.8–5.3	Dextral	0.5	0.010	113.3
Homestead Fault	6.0–7.0	Dextral	0.5	0.010	114.2
Johnson Valley Fault Zone	6.5–7.3	Dextral	0.5	0.006	114.3
Eureka Peak Fault	5.5–6.8	Dextral	0.6	0.004	115.1
San Andreas Fault Zone (Coachella Section)	6.8–8.0	Dextral	20–35	0.008	115.6
Burnt Mountain Fault	6.0–6.5	Dextral	0.5	0.004	116.1
Brawley Seismic Zone	<5.0–6.5	Dextral	20	0.004	116.9
North Frontal Fault Zone	6.0–7.1	Thrust	1.0	0.005	119.6
San Andreas Fault Zone (San Bernardino Section)	6.8–8.0	Dextral	20–35	0.007	130.9
Imperial Fault	6.0–6.7	Dextral	15–20	0.009	139.1
San Jacinto Fault Zone (Superstition Section)	6.5–7.5	Dextral	7–17	0.008	140.1
San Jacinto Fault Zone (Borrego Section)	6.5–7.5	Dextral	7–17	0.008	144.0
Lenwood-Lockhart Fault Zone (Lenwood Section)	6.5–7.4	Dextral	0.8	0.003	148.2
Notes: g = local acceleration attributable to gravity; mm/yr = millimeters per year Sources: USGS 2008, SCEC 2009					

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Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 9:40:05 PM

T The map should include the Topock area as well as portions of Arizona rather than indicating it is off the map by 66 miles. DO any faults exists in Arizona?

I1-58

(DTSC) has approved additional investigations (DTSC 2008) that include both soil and groundwater characterization because of the detection of highly elevated chromium in AOC 10 soil and groundwater (MW-23). The scope of the groundwater investigation was presented in *Revised Work Plan for East Ravine Groundwater Investigation: PG&E Topock Compressor Station, Needles California* (CH2M Hill 2008a). The findings of the East Ravine investigation are provided as Appendix A in the Final CMS/FS (CH2M Hill 2009a). Results of the East Ravine investigation have detected significant hexavalent chromium (e.g., 660 µg/l) in shallow bedrock groundwater wells (CH2M Hill, 2009d:A3-5).

SWMU 1 and AOC 1 (Percolation Bed and Bat Cave Wash)

Wastewater was discharged to Bat Cave Wash between 1951 and 1970. This wastewater consisted primarily of cooling tower blowdown (approximately 95%) and a minor volume of effluent from an oil/water separator (OWS) and other facility maintenance operations (approximately 5%) (CH2M Hill 2007:4-3). Chemicals present within this wastewater discharge include chromium [Cr(III) and Cr(VI)]; the COPCs are summarized below. The earliest available information from 1968 indicates an average of approximately 48,500 gallons per day (gpd) of cooling tower blowdown was discharged to Bat Cave Wash, with a high of approximately 64,300 gpd in July and a low of approximately 25,600 gpd in February (PG&E 1968, referenced in CH2MHill 2007: 4-3).

From 1951 until 1964, untreated cooling tower blowdown containing hexavalent chromium was released to the Bat Cave Wash. From 1964 to 1969, the cooling tower blowdown was treated at the project site with a one-step system to reduce Cr(VI) in the wastewater to Cr(III) before discharge to the percolation bed (SWMU 1), which was installed in the wash in approximately 1964 (CH2M Hill 2007:3-18). Although the process converted Cr(VI) to Cr(III), the concentration of total chromium [Cr(T)] was not affected. Beginning in late 1969, cooling tower blowdown was treated at the project site with a two-step system to reduce Cr(VI) to Cr(III) and then to remove Cr(III) from the wastewater before discharge to Bat Cave Wash (CH2M Hill 2007:4-3). The continuous discharge of wastewater to Bat Cave Wash ceased in May 1970 when injection well PGE-08 (SWMU 2) was brought online and the treated wastewater was injected into groundwater. PGE-08 had a very deep screen interval of 405–554 feet bgs.

SWMU 1 and AOC 1 have been identified as sources of groundwater contamination. Soil sampling data to be collected during RFI/RI activities for the Bat Cave Wash area are still pending. COPCs for soil and groundwater associated with SWMU 1 and AOC 1 consist of the following: Cr(T), Cr(VI), copper, lead, nickel, zinc, electrical conductivity, pH, Title 22 metals, volatile organic compounds, polycyclic aromatic hydrocarbons, semivolatile organic compounds, and total petroleum hydrocarbons. Dioxins and furans may be added to this list due to recent detections in soil at AOC 4 (Debris Ravine) which discharges to Bat Cave Wash above SWMU 1 and AOC 1.

1 AOC 10 (East Ravine)

East Ravine is a small ravine located on the southeast side of the compressor station. The ravine is approximately 1,600 feet long and runs eastward into the Colorado River. Portions of the East Ravine are on PG&E property outside the compressor station's fence line, and other portions of the ravine are located on property owned by HNWR. The East Ravine was designated as an AOC in a 2001 letter report from DTSC (2001).

The East Ravine contains two human-made impoundments of unknown origin and construction date. The largest impoundment is formed by a constructed earthen dam. A smaller impoundment is formed by a dirt road embankment that was built across the drainage channel in the lower portion of the East Ravine. Because of the impoundments, surface water flowing from most of the length of this ravine (west of the lower dirt road) currently does not appear to reach the Colorado River. The drainage for this ravine includes runoff from the compressor station's access road, runoff from the mountains to the south, and runoff from the compressor station itself.

Three subareas (Subareas 10b, 10c, and 10d) where water and soil collect, either within low-gradient areas along the ravine course or behind impoundments, have been identified within the East Ravine. Subarea 10b, a natural drainage depression, is located in a flat area in the upper portion of the ravine. The middle drainage depression

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 12:04:48 PM

T Has DTSC or DOI technical staff indicated that additional groundwater monitoring wells are needed in this area? If so what were the recommendations? Has DTSC formally requested that PG&E install additional wells in this area? Has PG&E delayed or requested to delay the installation of wells in this area?
Is the extent of groundwater contamination known in this area?
What is the groundwater gradient in bedrock? What is the direction of groundwater flow? Is the contaminated groundwater in contact with the surface or subsurface water of the Colorado River? What is the delay in installing additional wells in this area and determining the extent of groundwater contamination? Is the bedrock fractured in this area? Is there any faults in this area? What was the source of the contamination in this area?

I1-59

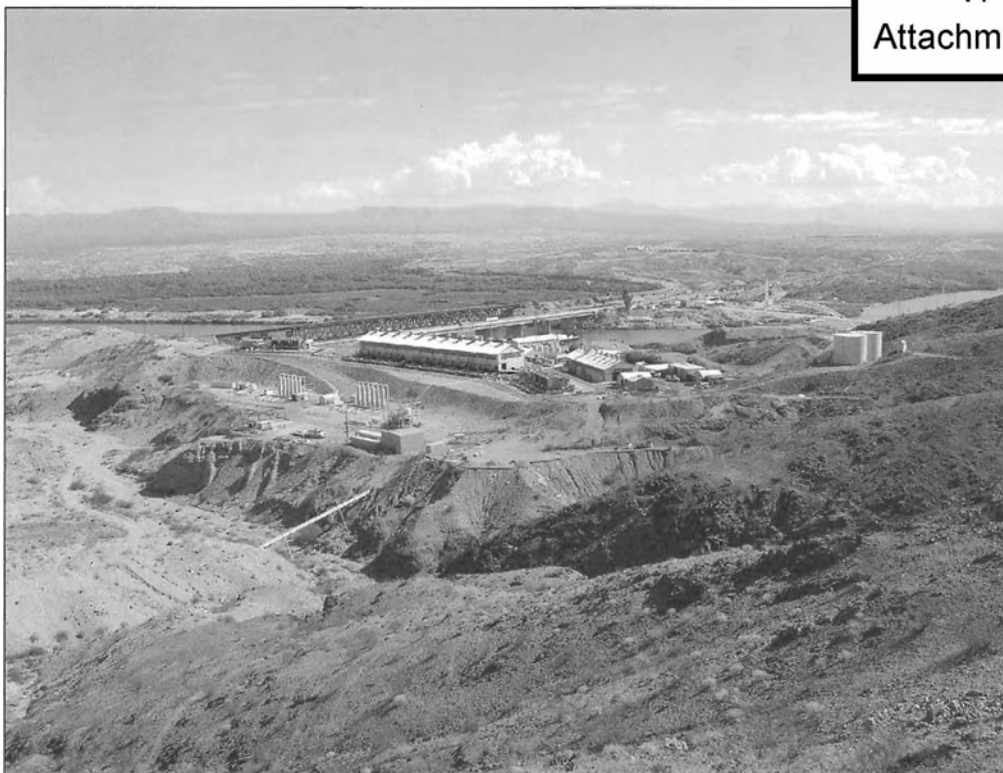
Was it the result of PG&E injecting contaminated groundwater into the aquifer?

I1-60

Is this contaminated groundwater entering the Colorado River?

Are there any other areas that may potentially have additional groundwater contamination?

I1-61



DRAFT STATEMENT OF BASIS

For a
Preferred Groundwater Remedy

Pacific Gas and Electric Company, Topock Compressor Station
Needles, California
EPA ID NO. CAT080011729

April 28, 2010

GROUNDWATER PROPOSED PLAN
Pacific Gas and Electric Company
Topock Compressor Station
Needles, California
June 4, 2010



U.S. Department of the Interior

DOI060410A – PG&E Topock Compressor Station Remediation Site – Community Involvement Plan

1

**DRAFT STATEMENT OF BASIS FOR A
PREFERRED REMEDIAL ALTERNATIVE AT
PACIFIC GAS AND ELECTRIC COMPANY,
TOPOCK COMPRESSOR STATION**

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Cypress, California 90630
E-mail: ayue@dtsc.ca.gov

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OPEN HOUSES / PUBLIC HEARINGS

June 22, 2010	Parker Community/Senior Center, Parker, AZ
	Open House 5:00 – 6:30 p.m.
	Public Hearing 6:30 – 8:00 p.m.
June 23, 2010	Lake Havasu City Aquatic Center, Lake Havasu City, AZ
	Open House 5:30 – 7:00 p.m.
	Public Hearing 7:00 – 8:30 p.m.
June 29, 2010	Needles High School, Needles, CA
	Open House 5:00 – 6:30 p.m.
	Public Hearing 6:30 – 8:00 p.m.
June 30, 2010	Topock Elementary School, Topock, AZ
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This draft Statement of Basis, draft EIR, project reports, fact sheets, and other project related documents are located in the information repositories listed on the last page and at the Topock Website at: <http://www.dtsc-topock.com>, under "Document Library"

Page: 3

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 3:01:12 PM

T These statements are not true and correct. The statements are also misleading. The action being proposed is not for cleaning up groundwater contaminated by past waste disposal practices at the Site as stated. This groundwater remedy being proposed is limited and restricted and does not address all the groundwater contamination. This groundwater remedy only addresses one (1) chemical in the groundwater plume of contamination in a very limited area since the entire extent of groundwater contamination is not known at this time. Further remediation of the other chemicals in groundwater in addition to any potential new chemicals are proposed to be addressed in an unspecified future unspecified time when PG&E may decide to do so. This Statement of Basis is defective and is segmenting and piece-meal of a complete groundwater remedy without an adequate scientific basis or rationale justification. Further DTSC/DOI is allowing PG&E to minimize groundwater remedial actions by NOT requiring PG&E to completely remediate the entire groundwater plume of contamination that was caused by PG&E dumping hazardous materials and hazardous substances onto the ground surface. Rather than PG&E dealing with the contamination in an environmentally sound and appropriate manner PG&E chose to dump this waste onto the ground and allow it to impact the groundwater. DTSC/DOI should not acquiesce to PG&E corporate desires, political pressures, and the desires of a few upstream non-impacted Tribal members in order to limit and restrict the complete removal and remediation of all contamination caused by PG&E is not protective of human health and the environment, and is not protective of current and future generations of the people of the State of California and the People of the State of Arizona. DTSC/DOI should be requiring the highest possible protection for the Colorado River and PG&E should be required to remove all contamination that they caused as a direct result of their activities.

11-62

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 3:10:58 PM

T Prior to the scheduled meetings in Parker Arizona and Lake Havasu City Arizona, a written request was provided to DTSC requesting a Mohave interpreter be present at the meetings because a number of Mohave speaking elders who have been previously excluded from the process wanted to attend and to understand what was occurring, participate in the meeting, and desired to speak at the meetings, provide comments for the administrative record and make their views heard. DTSC was not responsive and did not address our request and did have any Mohave speaking person available at either of the meetings. Therefore, Mohave elders were excluded from participating and did not want to attend as they desired. The group of Mohave elders believes that this is evidence of a continued pattern to exclude comments and input from a group of Tribal members and/or the public who do not directly support the predetermine remedy desired by PG&E and DTSC who have chosen to acquiesce to political pressures, and support unsubstantiated and unverified cultural concerns from a very small minority of Mohave people, rather than representing the people of the State of California and Arizona, and seeking to protect human health and the environment and the drinking water supply to millions of people in California and Arizona. Public participation is an essential part of the CEQA process. A paramount consideration is the right of the public to be informed in such a way that it can intelligently weigh the environmental consequences of the contemplated action and have an appropriate voice in the formulation of any decision. DTSC failure to provide requested interpreters is not consistent with the intent of public participation.

11-63

Were any EIR notices mailed to interested parties? What was the criteria in mailing these notices? We understand that some individuals as well as environmental consultants that provided comments on the NOP and had previously participated and expressed an interest throughout the project who provided comments that were critical may have been excluded from receiving direct mail notices. Was this exclusion at the request of PG&E in an attempt to limit critical comments on negative input that was not consistent with the desired pre-determined remedy decision?

11-64

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 3:17:44 PM

T It is stated that DTSC is the lead regulatory agency. Can you please explain the detailed process for DTSC and DOI responding to stakeholder comments on the Statement of Basis and the EIR that will be provided? Does DTSC/DOI staff actually review and prepare responses to comments received? Or does DTSC/DOI provide the comments to PG&E who then prepares the desired PG&E response to comments in order to frame the response that best meets PG&E desire and needs? Will DTSC/DOI ensure that each and every comment is provided a detailed and complete response? Does DTSC/DOI have an obligation to ensure that each and every comment is provided a detailed and thorough response? In the past rather than responding to comments DTSC/DOI has attempted to confuse persons making comments by limiting the response or by directing the author of the comment to some previous document rather than providing a direct and detailed response to the comments. Will DTSC/DOI provide responses that are intended to embarrass, minimize, and/or reduce the concern or importance of the comments made?

11-65

Does DTSC/DOI have any obligation to provide the initial comments and/or the draft response to comments to PG&E or any

Comments from page 3 continued on next page

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specific Tribal group or legal firm for review prior to DTSC/DOI finalizing the comments? If so who are they? and what are the terms of providing the comments?

I1-65
con't.

Detailed information concerning groundwater contamination at the Site can be found in the 2009 Volume 2 RCRA Facility Investigation/Remedial Investigation (“RFI/RI”) Report and 2009 Volume 2 Addendum. The Detailed comparative evaluation of remedial alternatives can be found in the 2009 Corrective Measures Study/Feasibility Study (“CMS/FS”). These and other documents are contained in the Administrative Record file in the public repositories for the Site (see last page for locations). DTSC and DOI encourage the public to review these documents to gain a more comprehensive understanding of the Site and the activities that have been conducted to date.

PG&E TOPOCK COMPRESSOR STATION HISTORY

The PG&E Topock Compressor Station (“Station”) is located adjacent to the Colorado River in eastern San Bernardino County, California, approximately 15 miles southeast of Needles, California, south of Interstate 40, in the north end of the Chemehuevi Mountains. The Station occupies approximately 15 acres of a 65-acre parcel of PG&E-owned land. The PG&E property is surrounded by the Havasu National Wildlife Refuge (“the Refuge”) and lies directly south of land under the jurisdiction of the Bureau of Land Management (BLM) and Bureau of Reclamation (BOR).

PG&E began operations at the Station in December 1951 to compress natural gas supplied from the southwestern United States for transport through pipelines to PG&E’s service territory in central and northern California. Historic records indicate that PG&E held rights to operate a gas pipeline and compressor station dating back to the Federal Act of 2/25/20 (41 Stat. 449, as amended). Based on available title records, PG&E gained full ownership of the land in 1965.

Operations at the Station have been fairly consistent since the facility began operations in 1951. The operations consist of six major activities: compression of natural gas, cooling of the

compressed natural gas and compressor lubricating oil, water conditioning, wastewater treatment, facility and equipment maintenance, and miscellaneous operations. The greatest use of chemical products involves treatment of cooling water, and the greatest volume of waste produced consists of “blowdown” from the cooling towers. Blowdown consists of used cooling water that is periodically removed from the operating circuit because it contains too much salt generated from repeated evaporation of the cooling water.

From 1951 to 1985, hexavalent chromium-based corrosion inhibitors and biocides were added to the cooling water circuit to protect the piping and equipment in the cooling towers. After 1964, the cooling tower blowdown was treated to remove hexavalent chromium prior to discharge. Until approximately 1970, cooling tower blowdown was discharged directly into Bat Cave Wash, an unlined arroyo immediately west of the Station and either percolated into the ground or evaporated at the surface. Around 1970, PG&E discontinued blowdown discharge to the wash and began discharging treated blowdown into four single-lined evaporation ponds located west of Bat Cave Wash. From 1970 to 1973, PG&E injected treated blowdown into bedrock beneath the site using an injection well (well PGE-08), but that process proved impractical and was discontinued.

In 1985, PG&E replaced the hexavalent chromium-based cooling water treatment products with non-hazardous phosphate-based products, at which time PG&E discontinued operation of the blowdown treatment system. Use of the four, single-lined evaporation ponds continued until 1989, when they were replaced with four new double-lined ponds that are still in use under permits by the California Colorado River Basin Regional Water Quality Control Board. The cooling tower blowdown treatment system and the single-lined ponds were physically removed and clean-closed by 1993.

Page: 4

Sequence number: 1 Author: Subject: Comment on Text Date: 7/7/2010 3:23:06 PM T Is the salt that PG&E dumped on the ground considered a contaminant or contamination? Has the salt impacted groundwater or does it have the potential to impact groundwater? What is the background level for salt in soil, groundwater and surface water?	11-66
Sequence number: 2 Author: Subject: Comment on Text Date: 7/7/2010 3:21:58 PM T What was the concentration level that PG&E treated this blowdown? Was it greater than the 32 micrograms per liter that was stated as being upland groundwater background levels? What was the total amount of treated water that was injected?	11-67
Sequence number: 3 Author: Subject: Comment on Text Date: 7/7/2010 3:22:17 PM T What happened from 1973 when PG&E stopped injecting blowdown to the bedrock until 1985 when PG&E reported to replaced the hexavalent chromium? Is this the same chemical that was the serious problem at the PG&E Hinkley facility that contaminated the drinking water wells in the Hinkley community? Is this the same chemical that the Hollywood movie was based on about PG&E?	11-68
Sequence number: 4 Author: Subject: Comment on Text Date: 7/7/2010 3:22:59 PM T There seems to be an omission or gap in the stated land ownership from 1951 to 1965 that does not seem to be discussed or is being omitted. Why? Was the State of California ever a land owner when PG&E operated the facility? Did the State of California ever leased the land to PG&E for their operations? Was the State of California ever an owner of the land during a time when contamination was dumped on the ground? Can the State of California be considered, in any way, a potential responsible party for the cleanup?	11-69
Sequence number: 5 Author: Subject: Comment on Text Date: 7/7/2010 3:20:50 PM T I do not understand what "clean closed" actually means please explain? Was PG&E allowed by DTSC to leave any residual contamination in the soil above residential standards or background levels? If so what were these levels that DTSC allowed to be left in the soil? Were these concentrations above regional soil background levels? Do any of these contaminants have the potential to migrate and impact groundwater? Have any of these contaminants migrated to groundwater?	11-70

SITE BACKGROUND

Investigation activities at the Site by PG&E and DTSC date to the late 1980s with the identification of solid waste management units and areas of concern through a RCRA Facility Assessment. In 1996, PG&E and DTSC entered into a Corrective Action Consent Agreement in which PG&E agreed to perform a RCRA Facility Investigation/Corrective Measures Study subject to the oversight and approval of DTSC. In 2005, PG&E and DOI entered into an Administrative Consent Agreement in which PG&E agreed to perform a CERCLA Remedial Investigation/ Feasibility Study to characterize the nature and extent of contamination and develop and evaluate cleanup alternatives subject to the oversight and approval of DOI.

Since 2005, DTSC and DOI have coordinated in their oversight of PG&E's work under these agreements. Investigative and remedial activities have been performed pursuant to both RCRA corrective action and CERCLA remedial action requirements. The RCRA Facility Investigation has been combined with a CERCLA Remedial Investigation (the "RFI/RI Report") and the RCRA Corrective Measures Study has been combined with the CERCLA Feasibility Study (the "CMS/FS Report").

To efficiently manage the large volume of information generated by the investigation of the Site and accelerate cleanup of groundwater, the investigation of the Site has been separated into two components: the first is an investigation of groundwater contamination and the second will focus on contaminants in surface and subsurface soil. As a result, the RFI/RI Report has been separated into three volumes. PG&E has completed the 2007 Volume 1 (Site Background and History), 2009 Volume 2 (Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigations), and a 2009 Volume 2 Addendum. Volume 3 is pending and will include final characterization data of soil contamination and evaluation of the potential for soil contamination to leach into groundwater at the Site.

While the RFI/RI was underway, beginning in 2004, DTSC and DOI directed PG&E to undertake certain measures, known as "Interim Measures" or "Time Critical Removal Actions", to ensure that hexavalent chromium and other contaminants in the groundwater did not reach the Colorado River. Interim Measures 1, 2, and 3, collectively, involved the construction of treatment facilities and installation of four extraction wells to pump contaminated water out of the aquifer for treatment and disposal. More importantly, these Interim Measures were designed to pull contaminated groundwater away from the Colorado River until a permanent remedy could be selected. DTSC originally envisioned a single remedy decision for soil and groundwater. However, due to the potential threat to the water resource at the site and the Colorado River, selection of a remedy for the groundwater contamination became priority while the soils investigation was delayed. DTSC anticipates a separate soil remediation decision, if necessary, in the future.

SITE CHARACTERISTICS

Cultural and Environmental Resources

The Site is located within an area considered to be of traditional cultural importance and spiritual significance to federally-recognized Native American tribes with ancestral ties to the region. Five federally recognized Native American tribes have ancestral ties to the area and have expressed interest in the project: the Chemehuevi Indian Tribe, Cocopah Tribe of Arizona, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Havasupai Indian Tribe, Hualapai Indian Tribe, Quechan Tribe of the Fort Yuma Indian Reservation, Twenty-Nine Palms Band of Mission Indians, and Yavapai-Prescott Tribe. Many of these tribes expressed strong beliefs that the selection of remedial action at the Site must fully consider the significance of cultural resources potentially affected and that adverse effects must be mitigated to the fullest extent possible. Tribal views regarding the significance of the cultural resources potentially affected and the importance of mitigating adverse

Page: 5

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 3:25:42 PM

T So that I understand the magnitude of the issues, how many PG&E solid waste management units were identified that may potentially be sources of contamination? How many areas of concern were identified?
Are any of these solid waste management units or areas of concern a potential threat to groundwater? Is it possible that contamination from these units may have impacted groundwater?

11-71

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 3:32:35 PM

T Please explain what is the current and immediate threat to the water resource and the Colorado River at the site? Is there a current real and direct threat to the Colorado River? Is the Colorado River being impact right now? Is the Interim Measures No.3 keeping the contamination from the Colorado River?

11-72

Who requested that the soils investigation be delayed? Was it PG&E?

11-73

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 3:30:48 PM

T What is the three (3) dimensional define limits of the "area" considered to be of traditional cultural importance and spiritually significance for each specific federally recognized Tribe that you have referenced? What is the exact specific spiritual significance that you are referencing. Spiritual significance can take many forms in religious beliefs. Some religions worship "good" or the "bright side". Others worship "evil" or the "dark side". Since it appears that DTSC/DOI is making decisions based on spiritual beliefs, we would like to know in more specific detail what the beliefs that you reference actually are. Please describe for each Tribe and indicate the corresponding area on a map the area that they consider traditional cultural importance and spiritually significant. Please describe and present the documents and maps that each Tribal Government has provide to DTSC/DOI in order for DTSC/DOI to make this statement and conclusion. Does the area have any spiritual significance to to anyone else (non-tribal) in the area? What other non-tribal spiritually significant activities exist within the same boundaries that is considered having spiritual significance to the Tribes. What other non-tribal spiritual landmarks (i.e. crosses, gatherings, churches, places or worship) have existed or exist within the same defined area area considered spiritually significant to the Tribes. Does any portion of the PG&E or DTSC settlement agreement provide for a shut down of the Interim Measures No.3 treatment facility in the event of any recognized spiritual tribal activities in the area? If so, please provide a detailed summary table of the shut down, requesting party, dates, times, and activity conducted. What is DTSC/DOI definition of "spiritual significant" ?

11-74

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 3:28:18 PM

T What was the basis for this decision? Who made it? Was this a decision by only DTSC? Did DOI also approve and agree to this approach? This states that the decision was to "accelerate cleanup of groundwater" It does not state that the decision was to only cleanup one chemical in the groundwater and it does not state to only cleanup a portion of the contaminated groundwater plume. The decision does not match the actions that are being proposed. Therefore, the Statement of basis is defective.

11-75

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 3:35:15 PM

T So that I can have an appreciation of the proximity of each Tribe to the contamination and the potential impacts, please indicate how far each Tribe is from the contamination? So that I understand the number of Tribal people this may impact what is the enrolled member population currently living on this land? What Tribes are upstream and not potentially impacted from the contamination and what tribes are downstream and potentially impacted. What are the concerns of the upstream non-impacted tribes related to the concerns of the downstream impacted tribes?

11-76

Has any Tribe received a gift of land from PG&E related to this project? If so please identify the Tribe, the land, location and when the gift of land was received by that Tribe.

11-77

Sequence number: 6

Comments from page 5 continued on next page

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Since 2005, DTSC and DOI have coordinated in their oversight of PG&E's work under these agreements. Investigative and remedial activities have been performed pursuant to both RCRA corrective action and CERCLA remedial action requirements. The RCRA Facility Investigation has been combined with a CERCLA Remedial Investigation (the "RFI/RI Report") and the RCRA Corrective Measures Study has been combined with the CERCLA Feasibility Study (the "CMS/FS Report").

To efficiently manage the large volume of information generated by the investigation of the Site and accelerate cleanup of groundwater, the investigation of the Site has been separated into two components: the first is an investigation of groundwater contamination and the second will focus on contaminants in surface and subsurface soil. As a result, the RFI/RI Report has been separated into three volumes. PG&E has completed the 2007 Volume 1 (Site Background and History), 2009 Volume 2 (Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigations), and a 2009 Volume 2 Addendum. Volume 3 is pending and will include final characterization data of soil contamination and evaluation of the potential for soil contamination to leach into groundwater at the Site.

While the RFI/RI was underway, beginning in 2004, DTSC and DOI directed PG&E to undertake certain measures, known as "Interim Measures" or "Time Critical Removal Actions", to ensure that hexavalent chromium and other contaminants in the groundwater did not reach the Colorado River. Interim Measures 1, 2, and 3, collectively, involved the construction of treatment facilities and installation of four extraction wells to pump contaminated water out of the aquifer for treatment and disposal. More importantly, these Interim Measures were designed to pull contaminated groundwater away from the Colorado River until a permanent remedy could be selected. DTSC originally envisioned a single remedy decision for soil and groundwater. However, due to the potential threat to the water resource at the site and the Colorado River, selection of a remedy for the groundwater contamination became priority while the soils investigation was delayed. DTSC anticipates a separate soil remediation decision, if necessary, in the future.

SITE CHARACTERISTICS

Cultural and Environmental Resources

The Site is located within an area considered to be of traditional cultural importance and spiritual significance to federally-recognized Native American tribes with ancestral ties to the region. Nine federally recognized Native American tribes have ancestral ties to the area and have expressed interest in the project: the Chemehuevi Indian Tribe, Cocopah Tribe of Arizona, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Havasupai Indian Tribe, Hualapai Indian Tribe, Quechan Tribe of the Fort Yuma Indian Reservation, Twenty-Nine Palms Band of Mission Indians, and Yavapai-Prescott Tribe. Many of these tribes expressed strong beliefs that the selection of remedial action at the Site must fully consider the significance of cultural resources potentially affected and that adverse effects must be mitigated to the fullest extent possible. Tribal views regarding the significance of the cultural resources potentially affected and the importance of mitigating adverse

Author:
Subject: Comment on Text
Date: 7/7/2010 3:24:49 PM

T Was this an individual Tribal member comment our a written formal position of the Tribal government that represented the majority of the Tribal members beliefs? You say "many" who and which ones? Did any of these Tribal members state that the significance of cultural resources should take precedence over the removal of the contamination or the protection of the Colorado River? or allow the living people or future generations to be affected by this contamination? What Tribes stated that it was more important to protect cultural resources rather than e protecting of the Colorado River?

I1-78

Sequence number: 7

Author:
Subject: Comment on Text
Date: 7/7/2010 3:28:10 PM

T If this pending document will evaluate the potential for soil contamination to leach into groundwater, then how can DTSC/DOI proceed with any groundwater remedy at this time? Until DTSC/DOI knows the complete and full potential for contamination to leach from the soil into the groundwater DTSC/DOI will not know what the appropriate and complete groundwater remedy or project will be. Or has some pre-determined decision been reached with PG&E that they will not have to do any additional work or remediation? What is the complete list of contaminants that were found in soil so that I can know what possible contaminants may potentially leach from soil into the groundwater in the future?

Did PG&E at any time request that DTSC/DOI delay or defer this investigation or work? If so, please explain and describes PG&E's request and the response provided by DTSC/DOI. Therefore, this Statement of Basis is defective.

I1-79

Sequence number: 8

Author:
Subject: Comment on Text
Date: 7/7/2010 4:21:12 PM

T

² Effects on those resources have been and will continue to be solicited and incorporated into the decision-making process as the remedy is selected, designed, and implemented.

The project Site area contains sensitive cultural resources that are of religious and cultural significance to some of these tribes, as well as other identified historic areas, such as portions of Route 66. These cultural resources are subject to the protections provided by numerous federal statutes, regulations, and Executive Orders.

Protection of historic properties and cultural resources, in particular those that are listed, or eligible for listing, on the National Register of Historic Places, requires that DOI, in consultation with State Historic Preservation Offices, the Advisory Council on Historic Preservation, the tribes, and other consulting parties, identify adverse effects associated with remedial action at the Site and seek ways to avoid, minimize, or mitigate such effects. The BLM, on behalf of itself, DOI, Fish and Wildlife Services (FWS), and BOR, is the lead federal agency for historic and cultural issues at the Site. Substantive mitigation measures adopted by the BLM as a result of federal consultation will be satisfied during the design and implementation of the remedy at the site.

DTSC, as the California state lead agency on this project, solicited input from interested tribes, and evaluated the potential impacts of the remedial action and identified proposed mitigation measures within a draft Environmental Impact Report (dEIR) in accordance with requirements of the California Environmental Quality Act (CEQA). The dEIR is also available in the public repository for review and comment at the same time as this draft Statement of Basis.

The Site is also located within an environmentally sensitive area that includes the Havasu National Wildlife Refuge, endangered species and migratory bird habitat, and public land formally designated as an Area of Critical Environmental Concern by the BLM. Moreover, much of the Site lies within the

¹ floodplain of the Colorado River, a source of drinking water and irrigation for millions of people downstream. Remedial action within this area must comply with the applicable land management requirements established and implemented by BLM, FWS, and BOR. ³ In addition, the contaminated groundwater is located within a groundwater basin that has been designated for beneficial uses under the Colorado River Basin Regional Water Quality Control Board.

Hexavalent Chromium Groundwater Plume

The RFI/RI Volume 2 Report for groundwater, completed in February 2009, characterized groundwater and surface water for contamination associated with past PG&E blowdown discharges from the Compressor Station. Groundwater occurs beneath the ground surface in alluvial geologic deposits consisting primarily of sands and gravels, with some silts and clays.

The groundwater data indicate that a plume of groundwater contaminated with mainly hexavalent chromium extends from the location of the former area where blowdown was discharged in Bat Cave Wash to the floodplain area adjacent to the Colorado River, north of the railroad tracks. ⁴ Current data indicate that hexavalent chromium is not discharging to the Colorado River. Within the plume, hexavalent chromium is typically present at all depth intervals of the upland portion of the aquifer, but is generally limited to deep wells in portions of the floodplain aquifer near the river. Organic-rich and low-oxygen conditions exist in the aquifer and sediments near and underlying the river that convert hexavalent chromium to a less mobile, less toxic form known as trivalent chromium. ⁵ This trivalent chromium will drop out of the groundwater under normal subsurface conditions as it will bind to the geologic deposits at the Site.

Page: 6

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 3:40:42 PM

T Only one (1) sentence addresses the significance of the Colorado River as a critical water supply and major importance to millions of people of Arizona and Southern California. Why?

Why is so much discussion given regarding Tribal Cultural resources and the most significant concern of the Colorado River and water supply minimized?

I1-80

In fact the Colorado River represents a greater significant feature to the Mohave culture and not the Topock Maze. The name Mohave is composed of two Indian words "aha" which means water and "Maca" meaning alongside. The historic Mohave were know as Pipa Aha Macav, the people by the water. For DTSC to suggest that other features such a Topock Maze somehow has a greater or any significance in the Mohave Culture is incorrectly supporting and enabling the invention of Tribal Cultural Traditions. This is also, allowing PG&E to limit their remedial efforts and conducting a complete groundwater remedy by supporting limited, unverified, undocumented facts and comments from a few Tribal individuals that do not represent the documented views of the Tribal Government and their Tribal members. This is not a justification to limit complete and full removal and remediation of each and every chemical illegally dumped onto the soil and allowed to enter and contaminate the groundwater that has now moved under the Colorado River.

I1-81

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 3:44:03 PM

T In relation to the protection of human health and the environment and preventing the any possibility of contaminated groundwater entering the Colorado River and potentially impacting the lives of millions of people in Southern California, how has and will DTSC/DOI rank the protection of human health and environment related to impacting unverified and undocumented religious cultural significance when evaluating and selecting a remedy? What is more important? Will DTSC?DOI weight the protection of cultural resources greater than the protection of the drinking water supply for millions of people in Arizona and Southern California? Is DTSC or PG&E required to make any specific statements, propose or present any specific actions, based on any previous legal settlement agreements, judgements, or pre-determined side agreements? If so what are they? Does the existance of any settlement agreement limit, in any way, DTSC's ability to fully and completely act as an independent regulatory agency? Or is DTSC bound by any terms in the settlement agreement that may cause DTSC to be impartial in the decision making process?

I1-82

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 3:44:01 PM

T Why is considerable text and discussion given to Tribal Cultural Resources and little to minimal discussion provided relative to the importance of the Colorado River as the single most important source of drinking, agricultural and recreational water supply to Arizona and Southern California? There appears to be a purposeful decision to downplay the importance of the Colorado River as a water supply in favor of discussions related to Tribal Cultural resources. Why is this the case?

I1-83

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 4:18:11 PM

T Is it possible that hexavalent chromium is actually discharging to the Colorado River? However, due to laboratory detection limits and the fact that sampling techniques in the Colorado River allow for a mixing zone and potential dilution with with the fast moving Colorado River water before a sample is collected? Is DTSC/DOI able to state that the existing bedrock groundwater contamination in East Ravine is NOT in direct contact with the Colorado River? Is this contamination discharging into the Colorado River? Has the full and complete extent of the groundwater contamination been defined? Is their a greater potential direct threat to the Colorado River from the groundwater contamination at East Ravine since the bedrock is in direct contact with the Colorado River and no continuous reducing conditions exist in this area?

I1-84

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 3:45:58 PM

T This is the conversion of one type of contamination to another type of contamination and does not actually remove the contamination. This is still contamination that is being left in the ground. This gives the appearance and/or illusion of actually doing

I1-85

Comments from page 6 continued on next page

effects on those resources have been and will continue to be solicited and incorporated into the decision-making process as the remedy is selected, designed, and implemented.

The project Site area contains sensitive cultural resources that are of religious and cultural significance to some of these tribes, as well as other identified historic areas, such as portions of Route 66. These cultural resources are subject to the protections provided by numerous federal statutes, regulations, and Executive Orders.

Protection of historic properties and cultural resources, in particular those that are listed, or eligible for listing, on the National Register of Historic Places, requires that DOI, in consultation with State Historic Preservation Offices, the Advisory Council on Historic Preservation, the tribes, and other consulting parties, identify adverse effects associated with remedial action at the Site and seek ways to avoid, minimize, or mitigate such effects. The BLM, on behalf of itself, DOI, Fish and Wildlife Services (FWS), and BOR, is the lead federal agency for historic and cultural issues at the Site. Substantive mitigation measures adopted by the BLM as a result of federal consultation will be satisfied during the design and implementation of the remedy at the site.

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floodplain of the Colorado River, a source of drinking water and irrigation for millions of people downstream. Remedial action within this area must comply with the applicable land management requirements established and implemented by BLM, FWS, and BOR. In addition, the contaminated groundwater is located within a groundwater basin that has been designated for beneficial uses under the Colorado River Basin Regional Water Quality Control Board.

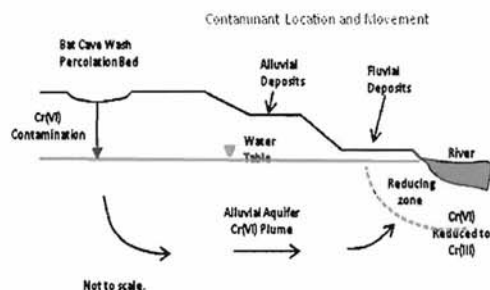
Hexavalent Chromium Groundwater Plume

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something that we are to trust may take place somehow below the ground surface that we are not able to see in the hopes that subsurface conditions are continuous, homogenous, without variation and as expected in the laboratory. Frankly that is a risk that should not be taken or allowed by DTSC and DOI, considering the potential impact to millions of people in Arizona and Southern California if something goes wrong.

I1-85
con't.



As hexavalent chromium migrates in groundwater from the upland area deposits to the ²organic rich conditions near and beneath the river, it undergoes a chemical change to trivalent chromium.

Besides hexavalent chromium as the main groundwater contaminant, the February 2009 RFI/RI Volume 2 Addendum also indicated possible additional chemicals of potential concern within localized areas of the groundwater plume that may have originated from PG&E operations. ⁴These substances include molybdenum, selenium and nitrate.

East Ravine Bedrock Plume

⁵During the 2009 East Ravine Groundwater Investigation, hexavalent chromium was also found in groundwater within the bedrock formations east and southeast of the Compressor Station. The contamination occurs in discrete fractures in the bedrock which limits the flow and overall quantity of groundwater in the bedrock. ⁶PG&E has estimated that the mass of the hexavalent chromium in bedrock likely represents less than one percent of the total hexavalent chromium plume mass.

The lateral extent of East Ravine groundwater contamination appears to extend approximately 1,500 feet east southeast of the Compressor Station. However, the investigation of East Ravine groundwater is ongoing and the source and full extent

¹If the bedrock contamination has not been determined. Studies of the East Ravine area are expected to continue during the remedy design phase of the project.

SUMMARY OF SITE RISKS

As part of the Site investigation, a baseline risk assessment was conducted to determine the current and future risks posed by contaminants in groundwater to humans and ecological receptors. The primary contaminants of potential concern resulting from the evaluation in the risk assessment include hexavalent chromium, selenium, nitrate, and molybdenum.

Based on the results of the risk assessment, there are no unacceptable risks to human health or the environment from groundwater contamination under current conditions. ³Currently, there is no direct exposure to groundwater and no significant contaminant transport pathway from groundwater to surface water.

Hexavalent chromium is present at concentrations that could pose an unacceptable risk to a future hypothetical groundwater user, if the contaminated groundwater were to be used as a source of drinking water. Based on the results of the site investigation and risk assessment, hexavalent chromium was the contaminant addressed in the detailed alternative analysis in the 2009 Corrective Measures Study/ Feasibility Study and was carried forward into remedy selection.

Three additional contaminants of potential concern, (selenium, nitrate, and molybdenum), were evaluated in the RFI/RI and groundwater risk assessment. Although the risk assessment concluded that these constituents are not a source of significant risk in comparison to hexavalent chromium, these substances do contribute to a total non-cancer risk at localized areas within the plume boundary in excess of risk assessment guidelines. ⁷The presence and extent of these substances will be evaluated further during the soil investigation at the Site. The CMS/FS

Page: 7

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 4:17:57 PM

T If the extent of groundwater contamination is not know, an appropriate groundwater remedy can not be determined. Therefore, the Statement of Basis is deficient.

11-86

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 3:47:30 PM

T Does organic rich conditions exists at all locations under the river? Are they continuous? Will these organic rich conditions remain stable over 100 years? Do organic rich conditions exist downstream in the area of bedrock contamination where the bedrock is in direct contact with the Colorado River?

This statement is misleading and attempts to assure the reader that there is a continuous blanket of organic rich conditions beneath the river, Which is not the case. As DTSC states later in this document in "3" Long Term effectiveness" " while the reducing conditions have been shown to be robust, there is no way to prove that these conditions exist everywhere or would persist into the future hundreds to thousands of years from now"

11-87

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 3:51:03 PM

T This statement is not accurate and should not be made since the complete extent bedrock contamination is not known. Further groundwater contamination in bedrock is in direct contact with the Colorado River.

11-88

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 3:49:59 PM

T How will these chemicals be remediated under the current proposed process? What will they be remediated too? Please explain how these chemicals will undergo chemical change when contacting the organic rich conditions and what will the change to?

11-89

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 3:48:44 PM

T How did this groundwater contamination get here? What was the source of this contamination? This investigation was done in 2009. Was PG&E proactive and did they voluntarily want to do this investigation? Did PG&E resist and state at any time that they were not in support of doing this investigation? Are there any other areas that have not been investigated that may have potential groundwater contamination?

11-90

Sequence number: 6

Author:

Subject: Comment on Text

Date: 7/7/2010 3:50:00 PM

T The desire to downplay this contamination by PG&E when the full extent is not know in addition to the location of this contamination related to immediate direct and substantial potential endangerment to impacting the Colorado River is serious cause for concern. Additional interim measures should have been taken by DTSC to protect the Colorado River. Why is DTSC/DOI using PG&E's estimate? What is DTSC/DOI estimate? With the BP oil spill in the Gulf of Mexico we can see how Corporate management will downplay and the extent of contamination. Further as evidence by PG&E's previous activities at Hinkley, we should be very cautious when evaluating any statements or information provided by PG&E.

11-91

Sequence number: 7

Author:

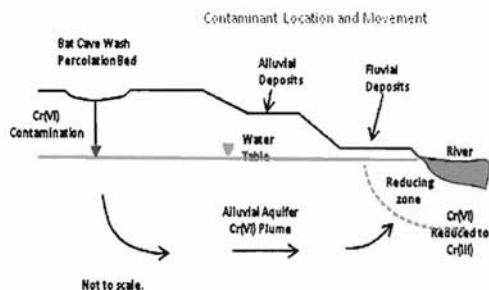
Subject: Comment on Text

Date: 7/7/2010 3:53:43 PM

T These 3 additional chemical contamination exists in the groundwater. However, you are now saying that you are not going to deal with them and you will further evaluate them during the soil investigation. Why? So in fact you are saying that the proposed

11-92

Comments from page 7 continued on next page



As hexavalent chromium migrates in groundwater from the upland area deposits to the organic rich conditions near and beneath the river, it undergoes a chemical change to trivalent chromium.

Besides hexavalent chromium as the main groundwater contaminant, the February 2009 RFI/RI Volume 2 Addendum also indicated possible additional chemicals of potential concern within localized areas of the groundwater plume that may have originated from PG&E operations. These substances include molybdenum, selenium and nitrate.

East Ravine Bedrock Plume

During the 2009 East Ravine Groundwater Investigation, hexavalent chromium was also found in groundwater within the bedrock formations east and southeast of the Compressor Station. The contamination occurs in discrete fractures in the bedrock which limits the flow and overall quantity of groundwater in the bedrock. PG&E has estimated that the mass of the hexavalent chromium in bedrock likely represents less than one percent of the total hexavalent chromium plume mass.

The lateral extent of East Ravine groundwater contamination appears to extend approximately 1,500 feet east southeast of the Compressor Station. However, the investigation of East Ravine groundwater is ongoing and the source and full extent

of the bedrock contamination has not been determined. Studies of the East Ravine area are expected to continue during the remedy design phase of the project.

SUMMARY OF SITE RISKS

As part of the Site investigation, a baseline risk assessment was conducted to determine the current and future risks posed by contaminants in groundwater to humans and ecological receptors. The primary contaminants of potential concern resulting from the evaluation in the risk assessment include hexavalent chromium, selenium, nitrate, and molybdenum.

Based on the results of the risk assessment, there are no unacceptable risks to human health or the environment from groundwater contamination under current conditions. Currently, there is no direct exposure to groundwater and no significant contaminant transport pathway from groundwater to surface water.

Hexavalent chromium is present at concentrations that could pose an unacceptable risk to a future hypothetical groundwater user, if the contaminated groundwater were to be used as a source of drinking water. Based on the results of the site investigation and risk assessment, hexavalent chromium was the contaminant addressed in the detailed alternative analysis in the 2009 Corrective Measures Study/ Feasibility Study and was carried forward into remedy selection.

Three additional contaminants of potential concern, (selenium, nitrate, and molybdenum), were evaluated in the RFI/RI and groundwater risk assessment. Although the risk assessment concluded that these constituents are not a source of significant risk in comparison to hexavalent chromium, these substances do contribute to a total non-cancer risk at localized areas within the plume boundary in excess of risk assessment guidelines. The presence and extent of these substances will be evaluated further during the soil investigation at the Site. The CMS/FS

groundwater remedy is only for one (1) chemical hexavalent chromium that will be converted to another contamination chromium and left in the ground? This is completely misleading to the public since it is presented as a "groundwater remedy" when in fact it is not a complete groundwater remedy. This supports our claim that this process is being piece-mealed, segmented, and bifurcated in order to benefit the interests of some stakeholders and furthers desires to significantly limit the full and complete extent of any real required remediation. There is not a valid reason to be proceeding in this manner. A complete groundwater remedy should be considered. Not a piecemeal approach. In addition, since a complete groundwater remedy is not known, the IM3 facility should be expanded and more pumping and treating of contaminated groundwater should occur if there is a concern that contamination is entering the Colorado River. Also as stated in this section if DTSC/DOI needs to evaluate the presence of additional chemicals during the soil investigation then the potential impacts to groundwater from this soil contamination is NOT known and therefore, a complete groundwater remedy can not be determined at this time.

I1-92
con't.

²Concluded that institutional controls should be enforced to restrict development of contaminated groundwater as a drinking water supply and monitoring of these constituents should continue as part of the Site-wide groundwater monitoring activities throughout future actions taken at the Site.

⁴Because there is no significant ecological exposure pathway for contact with impacted site groundwater, there are no ecological receptors currently at risk of adverse effects due to the presence of contaminants of potential concern in the groundwater.

Based on the results of the risk assessment, it is DTSC's current judgment that the Preferred Alternative identified in this draft Statement of Basis, or one of the other alternatives considered in this document, is necessary to protect public health or welfare or the environment from releases of hazardous substances to the environment.

REMEDIAL ACTION OBJECTIVES

⁵The remedial action objectives ("RAOs") are based on the conclusions of the risk assessment and the requirement that the selected remedy attain applicable or relevant and appropriate requirements (ARARs) identified for the Site. The RAOs for groundwater are to:

- ⁶Prevent ingestion of groundwater as a drinking water source having hexavalent chromium in excess of the regional background concentration of 32 micrograms per liter.
- ⁷Prevent or minimize migration of total chromium and hexavalent chromium in groundwater to ensure concentrations in surface water do not exceed water quality standards that support the designated beneficial uses of the Colorado River (11 micrograms per liter).
- ⁸Reduce the mass of total chromium and hexavalent chromium in groundwater at the Site to achieve compliance with ARARs in groundwater.

¹This RAO will be achieved through attainment of a cleanup goal of 32 micrograms per liter of hexavalent chromium.

- ³Ensure that the current geographic plume boundaries are not permanently expanded following completion of the remedial action.

SUMMARY OF REMEDIAL ALTERNATIVES

The remedial alternatives to address contaminated groundwater at the Site that were evaluated in the 2009 CMS/FS are presented below. The alternatives are identified with letters to correspond with the description of the alternatives within the CMS/FS report.

Generally speaking, Alternatives A and B would not include any active treatment or other measures to remove hexavalent chromium from groundwater. Alternatives C, D, and E would rely primarily on treating the hexavalent chromium underground (also known as "in-situ" treatment) by injecting a carbon food source into the aquifer to "feed" the naturally-occurring bacteria thereby accelerating the change of hexavalent chromium to trivalent chromium by enhancing the naturally occurring biological conditions that degrade hexavalent chromium. Alternative F would extract contaminated groundwater and treat it above-ground using a water treatment plant. Alternatives G and H would combine in-situ treatment with above-ground treatment. Alternative I would continue the existing Interim Measure currently in place by which limited volumes of water are extracted and treated using an existing above-ground treatment facility. Except for Alternatives A and I, all other alternatives evaluated include the decommissioning of the existing Interim Measure treatment system. Decommissioning would occur after remedy construction and start up, and DTSC deems the remedy to be operating properly and successfully.

Provided below is a more specific description of each alternative. Because of the collaboration between

Page: 8

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 3:53:09 PM

TThats it? A RAO of 32 micrograms per liter for hexavalent chromium only? What about all the rest of the contamination?

I1-93

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 3:56:05 PM

THow will DTSC enforce this in Arizona? How will DTSC enforce this on private land? Will DTSC be placing deed restrictions on public and private property? Will development at Topock Marina, Park Moabi or other areas be limited or reduced as a result of institutional controls?

I1-94

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 3:54:12 PM

TYou indicated that the extent of groundwater contamination has not been completely defined. Therefore, how can you do this?

I1-95

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 3:57:11 PM

TIs the East Ravine groundwater contamination in direct contact with ecological receptors? Has this been evaluated? How can the human and ecological risk assessments make these evaluations if the extent of groundwater contamination has not been defined? or the potential discharge to the surface waters or uptake form plants?

I1-96

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 3:57:10 PM

TIf the extent of soil contamination is not know how can the risk assessment evaluate the potential pathway or potential risk from soil contamination leaching into groundwater? or the surface water to groundwater interaction?

I1-97

Sequence number: 6

Author:

Subject: Comment on Text

Date: 7/7/2010 3:59:37 PM

TWhat is the background level of hexavalent chromium currently in the Colorado River? Does this mean that DTSC and DOI will allow PG&E to discharge hexavalent chromium contamination in and allow it to enter the Colorado River as long as the level in the Colorado River is less less than 32 micrograms per liter? Does this mean that if I have a groundwater well that currently has non-detectable levels of hexavalent chromium in it, that PG&E will be allowed to increase the level of hexavalent chromium in my groundwater well to 32 micrograms per liter? What about the other chemicals that DTSC will be allowing PG&E to dump into the Colorado River? Has any Dioxin compounds been reported in soil samples onsite?

I1-98

What is the current background groundwater level of chromium in the floodplain adjacent to the Colorado River?

Sequence number: 7

Author:

Subject: Comment on Text

Date: 7/7/2010 4:00:48 PM

TWhat is the current background level of chromium and hexavalent chromium in the Colorado River? and how does that compare to what you will be allowing PG&E to dump into the river? What about a non-degradation protection policy? Does one exist? What is the 11 micrograms per liter you reference related to? Chromium? or hexavalent Chromium? if it only relates to one of them, then what is the amount that PG&E will be allowed to discharge for the other? Does a limit exist? What will be the level that PG&E will be allowed to increase the amount of Chromium or Hexavalent Chromium in the Colorado River?

I1-99

Sequence number: 8

Author:

Comments from page 8 continued on next page

concluded that institutional controls should be enforced to restrict development of contaminated groundwater as a drinking water supply and monitoring of these constituents should continue as part of the Site-wide groundwater monitoring activities throughout future actions taken at the Site.

Because there is no significant ecological exposure pathway for contact with impacted site groundwater, there are no ecological receptors currently at risk of adverse effects due to the presence of contaminants of potential concern in the groundwater.

Based on the results of the risk assessment, it is DTSC's current judgment that the Preferred Alternative identified in this draft Statement of Basis, or one of the other alternatives considered in this document, is necessary to protect public health or welfare or the environment from releases of hazardous substances to the environment.

REMEDIAL ACTION OBJECTIVES

The remedial action objectives ("RAOs") are based on the conclusions of the risk assessment and the requirement that the selected remedy attain applicable or relevant and appropriate requirements (ARARs) identified for the Site. The RAOs for groundwater are to:

- Prevent ingestion of groundwater as a drinking water source having hexavalent chromium in excess of the regional background concentration of 32 micrograms per liter.
- Prevent or minimize migration of total chromium and hexavalent chromium in groundwater to ensure concentrations in surface water do not exceed water quality standards that support the designated beneficial uses of the Colorado River (11 micrograms per liter).
- Reduce the mass of total chromium and hexavalent chromium in groundwater at the Site to achieve compliance with ARARs in groundwater.

This RAO will be achieved through attainment of a cleanup goal of 32 micrograms per liter of hexavalent chromium.

- Ensure that the current geographic plume boundaries are not permanently expanded following completion of the remedial action.

SUMMARY OF REMEDIAL ALTERNATIVES

The remedial alternatives to address contaminated groundwater at the Site that were evaluated in the 2009 CMS/FS are presented below. The alternatives are identified with letters to correspond with the description of the alternatives within the CMS/FS report.

Generally speaking, Alternatives A and B would not include any active treatment or other measures to remove hexavalent chromium from groundwater. Alternatives C, D, and E would rely primarily on treating the hexavalent chromium underground (also known as "in-situ" treatment) by injecting a carbon food source into the aquifer to "feed" the naturally-occurring bacteria thereby accelerating the change of hexavalent chromium to trivalent chromium by enhancing the naturally occurring biological conditions that degrade hexavalent chromium. Alternative F would extract contaminated groundwater and treat it above-ground using a water treatment plant. Alternatives G and H would combine in-situ treatment with above-ground treatment. Alternative I would continue the existing Interim Measure currently in place by which limited volumes of water are extracted and treated using an existing above-ground treatment facility. Except for Alternatives A and I, all other alternatives evaluated include the decommissioning of the existing Interim Measure treatment system. Decommissioning would occur after remedy construction and start up, and DTSC deems the remedy to be operating properly and successfully.

Provided below is a more specific description of each alternative. Because of the collaboration between

Subject: Underline
Date: 7/7/2010 4:20:57 PM




Sequence number: 9

Author:

Subject: Comment on Text

Date: 7/7/2010 4:00:31 PM

 Conversion of one form of contamination (hexavalent chromium) to another form of contamination (chromium) would therefore not be a reduction in mass of the contamination. Is that correct? This is just turning one form of contamination into another.

I1-100

Alternative E – In-situ Treatment with Fresh Water Flushing

Alternative E involves flushing to push the plume through an In-situ Reduction Zone (“IRZ”) located along National Trails Highway. Flushing would be accomplished through a combination of fresh water injection and injection of carbon amended groundwater in wells to the west of the plume. This alternative would also include using extraction wells near the Colorado River shoreline to capture the plume, accelerate cleanup of the floodplain, and flush the groundwater with elevated hexavalent chromium through the treatment zone. Additional extraction wells are located in an area northeast of the Compressor Station where the flushing efficiency from injection wells alone is relatively poor. Groundwater extracted from the near-river wells and wells northeast of the Compressor Station would be treated with the carbon food source and the water would be reinjected west of and/or within the hexavalent chromium plume.

Estimated Net Present Value: \$92,000,000 - \$198,000,000

Estimated Time to Achieve RAOs: 10 to 110 years

Alternative F – Pump and Treat

This alternative would involve pumping groundwater, above-ground treatment to remove chromium from the extracted groundwater, and reinjection of the treated water back to the aquifer.

Estimated Net Present Value: \$187,000,000 - \$401,000,000

Estimated Time to Achieve RAOs: 15 to 150 +years

Alternative G – Combined Floodplain In-situ / Pump and Treat

This alternative would combine floodplain cleanup by in-situ treatment, with treatment of the uplands portion of the plume by pumping groundwater, above-ground treatment to remove chromium from the extracted groundwater, and reinjection of the

treated water back to the aquifer. The floodplain cleanup would involve construction of in-situ treatment zones at National Trails Highway and between National Trails Highway and the Colorado River. This alternative differs from Alternative H in that pump and treat is the dominant feature of the cleanup rather than in-situ treatment.

Estimated Net Present Value: \$177,000,000 - \$380,000,000

Estimated Time to Achieve RAOs: 10 to 90 years

Alternative H – Combined Upland In-situ / Pump and Treat

This alternative would combine in-situ treatment in the upland portions of the plume, with pump-and-treat technology in the floodplain (consisting of pumping groundwater, above-ground treatment to remove chromium from the extracted groundwater, and reinjection of the treated water back to the aquifer). This alternative differs from Alternative G by relying on an in-situ treatment zone as the dominant feature of the cleanup rather than pump and treat.

Estimated Net Present Value: \$127,000,000 - \$273,000,000

Estimated Time to Achieve RAOs: 10 to 70 years

Alternative I – Continued Operation of Interim Measure Groundwater Treatment

This alternative would involve continued operation of the current Interim Measure Groundwater Treatment Plant as the final remedial action at the site. The plant includes a pump and treat system that removes groundwater and utilizes chemical reduction, precipitation and filtration to remove hexavalent chromium. The Interim Measure system would operate with the existing equipment with existing procedures using the existing process at the existing flow rate until RAOs are attained.

Estimated Net Present Value: \$186,000,000 - \$398,000,000

Page: 10

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 4:01:38 PM

The estimated time of up to 110 years to achieve RAOs is much too long. The length of time can be significantly reduced by adding pump and treat to the alternative. What would the time period be to complete the remediation if upland in-situ, flood-plain in-situ and pump and treat was used? If this alternative was used would the groundwater gradient and movement of groundwater contamination be away from the Colorado River?

I1-101

<p>Cost includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.</p>
<p>State/Support Agency Acceptance considers whether the State agrees with the analyses and recommendations, as described in the Proposed Plan.</p>
<p>Community Acceptance considers whether the local community agrees with DTSC's analyses and preferred alternative. Comments received on the draft Statement of Basis are an important indicator of community acceptance.</p>

As described below, two of these combined criteria, "Protect Human Health and The Environment, Attain Media Cleanup Goals, and Control Sources Of Releases" and "Compliance with ARARs," are considered Corrective Action Standards or Threshold Criteria. All remedial alternatives must satisfy these standards and criteria in order to be considered for selection. The next five criteria are known as "balancing criteria" or "remedy selection decision factors" which are factors that are used for relative comparison of the remedial alternatives under consideration. Finally, the last two criteria, State/Support Agency Acceptance and Community Acceptance are known as "modifying criteria."

1. Protect Human Health and The Environment, Attain Media Cleanup Goals, and Control Sources Of Releases

Alternative A does not meet the selection criteria for protecting human health and the environment because there would be no institutional controls imposed to restrict use of groundwater in locations where hexavalent chromium concentrations exceed the cleanup goals, and there would be no monitoring to evaluate whether geochemical conditions near the river required to reach the cleanup goals remained in place over the long time period necessary to achieve these goals. The remaining Alternatives (B through I), were all found to meet the standard and threshold criteria of protecting human health and the environment.^[3] Alternatives C, D, E, F, G, and H were ranked high for this criterion while Alternatives B and I ranked medium for this criterion primarily

because of the long time required to attain cleanup goals, as well as the uncertainty about the robustness of the natural geochemical conditions near the river and the high level of operation and maintenance.

2. Compliance with ARARs

Applicable or Relevant and Appropriate Requirements (ARARs) are those cleanup standards, standards of control, and other substantive federal or more stringent State requirements that have been determined to be legally applicable to, or well suited to ("relevant and appropriate"), addressing hazardous substances, remedial actions, or other circumstances presented at a site. ARARs generally are classified as chemical-specific, location-specific, or action-specific. The ARARs for the Topock Site are identified in Appendix B of the CMS/FS.

Based on the specific circumstances presented at the Topock Site and as described in the CMS/FS, Alternatives A, B and I do not satisfy the requirement established by the California State Water Resources Control Board Resolution 92-49 that cleanup goals be achieved within a "reasonable time frame." For this reason, Alternatives A, B, and I have been eliminated from further consideration.

Because of the importance of the area to certain Native American tribes with ancestral ties to the region, and the presence of cultural resources of religious and cultural significance, as well as other sensitive cultural resources, several cultural resource protection statutes, regulations, and Executive Orders have been identified as ARARs for the Topock Site. As described in the CMS/FS, none of the alternatives under consideration were eliminated from further consideration based on its failure to satisfy cultural resource ARARs. In order to ensure that the remedy selected attains the substantive requirements established by these ARARs, however, as a remedy is selected, designed, and implemented, the federal agencies will continue to engage in consultation with tribes, State Historic Preservation Officers, and others to identify potential effects on

Page: 12

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 4:01:51 PM

T How is this ranking of "high level of operation and maintenance" related to the specific remedy selection criteria of protect human health and the environment, attain media cleanup goals and control sources of releases. This is evidence of incorrect analysis of screening criteria.

I1-102

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 4:02:18 PM

T If Alternative "B" Monitored Natural Attenuation" do not satisfy the requirements established by the California State Water Resources Control Board Resolution 92-49, then it is not appropriate for DTSC to include monitored natural attenuation as part of the remedy as DTSC has done. As stated in the "Summary of the preferred alternative" states that "Additionally, DTSC preferred alternative includes monitored natural attenuation as a long term component to address residual hexavalent chromium" This is a fatal flaw in DTSC's analysis and is in conflict with Resolution 92-49. If DTSC includes pump and treat as a component of the remediation, monitored natural attenuation would not be needed and the time to complete the remediation would be significantly quicker.

I1-103

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 4:03:15 PM

T What is the definition of "high" and "Medium"

I1-104

cultural resources and to seek ways to avoid, minimize, or mitigate any adverse effects.

With respect to any remedial action to be undertaken within the Havasu National Wildlife Refuge, the National Wildlife System Administration Act has been identified as an ARAR. As described in the CMS/FS, none of the alternatives under consideration were eliminated from further consideration based on its failure to satisfy this ARAR. After a remedy is selected, the Fish and Wildlife Service will identify, during remedial design and implementation, those measures necessary to ensure that the selected remedy satisfies this ARAR.

3. Long-term Effectiveness, Permanence, and Reliability

Alternative A (No Action) ranked the lowest of all alternatives because this alternative does not include monitoring to verify the effectiveness of natural recovery processes and to determine when the RAOs have been achieved.

1 Alternative B ranked medium because it would include monitoring and institutional controls; however, this alternative relies on natural attenuation to convert hexavalent chromium to trivalent chromium, and while the reducing conditions have been shown to be robust, there is no way to prove that these conditions exist everywhere or would persist into the future hundreds to thousands of years from now.

Alternatives F, G, H, and I all ranked medium for long-term effectiveness, permanence, and reliability. These alternatives include ex-situ treatment; the resulting waste generation requiring land disposal of treatment residuals at an offsite, permitted landfill requires long-term containment, management, and monitoring that are not required by the alternatives that include in-situ treatment.

Alternatives C, D, and E ranked medium-high for this criterion. While there is uncertainty regarding the ability to distribute the carbon food source across the

targeted area, and Alternative E relies on flushing to remove contaminants from the upland portion of the aquifer, comparatively few long-term controls are expected for these alternatives following attainment of cleanup goals.

4. Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment

Alternatives F, G, and I are ranked high because the toxicity, mobility, and volume of hexavalent chromium is lessened throughout the plume because the majority of the chromium mass after treatment would be removed and managed in a permitted disposal facility.

C, D, E, and H are ranked medium high because the converted chromium will remain within the subsurface formation. Additionally, byproducts are anticipated from in-situ treatment, but they are expected to be localized and could remain temporarily elevated above baseline and background concentrations in some portions of the aquifer.

Alternatives A and B ranked medium because the amount of plume destroyed or treated is less certain due to the passive nature of treatment and the extent and average capacity of the floodplain area to naturally reduce hexavalent chromium over time.

5. Short-term Effectiveness

Alternative B was ranked medium because of the minimal footprint, but relatively long time to cleanup.

Alternatives C and E were ranked medium-low because of the comparatively shorter remediation period and relatively limited construction and operational activities that would occur primarily in previously disturbed areas. Alternatives A, D, F, G, H, and I received a low ranking for short-term effectiveness. Alternative A was ranked low primarily because of the extensive time to cleanup with no controls during the remedial period. Alternatives F, G, H, and I were ranked low as a result of construction and operation of an

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 4:03:29 PM

T What is the definition of medium?

I1-105

aboveground treatment plant and the greater amount of construction, aboveground visual impact, worker/operator presence onsite, electrical power requirements, and trucking requirements for chemical delivery and waste transportation and disposal. Alternative D ranked low primarily because the location of remedial facilities would not be limited to previously disturbed areas and because of the need for subsequent additional disturbance from grading, road construction, facility construction, and operation and maintenance.

6. Implementability

Alternatives A and B are ranked high for implementability because Alternative A involves no remedial action, and the only remedial activities associated with Alternative B are monitoring well construction and maintenance and administration of an institutional control. ²Alternative I also ranked high because the system has been shown to be technically implementable over the years it has operated. Alternatives D, E, F, G, and H were ranked medium because while these alternatives are administratively implementable, there will be technical challenges associated with the active treatment processes. Alternative E requires additional approvals from landowners and associated water agencies for the water supply well and pipeline. Alternative C was ranked low for this criterion because of the relatively more complex technical challenges associated with balancing carbon delivery and hydraulic containment of the plume.

7. Cost

The costs for Alternatives A and B are the lowest; therefore, these alternatives are ranked high in cost-effectiveness. Alternatives C, D, E, and H are the next most costly; therefore, these alternatives are ranked medium in cost-effectiveness. Alternatives F, G, and I are the most expensive of the alternatives and are therefore ranked low in cost effectiveness.

8. State/Support Agency Acceptance

DTSC and DOI have worked together in closely coordinating each agency's respective authorities and overseeing PG&E's performance of work under the federal CERCLA Consent Agreement and the State Corrective Action Consent Agreement by which the CMS/FS has been prepared. Through this coordination, both DOI and DTSC approved the CMS/FS in December, 2009. Furthermore, DTSC and DOI worked in partnership to ensure that this draft Statement of Basis and the DOI Proposed Plan for the Preferred Alternative are closely coordinated in scope and in content. ¹Based on this coordinated approach, DTSC and DOI, while considering the action independently, reached a similar conclusion on the Preferred Alternative to submit for public review and comment.

9. Community Acceptance

Community acceptance of the Preferred Alternative will be evaluated after the close of the public comment period with consideration of the comments received. Community acceptance will be described in the Final Statement of Basis for the Site.

SUMMARY OF THE PREFERRED ALTERNATIVE

³DTSC's recommendation for the Preferred Alternative, based on the analysis and conclusions presented in the CMS/FS, and in conjunction with the findings of potential impacts evaluated in the draft EIR, is Alternative E – In-situ Treatment with Fresh Water Flushing. Alternative E is recommended because it will achieve the RAOs ⁴while substantially reducing, through treatment, the amount of hexavalent chromium in the groundwater [which is the principal threat at the site], ⁵and will do so in a reasonable time frame, ⁶and with fewer adverse effects to cultural resources and biological resources than other alternatives considered. Alternative E will also allow the decommissioning of the existing Interim Measure treatment plant after PG&E demonstrates, with DTSC's concurrence, that the remedy is successfully treating and controlling the

Page: 14

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 4:06:12 PM

T You state that DOI has reached a similar conclusion on the preferred alternative. When was that conclusion made by DOI and by whom?

What is the DOI public review that you referenced?

I1-106

Sequence number: 2

Author:

Subject: Highlight

Date: 7/7/2010 4:07:18 PM

T Pump and treat is ranked high for implementability since it has been proven to work. Therefore, pump and treat should be a continued component of any proposed remedial activity.

I1-107

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 4:04:38 PM

T We disagree with the selection of this alternative. Alternative G and H combined would provide 1. A higher safety factor for the protection for the Colorado River since it will maintain a landward groundwater gradient away from the Colorado River. 2. Actually reduce the mass of the contamination and not just convert one form of contamination to another. 3. Completed remediation in a shorter period. 4. Not allow any by-product contamination or other groundwater contamination to enter the Colorado River. 5. Provide more that just an illusion of a remedy that is magically to work beneath the ground surface and as we are to trust PG&E that it will actually occur.

I1-108

What alternative provides the greatest protection for the Colorado River? drinking water, agricultural and recreational activities, and provides to greatest protection and safety for the current living people and the future generations?

Did the previous DTSC settlement agreement have any impact on the decision to pre select this remedy?

With the proposed DTSC alternative E remedy. Will any groundwater contamination migrate or allowed to move any closer to the Colorado River?

What will happen to the current groundwater contamination that exists under the Colorado River that is beyond the proposed zone of in-situ treatment near the Colorado River? Will this contamination be treated? or will it be ignored and allowed to potentially migrate and enter the Colorado River?

I1-109

For this alternative what is the direction of flow for the contamination? Is it toward the Colorado River? or will it be away from the Colorado River?

This alternative will ignore and fail to treat other additional chemicals in groundwater (molybdenum, selenium and nitrate and will allow and push this contamination closer to the Colorado River will allow these chemicals to enter and impact the Colorado River.

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 4:06:40 PM

T What does substantially reducing mean? Are you saying that this alternative will not completely treat all the contamination?

This alternative fails to address by-products and ignores the presence of does not treat

I1-110

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 4:06:58 PM

T What is DTSC perception of a "reasonable time frame"

I1-111

Sequence number: 6

Author:

Comments from page 14 continued on next page

aboveground treatment plant and the greater amount of construction, aboveground visual impact, worker/operator presence onsite, electrical power requirements, and trucking requirements for chemical delivery and waste transportation and disposal. Alternative D ranked low primarily because the location of remedial facilities would not be limited to previously disturbed areas and because of the need for subsequent additional disturbance from grading, road construction, facility construction, and operation and maintenance.

6. Implementability

Alternatives A and B are ranked high for implementability because Alternative A involves no remedial action, and the only remedial activities associated with Alternative B are monitoring well construction and maintenance and administration of an institutional control. Alternative I also ranked high because the system has been shown to be technically implementable over the years it has operated. Alternatives D, E, F, G, and H were ranked medium because while these alternatives are administratively implementable, there will be technical challenges associated with the active treatment processes. Alternative E requires additional approvals from landowners and associated water agencies for the water supply well and pipeline. Alternative C was ranked low for this criterion because of the relatively more complex technical challenges associated with balancing carbon delivery and hydraulic containment of the plume.

7. Cost

The costs for Alternatives A and B are the lowest; therefore, these alternatives are ranked high in cost-effectiveness. Alternatives C, D, E, and H are the next most costly; therefore, these alternatives are ranked medium in cost-effectiveness. Alternatives F, G, and I are the most expensive of the alternatives and are therefore ranked low in cost effectiveness.

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DTSC's recommendation for the Preferred Alternative, based on the analysis and conclusions presented in the CMS/FS, and in conjunction with the findings of potential impacts evaluated in the draft EIR, is Alternative E – In-situ Treatment with Fresh Water Flushing. Alternative E is recommended because it will achieve the RAOs while substantially reducing, through treatment, the amount of hexavalent chromium in the groundwater [which is the principal threat at the site], and will do so in a reasonable time frame, and with fewer adverse effects to cultural resources and biological resources than other alternatives considered. Alternative E will also allow the decommissioning of the existing Interim Measure treatment plant after PG&E demonstrates, with DTSC's concurrence, that the remedy is successfully treating and controlling the

Subject: Comment on Text
Date: 7/7/2010 4:06:32 PM
T was a scoring matrix used to determine this?

I1-112

Sequence number: 7
Author:
Subject: Comment on Text
Date: 7/7/2010 4:40:44 PM
T

1. Movement of contaminated groundwater and its secondary byproducts at the Site.

Because DTSC recognizes that the variable nature of the geologic materials beneath the site may result in some localized areas being resistant to in-situ treatment and flushing, these areas may require optimized remedial efforts including focused injection/extraction. 2. Additionally, DTSC's preferred alternative includes monitored natural attenuation as a long term component to address residual hexavalent chromium that may remain in portions of the aquifer formation after the majority has been treated by the in-situ treatment with fresh water flushing technology. 3. Monitored natural attenuation relies on the naturally occurring degradation and dilution properties of the groundwater system to convert hexavalent chromium to trivalent chromium in groundwater.

5. Land Use Restrictions – Due to the incomplete evaluation of soil contamination at the Site and the potential unacceptable risk to a future hypothetical groundwater user, the proposed remedy requires that certain restrictions be imposed on future land use activities. The proposed restrictions are necessary to protect human health and the environment, and to maintain the short and long term protectiveness of the remedy. The restrictions may be imposed through a "Covenant to Restrict Use of Property" ("Covenant") which is an enforceable institutional control mechanism. The Covenant restrictions "run with the land" and apply no matter who owns the property. The land use restrictions may, with regulatory agency approval, be revised if site conditions should change in the future (e.g., new land use). The specific language for the Covenant with PG&E, and other land owners will be developed after DTSC selects the final remedy. 6. However, restrictions to be considered may include, but not limited to the following:

- Growing food crops or any agricultural products
- Drilling for drinking water, oil or gas
- Extraction of ground water for purposes other than ground water monitoring, site remediation or construction dewatering

- Any activity that may disturb or adversely affect the operation and maintenance of the groundwater monitoring network and site remediation system that is not part of a DOI or DTSC approved corrective action work plan or facility closure plan for the property without prior written agency approval.
- Any redevelopment of the property until a Risk Management Plan (RMP) is prepared for the specific project and is approved in writing by DTSC. A RMP identifies, at a minimum, the specific project proposed for construction, the previous site history, the nature and extent of contamination from all media, the potential pathways of receptor exposure and health impacts from existing site contamination, and practical ways to mitigate the impacts for the specific project. The Covenant and the RMP work together to ensure that potential impacts from exposure to contaminated soils, ground water or other media are managed in a manner that is protective of human health and the environment. The RMP may be revised or amended.

Risk Management Activities. The following activities will require risk management at the Site:

- Any activities that will disturb the soil or ground water, such as excavation, grading, removal, trenching, filling, earth moving or mining, shall only be permitted on the property pursuant to a corrective action work plan approved in writing by DTSC, or an RMP approved in writing by DTSC.
- Any contaminated media brought to the surface as a result of remediation related activities including, but not limited to, pumping, grading, excavation, trenching, or backfilling shall be managed in accordance with all applicable provisions of state and federal laws.

Five Year Remedy Performance Evaluation Reports

The purpose of these reports is to provide an evaluation of the long-term effectiveness and reliability of the selected remedy including in-situ treatment and

Page: 15

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 4:07:12 PM

T What is the exact measure of this test? What does controlling the movement of contaminated groundwater mean?

I1-113

What are the secondary by-products that will be created and have not been discussed in this document?

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 4:07:26 PM

T Previously DTSC stated that they would require all the contamination to be treated to 32 micrograms per liter. Now it is stated that residual contamination may remain above this amount because complete information is not know about subsurface conditions. Why? This supports our previous comment that aggressive pump and treat needs to be a key component of any remedy selection. Protection of the Colorado River is primary.

I1-114

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 4:07:59 PM

T This is not an effective alternative when areas of the site do not have adequate and continuous subsurface conditions that can allow this to happen. Further with the passage of time, subsurface conditions may change altering ability of naturally occurring degradation. As stated above, DTSC recognizes the variable nature of subsurface geological. Therefore, this is not a reasonable alternative.

I1-115

Sequence number: 4

Author:

Subject: Underline

Date: 7/7/2010 4:20:42 PM

T

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 4:20:29 PM

T Where will this land use restriction extend to? Will restrictions be placed on wells in Arizona that may wish to pump a higher levels or rates directly adjacent to the Colorado River and deep in the aquifer? Will restrictions be placed on pumping rates? Will I be able to pump 1,000 gallons per minute at Topock Marina? or at a house someone builds adjacent to the Colorado River? Will Park Moabi be limited an the amount of water that they can pump?

I1-116

Sequence number: 6

Author:

Subject: Comment on Text

Date: 7/7/2010 4:08:07 PM

T Will dredging of all portions of the Colorado River be allowed? the Topock Marina ?

Will fishing be restricted in the Colorado River adjacent to the site? Will recreational activities be limited in the Colorado River?

Will native plants be allowed to be collected by Tribal members in the area of the contamination?

I1-117

monitored natural attenuation with recommendations for improvement. The report examines such questions as: Are the media cleanup objectives and remedy performance standards being achieved? How well are things working? Are contaminant concentrations levels trending downward? What improvements are necessary and how will they be implemented?

Financial Assurance for The Remedy

Financial Assurance is required for monitoring, construction, operation and maintenance of any selected remedy. PG&E will be required to comply with the financial responsibility requirements pursuant to California Health and Safety Code Section 25245 to assure that the required remediation work will be completed now and into the future. PG&E must satisfy the financial responsibility requirement within a reasonable period of time as determined by DTSC after selection of the Preferred Alternative. The initial funding level shall be based on the conceptual cost estimate for the alternative as set forth in the CMS/FS. The funding level for financial assurance mechanism will be adjusted to reflect the costs estimate to be revised as part of the final remedy design and updated annually.

Based on the information currently available, DTSC believes the Preferred Alternative (Alternative E with the addition of monitored natural attenuation) meets the threshold criteria and best addresses the balancing criteria/ remedy selection decision factors. DTSC has also identified several mitigation measures during the preparation of the draft EIR pursuant to CEQA requirements. These mitigation measures are considered a part of the action required for the implementation of the Preferred Alternative (see the draft EIR for the listing of the mitigation measures). DTSC expects the groundwater Preferred Alternative as defined above to satisfy all requirements of a final groundwater remedy as required under the RCRA Corrective Action program and will satisfy the requirements in accordance with the 1996 Corrective Action Consent Agreement with PG&E.

COMMUNITY PARTICIPATION

DTSC, in conjunction with DOI, is providing information regarding the cleanup of the PG&E Topock Site to the public through open house/public hearings sessions, the Administrative Record file in the public information repositories for the Site, and announcements published in several local community area newspapers prior to the start of the Public Comment Period. (Listed on page 17) DTSC and DOI encourage the public to gain a more comprehensive understanding of the Site and the investigation and cleanup activities that have been and will be conducted at the Site. DTSC, in consultation with DOI, may modify the Preferred Alternative or select another remedial alternative presented in this draft Statement of Basis upon evaluation of new information and/or comments received during the public comment period. Therefore, the public is encouraged to review and comment on all alternatives presented in this draft Statement of Basis and its associated draft EIR.

The dates for the public comment period and the location, dates and time of the open houses and hearing sessions are provided on the front page of this draft Statement of Basis. The locations of the public repositories for the Administrative Record file can be found on the last page of this document.

For further information on the PG&E Topock cleanup and to submit written comments during the public comment period, please contact:

Mr. Aaron Yue
Project Manager
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630
Email: ayue@dtsc.ca.gov
Fax: 714.484.5439

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 4:10:27 PM

T PG&E has demonstrated through previous filing for bankruptcy that they are not capable of providing a reliable and consistent mechanism of financial assurance for any remedy solution. When did PG&E previously file for bankruptcy? Further PG&E has more recently demonstrated that they can not be trusted to completely pay all outstanding invoices that were approved by the CRIT Tribal Counsel and sent to PG&E for payment for work that was both appropriate and reasonably conducted by CRIT environmental consultants (Envirometrix Corporation) working on behalf of CRIT. This is direct evidence how PG&E failed to honor their financial responsibilities when it is not convenient for PG&E as they would rather use what means are available to limit, reduce, and marginalize participation and actions in order to manipulate and control the process and outcome for their direct benefit. This documented evidence demonstrates PG&E lack of financial commitment, responsibility, honor, and fair play. Further PG&E has been responsible for extreme slow payments (delays of more that one year) and purposeful delays, disregard, and responsibility to pay all portions of invoices approved by CRIT Tribal council for appropriate work activities conducted by environmental consultants on behalf of the Tribes for this project. Therefore, in order to protect the people of the State of California and Arizona in addition to all Tribal entities, the full and complete amount of any remediation must be secured and required to be placed into a restricted escrow fund and an appropriate fund balance be maintained at all times. It is also request that DTSC create and appoint a citizen advisory oversight committee for oversight of these funds and to ensure that PG&E maintains an adequate fund balance for all proposed work activities. Based on historical practices PG&E can not be allowed to simply state through a written financial statement that they will have the funds to complete the work. In addition, prior to approving any remedy, DTSC and DOI must require that PG&E place these funds in an escrow account before any approval is provided.

11-118

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 4:08:46 PM

T This is a non working fax number. We have been attempting to fax requests to this number regarding request for interpreters to be present at the public meetings. However, attempts to do so were initially. Further the fax number for the public participation office obtained from the DTSC Web site is also a non-working fax when attempting to fax after hours. Due to these facts, DTSC has restricted and limited our ability submit requests and provide comments and feedback. Therefore, the public comment period must be re-noticed with the correct information that identifies the correct fax numbers to allow communication and allow the requested interpreters to be present at the requested meetings. This is a significant defect in the process and should be remedied as not to exclude participation at the meetings.

11-119

DOI ANNOUNCES PROPOSED PLAN

INTRODUCTION

This Proposed Plan is being issued by the United States Department of the Interior ("DOI") on behalf of itself and DOI's Bureau of Land Management ("BLM"), U.S. Fish and Wildlife Service ("FWS"), and Bureau of Reclamation ("Reclamation"). This Proposed Plan identifies the Preferred Alternative among the remedial action alternatives evaluated for cleaning up groundwater contaminated by past waste disposal practices at the Pacific Gas and Electric Company ("PG&E") Topock Compressor Station ("the Site") located near Needles, California.

This Proposed Plan is being issued by DOI as the lead agency responsible for activities conducted under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") addressing areas contaminated by the release of hazardous substances at the Site. DOI is coordinating the selection of a final remedial action alternative with the California Department of Toxic Substances Control ("DTSC"). DTSC will be selecting corrective action to address groundwater contamination pursuant to authority under State Hazardous Waste authorities and the Resource Conservation and Recovery Act ("RCRA").

DOI is issuing this Proposed Plan as part of its public participation responsibilities under Section 117 of CERCLA and Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP").

DOI, in consultation with DTSC, may modify the Preferred Alternative or select another remedial alternative presented in the Proposed Plan based on new information or public comments. Therefore, the public is encouraged

to review and comment on all alternatives presented in this Proposed Plan.

PUBLIC COMMENT PERIOD:

June 4, 2010 to July 19, 2010

DOI will accept written comments on the Proposed Plan during the public comment period. You may submit your comments to:

Pamela S. Innis
Topock Project Manager
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You are invited to meetings to hear about the Proposed Plan for cleaning up groundwater at the PG&E Topock Site. Written and oral comments will also be accepted at these meetings. The meetings will be held at:

PUBLIC MEETINGS/PUBLIC HEARINGS

June 22, 2010	Parker, AZ
June 23, 2010	Lake Havasu, CA
June 29, 2010	Needles, CA
June 30, 2010	Golden Shores, AZ

For more information, see the Administrative Record at the following location:

Bureau of Land Management
Lake Havasu Field Office
2610 Sweetwater Avenue
Lake Havasu City, AZ
(928) 505-1200
Hours: Monday – Friday
8 a.m. to 4:30 p.m.

Or you may access the DTSC Website at:
<http://www.dtsc-topock.com>
Look under "Document Library".

- I1-1 The commenter is concerned that Topock project officials are not considering the health and well-being of tribal members when selecting an alternative for the remediation process. DTSC endeavors to protect human health and the environment without discrimination through our actions while respecting all peoples' beliefs. The commenter's belief that the proposed project would "allow significant increased levels of hexavalent chromium in both the groundwater and release in to the surface waters of the Colorado River, where none or minimal levels had been detected before" is inaccurate. The commenter's statement mischaracterizes the remediation goals of the proposed project. Although DTSC cited the maximum concentration allowable by the Federal Water Pollution Act of 11µg/l in surface water in the remedial action objectives (Section 3.3 of the Final CMS/FS, the remediation goal is to prevent or minimize migration of the chromium contaminant. Furthermore, the proposed remediation is meant to immobilize the chromium so that it is not soluble in water and affect any human or ecological receptors that may be using the water. Once the chromium is converted to a less mobile form and remains in the subsurface, its risk would be significantly reduced (see Sections 3.4 and 3.5 of the DEIR). It is unfortunate that some members of the Native American community feel they have been misled about the scope of the remediation; however, DTSC's goal on this project will continue to be to protect human, ecological receptors and the environment. As stated in the Draft Statement of Basis, Alternative E is expected to be the most balanced and protective remediation approach.
- I1-2 The commenter's opinion that DTSC failed to understand the significance of water and its impact on the life and culture of the Mojave people is unfortunate and noted. In reviewing the proposed remedial alternatives, DTSC was sensitive to physical impacts and spiritual beliefs of the tribes, while acknowledging the need to clean up the contamination at the site. For details on the reasoning behind the decision for PG&E not to complete a formal ethnographic study, please refer to the response to comment I1-32 below. In preparation of the DEIR, DTSC has provided ample opportunities for input into the proposed project by interested parties through the public hearings, meetings with tribal members, and during public review and comment on the DEIR (see Section 2.4.2 of the DEIR).
- I1-3 It is unfortunate that the commenter feels shut out of the public process. Information about the project has been repeatedly provided to the Fort Mojave Indian Tribe (FMIT) and Colorado River Indian Tribe (CRIT) throughout the life of this project during regularly scheduled Consultative Workgroup Meetings, DTSC meetings with tribal leaders, community meetings held at the FMIT and CRIT reservations, as well as several information repositories located in local communities, fact sheets, and the www.dtsc-topock.com website. Please refer to the Tribal Communication Summary (Appendix TRI). DTSC notes that the commenter is introducing the questions and concerns provided in letter I1 and that this comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary on this comment.
- I1-4 As described in the Statement of Basis, PG&E held rights to operate a gas pipeline and the Topock Compressor Station at the current location under a federal act dated February 25, 1920. The land surrounding the site was subsequently passed to the State of California as part of a larger land exchange agreement. The federal act to allow PG&E to operate the Compressor Station was already in place and was legally conforming when the State of California acquired

the property. Therefore, the State has no jurisdiction or authority on the use of the land and no conflict exists as to whether DTSC can act as lead agency for purposes of the project. The remainder of the questions raised by the comment present legal issues that are outside the scope of the environmental analysis provided in the DEIR; no additional response is required.

- I1-5 According to PG&E's Resource Conservation and Recovery Act (RCRA) facility investigation/remedial investigation (RFI/RI) report (CH2M Hill 2007), biocides were used historically in the cooling towers as part of routine operations at the Compressor Station. Although the chemical makeup of these biocides was not specified by PG&E, typical cooling towers in power plants use oxidizing biocides that are chlorine or bromide based. Discussion regarding biocides can be found in the RFI/RI report (CH2M Hill 2007:3-13).
- I1-6 From 1964 to 1969, PG&E used a single-step treatment process to convert hexavalent chromium (Cr[VI]) to trivalent chromium (Cr[III]). PG&E indicates that total chromium concentrations ranged from 13 to 14 parts per million (ppm) in the treated effluent (CH2M Hill 2007). From 1969 to 1985 a two-step treatment process was used to convert Cr(VI) to Cr(III). The two-step process is reported to have generated wastewater containing 1 ppm or less chromium. Additional information regarding the treatment of PG&E's waste streams from their cooling tower can be found in the RFI/RI (CH2M Hill 2007:3-15).
- I1-7 Treated waste water injected into well PGE-8 is reported by PG&E to have contained chromium at concentrations of 1 ppm or less (CH2M Hill 2007:3-15). PG&E estimates that between 29.4 million to 42 million gallons of wastewater were injected into well PGE-8 over its lifetime (CH2M Hill 2007:3-19). Well PGE-8 is periodically sampled as part of site groundwater monitoring and hexavalent chromium has not been detected in samples from this well.
- I1-8 As shown in the comment, the Statement of Basis identifies Cr(VI) as the main groundwater contaminant in addition to chemicals of potential concern, which include molybdenum, selenium, and nitrate. Molybdenum, selenium, and nitrate are also discussed as being a lesser risk to human health than Cr(VI), but locally contribute to noncancer risk within the boundary of the Cr(VI) plume.

The commenter notes the focus of the Statement of Basis on the Cr(VI) as the primary contaminant, but is incorrect in stating that the remedy "does not do anything to cleanup molybdenum, selenium, and nitrate."

The in situ treatment process of Alternative E would convert (reduce) Cr(VI) to Cr(III) and would also reduce other dissolved constituents in groundwater, including molybdenum, selenium, and nitrate. Because molybdenum, selenium, and nitrate affect the groundwater within the Cr(VI) plume and are subject to the same reduction processes as Cr(VI), these constituents are expected to be treated concurrently with the Cr(VI) treatment (see Section 4.6.1.1 of the DEIR). While the discussion focuses on Cr(VI) as the primary contaminant, the proposed remedial alternative is capable of treating these additional localized contaminants.

The reduction of molybdenum, selenium, and nitrate is also discussed in *In Situ Reactive Zone Treatment Design Elements* of the Final CMS/FS (CH2M Hill 2009a:Appendix G, 2; included in Appendix CMS of the DEIR) as follows:

In addition, anaerobic IRZs [in situ reactive zones] developed to treat Cr(VI) may also be beneficial for other metals that are found in groundwater at the site. For instance, under proper conditions, selenium can be reduced to form elemental selenium (a form of selenium with low solubility; or possibly iron selenide in the presence of sufficient

ferrous iron), and molybdenum can be precipitated as a sulfide mineral (its most common natural form). Selenium, molybdenum, and nitrate will all be treated by a reductive *in-situ* approach, along with chromium, as follows:

- ▶ Nitrate is removed by denitrification forming nitrogen gas.
- ▶ Molybdenum exists as highly soluble molybdate in groundwater and it is transformed to very low solubility forms of molybdenum (sulfide) during *in-situ* treatment. The process is similar to chromate, where hexavalent Cr (Cr[VI]) is transformed to trivalent Cr (Cr[III]) which is much less soluble. Molybdenum is reduced from Mo(VI) to Mo(IV) and reacts with sulfide formed within the IRZ and precipitates as molybdenum sulfide.
- ▶ Selenium exists as highly soluble selenate in groundwater and it too is transformed to less soluble forms during *in-situ* treatment. Selenate (Se[VI]) is reduced to selenite (Se[IV]) and then to Se(0) and even Se(-II). Selenite can sorb to aquifer soil, Se(0) has very low solubility, and Se(-II) combines with iron to form iron selenide that also has very low solubility.

The reductive *in-situ* treatment will therefore create very low solubility forms of chromium, selenium, and molybdenum. Along with chromium, the molybdenum and selenium are therefore effectively “locked up” in the aquifer solid phase after treatment.

Pilot testing at several locations (pilot tests or PTs and monitoring wells or MWs) within the Topock area confirmed decreases in molybdenum, selenium, and nitrate concurrent (as measured in milligrams per liter [mg/l] or micrograms per liter [µg/l] below) with Cr(VI) treatment (Arcadis 2009:4):

Again, while the IRZ operations were not focused on treatment of compounds other than Cr(VI), nitrate concentrations decreased from a maximum pre-test concentration of 30.4 mg/L N at PT-7M to not detected (0.5 mg/L N) at pilot test wells PT-7M, PT-7D, PT-8S, and MW-24A. In addition, molybdenum concentrations decreased from a maximum pre-treatment concentration of 203 µg/L in PT-7D to below the 5 µg/L limit of detection in PT-7M, PT-7D and MW-24A. Selenium concentrations decreased from a maximum pre-treatment concentration of 101 µg/L in PT-7M to below the 5 µg/L limits of detection in PT-7M, PT-7D and MW-24A.

Therefore, the proposed Alternative E remedy is capable of treating the localized molybdenum, selenium, and nitrate. DTSC has not preselected or predetermined a remedy solution, as evidenced by the Final CMS/FS and DEIR process. No further environmental analysis is needed in the DEIR.

I1-9

As summarized in Section 2.2.3 of the DEIR, the extent of Cr(VI) in groundwater beneath the East Ravine is not fully characterized (also discussed in the *Summary of Findings Associated with the East Ravine Groundwater Investigation* [CH2M Hill 2009b:Appendix A]). Further data collection of groundwater conditions beneath the Compressor Station and in the East Ravine area will be needed prior to completion of the final design. Groundwater contaminated by Cr(VI) is present in the bedrock aquifer, but the mass of contaminated groundwater would be minimal when compared with the main body of the plume emanating from the Bat Cave Wash owing to the low porosity of these bedrock formations. PG&E estimated the volume of contaminant within the East Ravine area to represent approximately 1% of the total mass (CH2M Hill 2009b:Appendix A, 4-4). Although data gaps exist, including source characterization, lateral

extent, and localized areas of vertical characterization (CH2M Hill 2009b:Appendix A, 4-4), it is anticipated that the final remedy for the East Ravine area will utilize similar technologies evaluated in the Final CMS/FS for the alluvial aquifer (CH2M Hill 2009a:5-23). The project area in the Final CMS/FS addresses Area of Concern 10 (AOC 10), which is the East Ravine (see Sections 2.2.4.1 and 2.4.1 of the DEIR). Thus, the East Ravine/Topock Compressor Station Hydrogeologic Investigation was included in the cumulative impacts section of the DEIR as a reasonably foreseeable future on-site activity. Specifically, the East Ravine/Topock Compressor Station Hydrogeologic Investigation, which includes the East Ravine and Topock Compressor Station Work Plan and the Addendum, was included as cumulative project 1M (see Sections 6.3.2 and 6.3.2.1 of the DEIR).

After the preparation of the DEIR, DTSC issued a letter to PG&E on July 28, 2010, directing PG&E to submit an addendum *to the Revised Work Plan for East Ravine Groundwater Investigation* (Work Plan). PG&E, working with CH2M Hill, subsequently prepared a draft *Addendum to the Revised Work Plan for East Ravine Groundwater Investigation, PG&E Topock Compressor Station, Needles, California* (ERGI/TCS). In response to comments received from DTSC on the draft Addendum, PG&E submitted a final Work Plan for DTSC and DOI review/approval. In consideration of the additional specific information provided by PG&E in the Final ERGI/TCS Addendum Work Plan, and in response to comments received on behalf of FMIT regarding the draft Addendum, clarifications have been added to Chapter 3, “Project Description,” to include the more specific information that now exists regarding the East Ravine investigation. Cumulative project 1M has therefore been removed from Chapter 6. These clarifications and revisions are provided in Volume 2 of this FEIR, as follows, to address the specific activities which are now known, as described in the Final ERGI/TCS Addendum Work Plan.

The text in Section 3.1 of the DEIR has been modified as follows, in response to the final ERGI/TCS Addendum Work Plan:

The specific activities that would be authorized by DTSC, if approved, are those identified as Alternative E—In Situ Treatment with Freshwater Flushing in the document titled Final CMS/FS for Solid Waste Management Unit 1 (SWMU 1)/Area of Concern 1 (AOC 1) and AOC 10 (Final CMS/FS) (CH2M Hill 2009, included in Appendix CMS of this EIR) and those identified in the ERGI/TCS Addendum Work Plan. Alternative E is the “project” for purposes of this EIR and is described and analyzed herein, including the need for investigation and monitoring within the East Ravine part of the project area.

The text in Section 3.5 of the DEIR has been modified as follows, in response to the final ERGI/TCS Addendum Work Plan:

Because DTSC recognizes that the variable nature of the geologic materials beneath the site may result in some localized areas being resistant to in situ treatment and freshwater flushing, DTSC’s preferred alternative includes monitored natural attenuation as a long-term component to address residual Cr(VI) that may remain in portions of the aquifer formation after a majority has been treated by in situ treatment with freshwater flushing. Monitored natural attenuation relies on the naturally occurring degradation and dilution properties of the groundwater system to change Cr(VI) to Cr(III). Furthermore, because of the heterogeneity of the bedrock, the design of the hydraulic system to control plume migration toward the Colorado River in an area known as the East Ravine may include a series of extraction wells along a portion of the National Trails Highway or within the areas in the East Ravine (see Section 5.3.1 of the Final CMS/FS, which is included as

Appendix CMS of this EIR). The groundwater characterization and borehole/monitoring well installation, as part of the ERGI/TCS Addendum Work Plan, would help identify the exact location of extraction and monitoring wells for the East Ravine and the compressor station. Evaluation of the data collected in 2009, and the additional characterization data required based on the evaluation, was summarized in Appendix A of the Final CMS/FS.

The objectives for the ERGI/TCS Work Plan Addendum are stated as follows:

East Ravine Area:

- Define the nature and extent of groundwater contamination within the bedrock and/or alluvium.
- Identify the source(s) of bedrock groundwater contamination.

Topock Compressor Station:

- Define the nature and extent of potential groundwater contamination within the bedrock and/or alluvium.
- Characterize hydrogeologic conditions within the bedrock and alluvium.
- Determine whether groundwater contaminant sources are present within the compressor station boundary that could affect the immediate area surrounding land, including the East Ravine Area.

Exhibit 3-4 identifies the project area in which all remediation facilities could be located, which includes potential future facilities required for project implementation and where, generally, they are proposed to be sited. Exhibit 3-5 identifies the project area where future monitoring wells could be located. While the remediation and monitoring project boundaries almost entirely overlap, there are some areas where monitoring wells could be located where remediation facilities would not be necessary (such as on the eastern bank of the Colorado River in Arizona) and vice versa. All construction and operation activities would occur primarily within the tan areas identified in these exhibits. These areas would include all remediation and monitoring wells and all necessary infrastructure to support implementation of the proposed project. These areas would also include all areas needed for construction activity and access, such as staging areas. Localized freshwater intake facilities and associated pipelines could be located within the tan, green, or purple areas identified in Exhibit 3-4. As displayed in the exhibits, the majority of the facilities are located outside of PG&E-owned property. The ultimate locations, siting, and conditions would be coordinated with the individual landowners and would occur during the subsequent detailed design, construction, and implementation phases.

Aside from the investigation and monitoring well areas specified in the ERGI/TCS Work Plan Addendum for the East Ravine and the compressor station area (See Exhibit 3-5 and Figure 2 Appendix ER), the ultimate number and specific locations of the elements that make up the proposed project (e.g., remediation wells, monitoring wells, pipelines, freshwater intake locations, and associated infrastructure) have not been determined at this time and are dependent on the final remediation system design and changes to the design during construction and implementation. The actual number, location, and configuration of the extraction, treatment, and injection systems and/or changes to the type, method, and configuration of the treatment delivery systems may occur to enhance performance of the remedy to attain the cleanup goals and to respond to site conditions and performance issues. During the project design phase (which would occur subsequent

to this EIR and the statement of basis), locations of remedial structures would also be determined through communication and discussions with the landowners and/or other entities with rights-of-way. Remedial structure locations also would be determined in consideration of treatment efficiency, accessibility for construction and operation and maintenance, topography, sensitive cultural and biological resources, and existing infrastructure. The estimated maximum number of new wells that would be installed in the project area considered within this EIR is 170, which includes both remediation and monitoring, but does not include replacement wells that may be necessary during the operation and maintenance phase (see Table 1-1).

The text in Section 3.5.1.1 (under the heading “Extraction and Injection Wells”) of the DEIR has been modified as follows, in response to the final ERGI/TCS Addendum Work Plan:

Extraction wells would likely be located near the Colorado River to provide hydraulic control to prevent contaminated water from reaching the river. Extraction near the river would also help to draw carbon-amended water a portion of the way across the floodplain to treat the existing Cr(VI) in the alluvial zone of the floodplain aquifer east of National Trails Highway. Additional extraction wells would also likely be located in an area known as the East Ravine, which is in the southeast portion of the project area. (See Exhibit 3-4.) As described in section 3.5.1.3 below, groundwater investigation results from the ERGI/TCS Work Plan Addendum will assist in deciding where to locate extraction wells in this bedrock area. Exhibit 3-7 shows the projected downstream flow lines associated with the proposed project. The extracted water would be amended with carbon substrate or other reductants and reinjected in the western portion of the plume where it would help induce a hydraulic gradient to accelerate the movement of the groundwater through the IRZ, where it would be treated. To further accelerate the movement of the contaminated groundwater toward reducing zones and to enhance the distribution of the reductants, additional injection wells would likely be constructed in areas to the west and north of the plume. The injection of freshwater to further accelerate the remediation process is expected to occur within the southern part of the plume for freshwater injection, as described in more detail below.

The text in Section 3.5.1.3 of the DEIR has been modified as follows, in response to the final ERGI/TCS Addendum Work Plan:

A maximum of 60 new additional monitoring wells are anticipated as part of the proposed project, and these wells could be located anywhere in the boundary shown on Exhibit 3-5, including specific locales in the East Ravine and Topock Compressor Station area as specified in Figure 2 of the ERGI/TCS Addendum Work Plan and in Exhibit 3-5 of this EIR. In addition, monitoring wells could be replaced throughout the operation and monitoring phase, as necessary. Monitoring wells are typically between 4 and 8 inches in diameter and are completed at the ground surface with a concrete pad (typically 4 square feet) and include a manhole-type cover to the well (Exhibit 3-8). Where a ground surface completion is not feasible, monitoring wells may be installed with aboveground completion with steel protective casing. Monitoring wells would be situated in areas that provide relevant data on groundwater hydraulics and chemistry. In the interior of the plume, monitoring wells would provide data on the operation of the in situ remediation systems. These wells would monitor the changes in water levels and water quality in the active part of the remediation system. Around the perimeter of the plume, monitoring wells are usually installed for compliance monitoring or as “sentry” wells just outside of the contaminated area. Monitoring wells would be sited with consideration of available

access, existing infrastructures including transportation and pipeline corridors, sensitive areas, and property owners.

The text in Table 6.3 in Section 6.3.2 of the DEIR has been modified as follows, in response to the final ERGI/TCS Addendum Work Plan:

Table 6-3 List of Projects Located at or within the Vicinity of the Proposed Project						
Exhibit 6-1 Map Key	Project Name	Description of Project	Size (Acreage) or Extent	Jurisdiction/ Land Owner	Approximate Distance from Proposed Project (miles)	Status
1. PG&E: Projects at the Compressor Station						
1M	East Ravine/TCS Hydrogeologic Investigation	Provides plume delineation and characterization of groundwater conditions in alluvium and bedrock.	On the TCS property and in ravine to the east	PG&E	On site	Past and potential future project

The text in Section 6.3.2.1, under the heading “Institutional Controls,” of the DEIR, has been deleted as follows, in response to the final ERGI/TCS Addendum Work Plan:

~~East Ravine/TCS Hydrogeologic Characterization Program (1M)~~

~~DTSC approved a work plan that authorized the drilling wells at locations within East Ravine. Following the drilling and testing of the boreholes, groundwater monitoring wells were constructed in the boreholes and groundwater samples were analyzed. The project provided measurable data with respect to the location of the southeastern boundary of the existing Cr (VI) groundwater plume at the project site. A second phase of work is currently being planned that will include additional wells in East Ravine plus wells within the compressor station.~~

The text in Section 6.4.1 of the DEIR has been changed as follows, in response to the final ERGI/TCS Addendum Work Plan:

Potential effects to aesthetic conditions are primarily local- and community-level issues. Consideration of cumulative effects would take into account whether any of the effects of the proposed project would be viewed in combination with other projects that could affect or change the visual environment. In consideration of significant visual resources and vistas (I-40, Needles rock, Topock Maze, Chemehuevi Mountains, and the Colorado River) and the cumulative projects that are anticipated in the project area, the following projects are considered part of the cumulative setting: projects at the compressor station (1A, 1B, 1D, 1E, and 1L, ~~and 1M~~) and the projects along the Colorado River in San Bernardino and Mohave counties, which are the Moabi Regional Park Improvements (5A), the Pirate Cove Resort (5B), and the Topock Marina Improvements (7A).

The text in Section 6.4.3 of the DEIR has been changed as follows, in response to the final ERGI/TCS Addendum Work Plan:

The projects considered in this cumulative analysis could have varying cumulative effects on biological resources ranging from direct impacts on sensitive species and habitat to beneficial impacts resulting from implementation of conservation measures. The PG&E projects at the compressor station (1A, 1B, 1D, and 1E, ~~and 1M~~), Quarry Operations (2C), Moabi Regional Park Improvements (5A), Pirate Cove Resort (5B), Topock Marina Improvements (7A), and the cathodic protection system (9A) would have a contribution to biological impacts within the local cumulative setting. Other projects, such as the Lower Colorado River MSCP (2A), the CMP at HNWR (3A), and Topock Marsh Water Infrastructure Improvement Project (3B) have contributory beneficial effects.

The text in Section 6.4.5 of the DEIR has been changed as follows, in response to the final ERGI/TCS Addendum Work Plan:

Because of the limited extent of the cumulative setting for this resource topic, the projects listed in Table 6-3 that would be relevant to this analysis are the proposed PG&E activities at the compressor station and on adjacent properties (1A, 1B, 1D, and 1E, ~~and 1M~~), the Topock Marina Improvements (7A), and the cathodic protection system (9A). The other listed projects would not be relevant to this analysis because the activities associated with those projects would not have any connection from a cumulative perspective, with the activities associated with this project.

Other projects that are likely to occur in the project area (1A, 1B, 1D, 1E, ~~1M~~, 7A, and 9A), in particular project 1D, and 1E would potential result in substantial earthmoving activity as it relates to soil remediation and investigation activities, and would contribute to a significant cumulative impact to soil erosion in the project area. The proposed project also has the potential to result in increased soil erosion from wind and water during construction activities. The magnitude of this potential impact would be reduced by implementation of **Mitigation Measure GEO-1a**, which would include grading and erosion control plans, a stormwater pollution prevention plan, and consistency with local policies. These are standard requirements for construction sites and would be required for all other projects that would be located in the project area. Although the project may contribute incrementally to cumulative erosion impacts, adherence to standard construction practices and requirements would limit the magnitude of cumulative impacts from this project and other future projects.

The text in Section 6.4.6 of the DEIR has been changed as follows, in response to the final ERGI/TCS Addendum Work Plan:

To assess cumulative impacts involving hazardous materials, the nature of the potential impacts would limit the cumulative setting to the project site itself and to other projects in the project vicinity. The PG&E projects listed in Table 6-3(1A, 1B, 1D, and 1E, ~~and 1M~~) would be relevant. In addition, other relevant projects for this analysis include Quarry Operations (2C), Moabi Regional Park Improvements (5A), Pirate Cove Resort (5B), Topock Marina (7A), the cathodic protection system (9A), the Lower Colorado River MSCP (2A), and the Lower Colorado River MSCP CMP (3A).

The text in Section 6.4.7 of the DEIR has been changed as follows, in response to the final ERGI/TCS Addendum Work Plan:

The area around the compressor station is drained by a network of ephemeral washes that eventually flow into the Colorado River to the east of the project area. With respect to evaluating surface water quality and hydrology impacts, the PG&E projects (1A, 1B, 1D,

and 1E, and 1M), the Quarry Operations (2C), the Topock Marina Improvements (7A), and the cathodic protection system (9A) are relevant to the cumulative analysis because they are located within the same drainage area. Impacts related to water quality from all phases of the proposed project could occur. Best management practices (BMPs) have been identified in **Mitigation Measures HYDRO-1, HYDRO-2, and HYDRO-3**, which would reduce impacts related to water quality to less than significant. The relevant cumulative projects described previously that would involve construction and operational activities that could have similar water resources impacts. The BMPs described in the impact analysis for this project would likely be similarly required as mitigation for water quality impacts for each of these other respective projects. Although it is possible than two or more of these projects may occur simultaneously, it is likely that these other projects may occur independently of one another and thus avoid the potential for compounding effects from simultaneous construction projects in the same area. For this reason, the proposed project may contribute incrementally to water quality impacts during the construction phase, but this impact is not cumulatively considerable.

The text in Section 6.4.8 of the DEIR, has been changed as follows, in response to the final ERGI/TCS Addendum Work Plan:

The PG&E projects listed in Table 6-3 (1A, 1B, 1D, and 1E, and 1M) would be relevant. In addition, other relevant projects for this analysis include Quarry Operations (2C), Moabi Regional Park Improvements (5A), Pirate Cove Resort (5B), Topock Marina (7A), the Lower Colorado River MSCP (2A), the HNWR CMP (3A), and Topock Marsh Water Infrastructure Improvement Project (3B). The first four projects on this list consist of modifications, minor expansions, or a continuation of previously existing land uses. The last three projects are plans for management of lands and resources near the Colorado River. Both of these have already been implemented to some degree. Some of the projects at the compressor station (1A, 1B, 1D, and 1E, and 1M) consist of operations and maintenance projects that are a continuation of existing operations. Projects related to remediation of soil investigation and remediation (1D) in the project area could have similar effects as the current proposed project, as much of it could be located on property managed by other land owners. Other projects in this area consist of either management plans for public lands and resources or improvements to existing land uses. When these projects are viewed from a cumulative perspective, potential cumulative land use impacts appear to be limited. None of these projects would result in changes to land use or nearby communities such that they would have a cumulative impact to land use.

The text in Section 6.4.11 of the DEIR, has been changed as follows, in response to the final ERGI/TCS Addendum Work Plan:

The compressor station currently discharges nonhazardous wastewater (i.e., domestic graywater and sewage) to on-site leach fields. Because of the limited extent of the cumulative setting for this resource topic, the projects that would be relevant are the proposed PG&E activities at the compressor station and on adjacent properties (1A, 1B, 1D, 1E, ~~1M~~, and 9A). The construction, operation, and decommissioning of the proposed project facilities would not generate substantial amounts of domestic wastewater (sewage or gray water). In addition, the PG&E activities would similarly not be expected to generate substantial amounts of domestic wastewater. Because these are not wastewater-intensive facilities, cumulative wastewater impacts are not anticipated.

Additionally, Exhibit 3-5 in Volume 2 of the FEIR has been revised to show the approximate locations of the proposed monitoring wells for the Work Plan. The East Ravine groundwater investigation does not alter the environmental analysis provided in the DEIR because this ERGI/TCS Addendum Work Plan involves use of several monitoring wells, staging areas, and other activities encompassed within the total well numbers and analysis described in Section 3.5.1 of the DEIR. The ERGI/TCS Addendum Work Plan activities are also within the project area described in the DEIR and shown in Exhibit 3-4. The impact analysis and required mitigation measures in the DEIR, therefore, also apply to the East Ravine area and actions described in the ERGI/TCS Addendum Work Plan.

Specific extraction well locations within East Ravine, based on the characterization results, would be developed during the design phase. Although precise details regarding the full extent of Cr(VI) existing in groundwater in this area do not yet exist, sufficient evidence is available regarding the East Ravine area for DTSC to make an informed decision, on a project specific basis, for the groundwater investigation activities described in the ERGI/TCS Addendum Work Plan, and on a programmatic basis for future remedial activities that could occur within the East Ravine area, depending on the outcome of the investigation (CH2M Hill 2009a:5-23, 5-24).

- I1-10 As summarized in Section 4.7.1.2 of the DEIR, more than 700 surface water samples were collected from 43 locations as part of the activities related to the RFI/RI between July 1997 and October 2007 (CH2M Hill 2009b:10-4) and surface water sampling is continuing. In the more than 700 surface water samples conducted by PG&E over this period, Cr(VI) was detected only once (0.23 micrograms per liter [$\mu\text{g/l}$] in sample SW-R-23 (SW-1); see Exhibit 4.7-3 of the DEIR). The 2009 sampling and data also do not indicate that groundwater impacts are migrating into the Colorado River (CH2M Hill 2009a:Figure A-7; CH2M Hill 2010:3-9).
- Additional activities for lateral delineation and vertical delineation of East Ravine groundwater impacts were discussed in the March 16 and April 15, 2010, Consultative Working Group (CWG) meetings and were summarized by DTSC (2010). For 2010, quarterly surface water sampling is being conducted at 10 instream, four shoreline, and two additional locations concurrent with the groundwater monitoring events. A sampling from the low-river stage will also be conducted between November 2010 and January 2011 (CH2M Hill 2010:3-10). No change to the environmental analysis has resulted from these discussions.
- I1-11 As noted on page 2-11 of the Final CMS/FS, the mass of Cr(VI) in bedrock is anticipated to represent less than 1% of the total plume mass because of the low porosity of these bedrock formations. As described in response to comment I1-9 further data collection and site characterization is needed for the East Ravine area and the Work Plan has been included in Chapter 2 of Volume 2 of the FEIR. The proposed project's direct, indirect, and cumulative impacts are evaluated based on the best available data and modeling that was included in the Final CMS/FS and this programmatic EIR. DTSC acknowledges that the extent of the bedrock plume near the Colorado River is less certain than other parts of the plume, a series of extraction wells are proposed for the East Ravine area as part of the final groundwater remedy, as described in Section 3.5.1.1 of the DEIR and shown on Exhibit 3-4 of the DEIR.
- I1-12 According to Section 2.2.3, "Groundwater Contamination," of the DEIR, groundwater movement in the East Ravine is currently northeastward (CH2M Hill 2009a:Appendix A, 4-3), but historically may have been different since chromium contamination has been detected to the east-southeast of the ravine.

The statement pertains to the Alluvial Aquifer where the majority of the groundwater contamination is known to reside (PG&E has stated that the mass of Cr(VI) in bedrock likely

represents less than 1% of the total plume mass due to the low porosity of the bedrock formations [CH2M Hill 2009a:2-11]). Therefore, the text in Section 2.2.3 of the DEIR, has been modified as follows to address concerns raised in the comment:

A primary route of contaminant migration in the project area is through groundwater transport, given the proximity to the Colorado River. The groundwater gradient in the project area is slight, on the order of 0.0005 vertical feet per horizontal foot, and the hydraulic conductivity of the aquifer along the axis of the plume is moderate, averaging about 30 feet per day. Groundwater is therefore expected to move relatively slowly. The direction of groundwater flow from the source area in Bat Cave Wash generally is toward the north or northeast. Chromium is present at all depth intervals of the alluvial portion of the aquifer but is generally not present in shallow- and middle-depth fluvial wells near the Colorado River, where reducing conditions predominate. Elevated concentrations of chromium are also present in wells completed within the bedrock formations in the East Ravine to the southeast of the compressor station which requires additional investigation as specified in the CMS/FS (CH2M Hill 2009).

No further environmental analysis is needed in the DEIR.

- I1-13 The PG&E Topock investigation and cleanup project is subject to dual jurisdiction by the State of California (DTSC) and the U.S. Department of Interior (DOI), representing itself and its bureaus. The Bureau of Land Management, as a trustee agency for the Native American Indian tribes, must comply with the federally required consultation on this project in accordance with Section 106 of the National Historic Preservation Act (NHPA). DTSC, as a State agency, is not subject to Section 106. PG&E requested a deferral in soil investigation within the PG&E operating facility on September 30, 2008. DTSC evaluated the merits of PG&E's proposal and requested that PG&E resume its plans for investigation on July 2, 2009. DTSC determined that the respective soil and groundwater remediation activities have independent utility under CEQA and therefore could proceed separately. No additional environmental analysis is needed in the DEIR.
- I1-14 As noted above, substantial evidence supports DTSC's decision to proceed with the groundwater remediation and such action did not constitute improper piecemealing under CEQA, in part, because one activity (e.g., Groundwater remediation) does not cause the need for the other (e.g., soil remediation). DTSC was therefore not required to consider both the groundwater and soil remediation as part of one project, a process that would have likely taken many more years than have been taken to date. No one entity was responsible, to the best of DTSC's knowledge, for delaying the Section 106 process. Please note that the section of the DEIR referenced by the commenter is an example of the legal requirements to proceed with soil investigation. That section does not imply a delay in the federal Section 106 process that is caused by any single entity. Rather, it is an acknowledgement that the soil investigation work plan and any subsequent required remediation activities would need to comply with the federal Section 106 consultation process.
- I1-15 Although situations exist where the contamination in the soil may be locally present beneath source areas and the remaining soil contamination may migrate, leach, and continue to contaminate the groundwater, that situation does not mean that the groundwater remedy as proposed is conceived in error or lacks technical basis or other substantial evidence in support. DTSC believes that the plume, as defined, can be properly contained and remediated with the technology as proposed and made the policy determination to move forward with protecting human health and the environment. Additional sources in soil do not change the available groundwater cleanup technologies, or the effectiveness of such technologies, for groundwater

clean-up. The potential for remaining contaminant sources in soil do not change the DEIR evaluation of Alternative E groundwater remediation.

- I1-16 The commenter poses various questions regarding who at DTSC made the decision to segment out the soil and groundwater remediation activities and when was the decision made. As explained above, substantial evidence exists in the record supporting DTSC's decision to move forward with the groundwater remediation and that such action has independent utility from the soil remediation. Identifying the individual staff at DTSC or any other agency exceeds the scope of the environmental impacts identified and considered in this EIR. Courts, moreover, are reticent to allow the minds of an agency's individual decision makers to be probed in the fashion advocated by the comment. (*City of Fairfield v. Superior Court* [1975] 14 Cal.3d 768, 772.) Please also see the response to comment I1-17.
- I1-17 DTSC believes that the intent of the notice of preparation (NOP) was met and that the NOP was presented with as much factual information as was available at the time and as required by CEQA. (CEQA Guidelines, Section 15082.) The commenter misunderstands the purpose of a NOP which is to determine the scope of the EIR, and fails to state how any commenter was deprived of the ability to comment on a particular issue for inclusion in the DEIR. The NOP's inclusion of a larger project (e.g., when the soil and groundwater remediation was originally combined), and more information, reflects that the commenter was not deprived of this opportunity. DTSC is unaware of any CEQA case where an EIR was ruled invalid because of the content of the NOP. The NOP was circulated for 30 days as required under CEQA (see CEQA Guidelines Section 15082[b]). DTSC is intending to proceed with the soil investigation and will be conducting additional environmental review as needed for that process once the soil investigation is complete. The remainder of the comment contains the commenter's opinion and no additional response is needed.
- I1-18 The mere presence of Cr(VI) in groundwater and its proximity to the Colorado River provides a sufficient public interest to pursue remediation. DTSC believes that sufficient information has been collected to select a viable groundwater remedy to reduce the toxicity and mobility of the harmful Cr(VI). The groundwater basin beneath the Compressor Station is still designated by the Regional Water Quality Control Board to be of beneficial use. Therefore, it would be imprudent for DTSC not to take action and wait until the soils investigation is completed, which would delay the action to reclaim the quality of that groundwater in a beneficial water basin by at least 1–3 years, as currently projected.
- DTSC has not detected any degradation of the water quality within the Colorado River as a result of PG&E's past or present operation and believes that the current interim measure of extraction, treatment, and reinjection of treated water is successful at keeping the groundwater plume from damaging the river which continues to be a valuable drinking water resource for millions of Californians and Arizonians. DTSC has elected to conduct a programmatic EIR specifically to ensure that the environmental impacts of the project are properly evaluated as specific information regarding the project is gained during the various phases of investigation. DTSC has not improperly piecemealed its environmental analysis.
- I1-19 As described in Section 2.2.5 of the DEIR, the groundwater and the soils remediation projects involve different contaminants. The following excerpt from PG&E's December 2009 Groundwater Corrective Measures Study best summarizes the current knowledge regarding chemical constituents in the groundwater plume:

In summary, within the treatment area, Cr(VI) in groundwater represents the predominant health hazard associated with any potential future domestic use of the groundwater; other

potential facility-related constituents (molybdenum, selenium, and nitrate) were detected at elevated levels in localized areas associated with lower levels of risk. Institutional controls should be enforced during implementation of the remedial action to restrict ingestion of groundwater, and monitoring for these three constituents should be continued. Following attainment of the RAOs [Remedial Action Objective] for Cr(VI) and prior to removing the institutional controls, the concentration and distribution of molybdenum, selenium, nitrate, and chromium should be re-evaluated.

Additionally, molybdenum, selenium, and nitrate would be monitored in the groundwater monitoring program and their associated impacts would be considered in future risk evaluations to determine whether they would further contaminate the soil and, subsequently, the groundwater (CH2M Hill 2009a:1-4). Appendix E of the Final CMS/FS indicates that selenium, molybdenum, and nitrate would be treated by a reductive in situ approach. See also the response to comment I1-8 on this subject. The commenter's opinion that the proposed remedy is flawed and the evaluation of impacts in the EIR is defective is noted and will be forwarded to DTSC for consideration. No further environmental analysis is needed in the DEIR.

I1-20 The level of detail contained in a program EIR need not be greater than that of the program, plan, policy, or ordinance being analyzed. (CEQA Guidelines, Section 15152[b]; *Stanislaus Natural Heritage Project v. County of Stanislaus* [1996] 48 Cal. App. 4th 182, 197–199; see also *Al Larson Boat Shop, Inc. v. Board of Harbor Commissioners* [1993] 18 Cal. App. 4th 729, 741–746). The EIR prepared for the proposed project (Alternative E), which was derived from the Final CMS/FS process and which will be expanded upon with future final design and implementation, need not include all the detail requested by the commenter. Please also see to the response to comment I1-11.

I1-21 Because the extent of the soils contamination is not fully known and because feasible remedies have not been identified, inclusion of soils remediation in the DEIR would involve a high degree of speculation. Such speculation is neither required under CEQA nor helpful in decision making. The future soils remediation and the proposed groundwater remediation at the project site are considered separate projects by DTSC, which are not dependent on one another for completion. The soils remediation project is not an expansion of the groundwater remediation project and will not change the nature or scope of the groundwater project. In fact, the two projects involve different contaminants and distinct environmental risks; while Cr(VI) may be present in the soil as well as the groundwater, elevated concentrations of dioxins/furans, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH), as well as some semi-volatile organic compounds, have also been detected in the soils. Because of the nature of the contamination and contaminated substrate, the two projects would necessarily employ different remediation technologies on different schedules for different durations; thus, they are considered separate projects under CEQA. No further environmental analysis is needed in the DEIR.

I1-22 Since the issuance of the NOP, DTSC has publically discussed its efforts to keep the soils and groundwater remediation projects on parallel tracks and its subsequent decision to separate the analyses of the groundwater remedy from the soils remedy. The decision to select two formally separate remedies for groundwater and soil is reflected in the June 2007 project schedule and was presented at the Topock Consultative Work Group meeting held on June 20, 2007. This information was also presented at numerous meetings with tribal leaders and in public meetings and see Tribal Communication Summary (Appendix TRI). As such, because of limited data on soil contamination, determining the full extent of soil contamination at or surrounding the site is currently not possible, and thus even a preliminary determination of potential remediation

needs are still undetermined. Information regarding soil contamination is not necessary to make an informed decision for the selection of the groundwater remediation alternative or remediation facilities; as described in response to comment I1-21 above, the soils and groundwater remediation projects are independent from one another. The cumulative impacts analysis contained within the EIR considers, however, the reasonably foreseeable future related impacts of the soils remediation with the proposed project on a programmatic basis (see Section 6.3.2.1 of the DEIR). No further environmental analysis is needed in the DEIR.

- I1-23 Please see the response to comment I1-21. The soils contamination at the project site is not the result of the groundwater project as the commenter suggests, rather a consequence of past activities at the compressor station that discharged Cr(VI) directly to the ground surface at the site. The commenter's contrary opinion is noted.
- I1-24 The soil remediation project listed as project 1D in Table 6-3 (see Section 6.3.2 of the DEIR) and described in Section 6.3.2.1 of the DEIR is considered a reasonably foreseeable future project, which is required for the cumulative analysis in CEQA documents. As stated in Section 15130(b) of the CEQA Guidelines:

The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

Detail regarding the future soil remediation project (project 1D in Chapter 6 of the DEIR), as is reasonably foreseeable and available at this time, is included in the cumulative analysis as required by CEQA Guidelines Section 15065(a)(3). No further environmental analysis is needed in the DEIR.

- I1-25 Chapter 6 of the DEIR discloses the potential for cumulative impacts associated with the groundwater remediation project. In particular, the future soils remediation project is listed as project 1D in Table 6-3 (see Section 6.3.2 of the DEIR) and described in Section 6.3.2.1 of the DEIR.
- I1-26 As a California agency, DTSC does not have jurisdiction within Arizona or any other state. However, as the CEQA lead agency for the proposed project, DTSC is responsible for ensuring the enforceability of its mitigation measures, including the duty to mitigate, to the extent feasible, any cross jurisdictional significant adverse environmental impacts. Compliance with the mitigation measures must be verified in the mitigation monitoring and reporting program (MMRP), per CEQA Guidelines Section 15097. As stated in CEQA Guidelines Section 15126.4(a)(2), "mitigation measures must be fully enforceable through permit conditions, agreements, or other legally binding instruments." Per CEQA, DTSC is obligated to enforce PG&E's implementation of mitigation measures and the MMRP would show CEQA compliance and proof of implementation of mitigation measures.

The DEIR is not a joint CEQA/National Environmental Policy Act (NEPA) document. As stated in the DEIR in Section 2.1:

Remediation of contaminated groundwater at the compressor station is being conducted under the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980

(CERCLA). Both RCRA and CERCLA are federal laws. RCRA provides a framework for the U.S. Environmental Protection Agency (EPA) to remediate hazardous waste sites in the U.S. This authority under RCRA, however, can be delegated to states. In California, DTSC implements RCRA under such delegated authority from the federal EPA through state law. The selection and approval of a final corrective action to remediate the contaminated groundwater at the compressor station is a discretionary action that will be made by DTSC.

I1-27

A total of 49 comments were received by DTSC in response to the NOP, during the scoping period (DTSC 2008:Appendix D). The comments were received through the mail, e-mail, or via telephone. The commenters included federal, state, and local agencies, tribes, and individuals. In general, the comments received during the formal comment period can be grouped into nine categories:

- ▶ concerns regarding contamination of soil and groundwater in the project area and the types, duration, and effectiveness of cleanup methods being considered;
- ▶ the potential impact on the environment of the investigation and cleanup process, particularly the impact on Native American cultural and archaeological resources;
- ▶ the potential impact on human health from exposure to chemicals of concern in the project area as a result of exposure either to contaminated surface water (i.e., the Colorado River) and/or contaminated groundwater (via drinking water wells);
- ▶ the necessary coordination of state and federal actions (i.e., CEQA and NEPA) regarding the selection of a final remedy;
- ▶ the geographic area that should be included as part of the project area during the EIR analysis;
- ▶ the range of environmental issues that should be addressed in the EIR;
- ▶ requests for clarification regarding how the CEQA process applies to nearby land located in Arizona that may be affected by contamination from the compressor station;
- ▶ requests to be removed from the mailing list; and
- ▶ requests to be added to the mailing list.

CEQA does not require a lead agency to respond to comments on the NOP, rather the agency must consider the comments when determining the scope of the EIR (DTSC 2008).

I1-28

See the response to comment I1-4 above regarding who previously owned the land. FMIT acquired a parcel of land from PG&E as a result of a settlement agreement between PG&E and FMIT. The negotiation for that parcel of land was between FMIT and PG&E. DTSC is not aware of any agreement between PG&E and FMIT to reduce the cleanup of the contamination caused by PG&E under the settlement agreement. PG&E, as the responsible party, is fully responsible for the investigation and cleanup of all contamination resulting from their operation under state and federal law.

I1-29

The proposed remedy does include moving some plume mass towards the river and into a treatment zone (the in situ reactive IRZ) where the contaminant of concern [CR(VI)] will be

converted to a less mobile and less toxic form of CR(III). The remedy includes a series of approximately nine floodplain extraction wells to provide hydraulic control of the groundwater between the IRZ and the Colorado River: these extraction wells are designed to capture contamination that may be flowing toward the river (CH2M Hill 2009a:5.31). Groundwater flow will be from west to east during remedy implementation. During the beginning of remedy implementation, it is envisioned that the untreated contamination initially located between the river and the IRZ, currently depicted along a portion of the National Trails Highway, would be captured by extraction wells and then pumped to the west where it would be amended with organics prior to injection into the aquifer. Similarly, any other facility related contaminants (nitrate, molybdenum, selenium) would be treated within the IRZ (Arcadis 2009:2) and contaminants beyond the influence of the IRZ would be captured by the floodplain extraction wells and transported to the west for amendment and injection during the initial startup of the remedial system. As the effect of the treatment zone becomes more established, contamination entering groundwater extraction wells should decrease over time and then eventually be eliminated. Although the actual time for the treatment zone to become fully clean is difficult to predict depending on actual site condition and the efficiency of the carbon delivery system, past pilot tests suggest that rapid conversion of hexavalent chromium to trivalent chromium can be expected. The volume of water to be treated and estimated duration range from 2 pore volumes over 10 years to 20 pore volumes over 110 years, with the anticipated volume and duration at 5 pore volumes over a 29-year period (CH2M Hill 2009a:5-31). The DEIR evaluation is based on the 29 year duration (Section 1.2.3 and 3.5 of the DEIR) and the anticipated 5-pore volume. The timing for clean water to reach extraction wells and for the extraction wells to pump clean water would be determined from the operations and maintenance of Alternative E.

Also see the response to comment I1-8 regarding treatment of selenium, molybdenum, and nitrate.

I1-30

A comprehensive evaluation of water supply is included in Chapter 4.12 of the DEIR. The Lower Colorado Water Supply Act of 1986 authorized the U.S. Bureau of Reclamation (Reclamation) to construct, operate, and maintain the Lower Colorado Water Supply Project (LCWSP) to help address water supply for users of the Lower Colorado River. The LCWSP makes up to 10,000 acre-feet annually (afa) available to eligible entities for nonagricultural use along the Colorado River in California. The water is the result of an exchange agreement between Reclamation and the Imperial Irrigation District (IID) and the Coachella Valley Water District (CVWD). The IID and CVWD agreed to forego a portion of their right to divert Colorado River water in exchange for an equivalent quantity and quality of groundwater pumped from wells drilled as part of the LCWSP and delivered into the All-American Canal (Colorado River Board 2009:2). As stated in the DEIR in Section 4.12.1.3, PG&E is currently entitled to LCWSP water to 422 afa of consumptive use. The consumptive water use associated with each phase of the proposed project is summarized in Table 4.12-1 (see Section 4.12.3.3 of the DEIR). As discussed in Chapter 4.12, no consumptive use would be associated with the in situ treatment and freshwater flushing elements because all extracted water would come from the Colorado River Basin and would be returned to the Colorado River Basin via reinjection wells within the Colorado River accounting surface. Drinking water for the construction personnel would be trucked from off-site. No new water lines would be required from public water purveyors in the area. Other construction, operation, and maintenance activities would require a small amount of water that would be served by PG&E's existing LCWSP entitlement. PG&E's existing LCWSP entitlement is sufficient to serve the project needs during construction, operation, maintenance, and decommissioning.

The proposed project's impacts on water quality are evaluated in Chapter 4.7 of the DEIR. As summarized in Section 4.7.1.2 of the DEIR, more than 700 surface water samples were collected

from 43 locations between July 1997 and October 2007 as part of the activities for the RCRA facility investigation/remedial investigation (RFI/RI) (CH2M Hill 2009b:10-4), and surface water sampling has been, and is, continuing. Groundwater samples from beneath the river, surface water samples collected as part of the RFI/RI and other monitoring events, and the observed influence of IM-3 groundwater pumping show that Cr(VI) has only once been detected in the Colorado River. Pumping associated with the proposed project would not adversely affect water quality. The IRZ and floodplain extraction wells would further protect water quality in the Colorado River from potential Cr(VI) migration by providing additional control of the water flows. Also, the carbon-amended water would be drawn toward the extraction well network, which would increase the reductive capacity of groundwater through conditions that are providing both engineered and naturally occurring Cr(VI) reduction. The comprehensive groundwater risk assessment (GWRA) prepared for the proposed project also evaluated whether the alluvial aquifer could provide substantial transport of site-related constituents in groundwater to surface water. The GWRA concluded that the potential transport of constituents in groundwater to the Colorado River does not represent a potentially significant threat to human health as a transport pathway (page 10-1 and Appendix K of GWRA). The water source identified for the freshwater flushing component is in Arizona and is beyond the extent of Cr(VI)-contaminated groundwater.

The increase of impervious surfaces could potentially affect water quality. The potential exposure of runoff to materials stored on-site also could potentially affect water quality (see the discussion under Impact HYDRO-1 in Section 4.7.3.3 of the DEIR). No further environmental analysis is needed in the DEIR.

- I1-31 The commenter states that IM-3 decommissioning should not be considered until such time as a complete remedy for soil and groundwater is approved and determined to be meeting objectives. The commenter's opinion is noted. The Alternative E combination of the IRZ to promote Cr(VI) reduction to Cr(III) and floodplain extraction for hydraulic control Alternative E provides two treatment technologies, in addition to the naturally occurring reductive zone in the fluvial sediments, for protection of the Colorado River. IM-3 is an interim measure intended to bridge the period until the long-term solution is implemented. IM-3 currently operates two extraction wells at less than 100 gallons per minute. Alternative E's network of floodplain extraction wells conceptually consists of five extraction wells with a combined extraction of 640 gallons per minute. Groundwater modeling presented in the Final CMS/FS to support the Alternative E conceptual design predicts this configuration would provide the hydraulic containment for a greater degree of protection than IM-3.
- I1-32 This comment includes a list of questions answered as follows. The ethnographic information contained in the EIR was prepared using available information as part of the development of existing conditions, as required by CEQA. The preparation of an ethnographic study was never part of a mitigation measure required by DTSC, but instead was an activity resulting from National Historic Preservation Act Section 106 consultation between PG&E, various tribes, Federal land management agencies, and State Historic Preservation Officers; DTSC was not party to these consultations and was not a signatory to this agreement. The information in the EIR is not meant to replace or otherwise subsume any requirements included in the IM-3 memorandum of understanding prepared and signed by the Federal Government or any other agreement made between parties outside of DTSC's jurisdiction. Although records indicate that the director of the CRIT tribal museum did request funds from PG&E to prepare an ethnographic study. PG&E ultimately decided not to fund the preparation of an ethnographic study. Under CEQA, DTSC had no requirement or authority to dictate that PG&E fund and complete an ethnographic study as part of the EIR environmental assessment process. Although there is a settlement agreement between FMIT and PG&E which is dated November 9, 2006, enforcement of a settlement

agreement may be made by a party to the agreement or through a breach of contract action but these issues have no substances in relation to DTSC's required environmental assessment and review process. DTSC utilized an independent information gathering process through direct contact with interested tribes. As a result, mitigation measures imposed as part of the DEIR are included herein as part of the mitigation monitoring and reporting program (MMRP) with the corresponding timing and responsible party/agency identified. Noncompliance with a mitigation measure is also enforceable by filing a petition for writ of mandate. This remainder of the comment regarding PG&E does not address the environmental analysis provided in the DEIR; therefore, no further response is necessary.

- I1-33 The comments in Table 4.4-2 in Section 4.4 of the DEIR are taken directly from NOP comments provided to DTSC either by the tribal government itself, legal counsel for a tribal government (submitted on behalf of the tribal government), or the Aha Makav Cultural Society, which was identified by FMIT's tribal council to speak on behalf of the council regarding cultural resource matters for their tribe.
- I1-34 As discussed in Section 4.4.1.3 of the DEIR, members from FMIT, Hualapai, Quechan, Cocopah, and CRIT have all provided comments that show a concern for the Topock Maze. The cultural significance of this historical resource is described in Section 4.4.1.3 the DEIR. The comment cited in the last paragraph of Section 4.4.1.3 of the DEIR (FMIT 2009) was from the Aha Makav Cultural Society, which was identified by the FMIT council to provide cultural resource-related information, on behalf of their tribe, to the EIR preparers.
- I1-35 Early in the Native American Communication Plan (NACP) process, each tribal government was asked which entity within their government should provide input regarding cultural resource-related matters. Subsequent communication by the EIR preparers was made with these entities in accordance with tribal council guidance, which is protected from public disclosure due to the sensitive nature of the conversations.
- I1-36 Exhibit 4.4-2 has been edited in Volume 2 of the FEIR (Section 4.4.1.3) to include approximate acreages and populations for each tribal reservation shown. The Colorado River has been identified and the flow of the Colorado River can be inferred by the symbology used in its identification. A scale is provided on the figure to assist in the understanding of the location of each tribe's tribal land relative to the project location.
- I1-37 DTSC has considered the comments from all tribes, tribal members and counsel equally. Only NOP comments with a clear nexus to cultural resources are included in Table 4.4-2. Although it may appear that comments from the FMIT and Morongo Band of Mission Indians were disproportionately included in the Table, it is only because those tribes identified more individual comments related to cultural resources than the CRIT. It does not mean DTSC places greater weight on some comments over others. Please see the response to comment I1-33 for additional information.
- I1-38 Cultural resource representatives identified by the FMIT tribal council expressed this opinion to the Arizona State Historic Preservation Office (SHPO) on August 17, 2009, as stated in Table 4.4-2 in Section 4.4.1.3 of the DEIR. It is not within the scope of the EIR or the responsibility of DTSC to assess the reasoning behind this opinion.
- I1-39 Impacts on historical resources, including those discretionary historical resources determined to exist based on the testimony of Native American tribal representatives and other available sources, are considered in the DEIR. Customs and religious/spiritual beliefs may be considered when evaluating the significance of a "Traditional Cultural Property," which may be eligible for

the California Register of Historical Resources (CRHR) under Section 15064.5[a][3] and, hence, subject to CEQA. CEQA requires, however, that lead agencies focus their analysis on identifying and considering the potentially significant adverse environmental effects of a project on the physical environment prior to approving a project. (Public Resources Code, Sections 21002.121060.5.) Please see Section 4.4.3.1 of the DEIR. Also, please see the response to comment A4-3 in Chapter 2, “Agency Comments and Responses,” of this FEIR, for additional information regarding the geographic scope of the TCA as considered for purposes of the EIR’s impact analysis.

- I1-40 As stated in I1-32 above, under CEQA, DTSC had no requirement or authority to dictate that PG&E fund and complete an ethnographic study as part of the EIR process. Nevertheless, DTSC has contacted interested tribes and welcomed any ethnographic information to be presented for the purpose of the EIR preparation and cultural resources evaluation as part of this EIR process. As stated in Section 4.4.2.2 of the DEIR, a lead agency may determine a site to be historically significant in the cultural annals of California, provided the determination is supported by substantial evidence in light of the whole record. Archival and ethnohistoric information gathered with respect to this project support DTSC’s determination that the project area is of religious and spiritual significance to some of the Native American tribes. Although DTSC cannot settle the dispute of spiritual significance of a particular area between tribal beliefs, DTSC’s goal is to avoid or minimize disturbance to the surrounding landscape and environment to the extent possible during remediation of contamination regardless of the confirmation or absence of spiritual significance attributed to the project area.
- I1-41 This information was presented by cultural resources–related personnel identified by the FMIT tribal council to communicate on its behalf. As noted in Section 4.4.1.3 of the DEIR, this comment is from a FMIT member and is listed as such in Section 4.4.1.3. Also see the response to comment I1-40 above.
- I1-42 Please see the response to comment I1-40 and I1-41 for additional information. The commenter is correct that the analogy provided by a FMIT tribal member to equate the Topock Maze to Arlington National Cemetery is not completely accurate. This change is presented in Volume 2 of the FEIR, in Section 4.4.1.3.
- I1-43 The commenter suggests that the reference to the, “Topock area,” is unclear. This is clarified and presented in Volume 2 of the FEIR, Section 4.4.1.3. Please see the response to comment A4-3 in Chapter 2, “Agency Comments and Responses,” of this FEIR, for additional information regarding the extent of the Topock area.
- I1-44 The commenter’s request for funding and authorization to conduct an ethnographic study is noted; however, please see the response to comment I1-32.
- I1-45 Please see the response to comment I1-35 regarding the origin of the information. Please see the response to comment A4-3 in Chapter 2, “Agency Comments and Responses,” of this FEIR, regarding the geographic limits of the area considered for purposes of the EIR’s impact analysis.
- I1-46 As discussed in Section 4.4.1.3 of the DEIR, the Chemehuevi Tribe did not communicate any concerns regarding cultural resources.
- I1-47 It is unclear as to which part of the DEIR this comment refers. However, the conclusion as to the significance of the Topock Cultural Area is provided in Section 4.4.3.1 of the DEIR.

- I1-48 Under CEQA, DTSC had no requirement or authority to dictate that PG&E fund and complete an ethnographic study as part of the EIR process. Please see the response to I1-35 with regard to the origin of the information. During the NACP process, DTSC and its consultants regularly requested opportunities to discuss cultural resource matters with those specialists and elders that would be the most knowledgeable. FMIT and Quechan did provide access to some elders during the outreach process. Hualapai and CRIT requested additional funding from outside sources to have their own cultural resources specialists conduct interviews with Tribal elders and communicate their findings to DTSC. However, as stated earlier, DTSC cannot mandate such funding. Please see the response to comment I1-32 regarding the ultimate disposition of an ethnographic assessment. Finally, the decision to conclude that the project area (Topock Cultural Area) was a historical resource was based not only on the information gathered as part of the NACP, but also a preponderance of other ethnographic data and primary resources considered objectively by DTSC as the lead agency under CEQA. As stated in response to I1-40, DTSC cannot settle the dispute of spiritual significance of a particular area between tribal beliefs; however, DTSC's goal is to avoid or minimize disturbance to the surrounding landscape and environment to the extent possible during remediation of contamination regardless of the confirmation or absence of spiritual significance attributed to the project area.
- I1-49 The information supporting this conclusion can be found in Section 4.4.1.3 of the DEIR. As described in Section 4.4.3.1, the lead agency under CEQA has broad discretion to determine whether a resource is a historically significant resource under CEQA; neither consultation with SHPOs nor DOI is necessary under CEQA. (See CEQA Guidelines, Section 15064.5, subd.[a][3][A]-[D]; see also *Valley Advocates v. City of Fresno* [2008] 160 Cal.App.4th 94..
- I1-50 Please see the response to comment A4-3 in Chapter 2, "Agency Comments and Responses," of this FEIR. DTSC does not have the legal authority to impose its determination under CEQA that the Topock Cultural Area is a historically significant resource on other independent entities such as the State of Arizona.
- I1-51 Please see the response to comment I1-35.
- I1-52 Please see the response to comment A4-3 in Chapter 2, "Agency Comments and Responses," of this FEIR, regarding the geographic limits of the area. The details of cultural practices are not necessary for evaluating impacts in the DEIR. The only information necessary as part of an EIR's good faith at full disclosure is that cultural practices occur in the area.
- I1-53 Please see the response to comment A4-3 in Chapter 2, "Agency Comments and Responses," of this FEIR, and specifically Exhibit 4.5-1 in Chapter 4, "Cultural Resources," of the DEIR.
- I1-54 Specific cultural concerns are documented for each tribe in Section 4.4.1.3 of the DEIR. Please see the response to comment I1-35 regarding the origin of the information.
- I1-55 Please see the response to comment I1-35. The testimony is confidential and not part of the public record.
- I1-56 Please see the response to comment A4-3 in Chapter 2, "Agency Comments and Responses," of this FEIR.
- I1-57 The procedures for analyzing impacts on historical resources can be found in Section 4.4.2.2 of the DEIR and in CEQA Guidelines Section 15064.5(b)(1). The evaluation of this resource was initially recommended by AECOM cultural resources staff (see list of preparers), all of whom are cultural resource specialists who fulfill the federal and state professional qualification standards

for archaeology or ethnography, as appropriate. DTSC made the final decision for the DEIR based on the recommendation of these qualified professionals. The physical characteristics referred to in this comment refer to archaeological materials, land uses, aesthetics, and noise profiles in the area.

- I1-58 Exhibit 4.5-5 has been revised to show the project area and project site consistent with the comment (Volume 2 of the Final EIR, Section 4.5.1.4). Review of active fault information did not identify major active faults within Arizona, which is why Exhibit 4.5-5 and Table 4.5-3 present information for major active faults within California. These data are complete as they relate to this issue, and no further response is necessary.
- I1-59 DTSC directed PG&E to investigate the East Ravine area to ensure full characterization of the site after observing possible liquid in ponds within the East Ravine area during historical aerial photo review. The objectives and specifics of the subsequent investigation are presented in the *2008 Revised Work Plan for East Ravine Groundwater Investigation PG&E Topock Compressor Station, Needles, California*. As a result of that investigation, Cr(VI) contamination was found within the referenced area. DTSC and DOI, in conjunction with PG&E, have recommended additional investigation within the East Ravine area and the Topock Compressor Station to be conducted in early 2011 to better define the nature and extent of contamination and to guide the design of the groundwater remediation system. The proposal for additional groundwater monitoring wells was discussed at two technical workgroup meetings and memorialized in an August 2010 addendum to the *2008 Revised Work Plan for East Ravine Groundwater Investigation*. Although PG&E has not requested delay of the well installation, PG&E also was not overtly proactive in conducting the East Ravine investigation and waited for official DTSC direction and the federal tribal consultation prior to implementing investigative activities. Please also see the response to comments I1-9 and I1-90.
- I1-60 Please see the response to comment I1-10
- I1-61 No other areas of potential groundwater contamination are known. Additional East Ravine investigation activities are intended to further address this issue and to further evaluate the potential sources of groundwater contamination in the East Ravine. The design of the East Ravine remedy will occur during the remedial design phase of the project (CH2M Hill 2009a:5-23). Please also see the response to comment I1-9.
- I1-62 The commenter is correct in stating that the proposed remedy is designed for the Cr(VI) groundwater plume in the subsurface at and around the Topock Compressor Station as a result of PG&E's past operation and waste disposal in the Bat Cave Wash area. However, by using the same extraction, injection, and in situ reduction technology, DTSC believes that a proper system can also be designed to remediate the same chemical in the East Ravine Bedrock area. No data currently suggests any additional groundwater plume aside from these areas. Furthermore, because only one body of groundwater exists, although it may be within different geologic materials, Cr(VI) contamination for the entire area can be managed by the proposed remedy if properly designed. Please also see the response to comment I1-9.
- Although the proposed remedy is specifically designed for Cr(VI), no data suggests any other potential chemicals of concern are in the groundwater at this time except for molybdenum, selenium, and nitrate. Elevated concentrations of these substances only occurred in limited areas and would likely be reduced as a result of water movement when the remedy is implemented (also see the response to comment I1-8). DTSC concluded that an active remediation beyond the in situ treatment as proposed is not warranted but agree that monitoring for the presence of these

substances during remediation is prudent. See the response to comment I1-19. No changes were made in response to the comment.

- I1-63 DTSC did receive a request from Ms. Maryetta Patch on June 9, 2010, for a Mojave interpreter for the Open House and Public Hearings scheduled on June 22 and June 23 at Parker and Lake Havasu City, respectively. In response, DTSC actively sought an interpreter speaking the local native language and offered compensation for such services through both the CRIT Office of the Attorney General and the project manager for the FMIT. Unfortunately neither tribe was successful in assisting DTSC with providing an interpreter.
- Outreach has occurred through the traditional notification of the general public via advertisement in the local newspaper, radio and cable television broadcasts, distributions of fact sheets, internal postings, the www.dtsc-topock.com website, and placement of posters and flyers at various locations around the community. Leadership for the FMIT participated in a conference call with DTSC staff on April 13, 2010, prior to public release of the DEIR, during which the project description was described. DTSC met with FMIT cultural resources representatives, members of Tribal council, and FMIT legal counsel on May 27, 2010, and again on July 6, 2010, to describe the DEIR and cultural resource mitigation measures.
- I1-64 Public involvement is a vital component of DTSC's decision-making process and DTSC has considered all comments received. As standard practice, DTSC reviews all the comments received and prepares a responsive summary, which is made available to the commenting party and the general public as part of the final decision package.
- I1-65 DTSC is obligated to provide good faith responses to comments which raise significant environmental points in the review and consultation process. (CEQA Guidelines, Section 15132, subd.[d].) DTSC staff, in coordination with AECOM staff, prepared the responses contained within this FEIR. DTSC is not required to release its administrative draft responses or any other information to PG&E or other third party. It is not prohibited, and is, in fact, quite common for lead agency's to refer comments which raise the same or similar issues to other responses to comments.
- I1-66 Salts associated with historic PG&E discharges to Bat Cave Wash have been evaluated to assess potential impacts on groundwater. Salt was a concern because cooling tower wastewater, referred to as blowdown, would concentrate naturally occurring minerals as well as any added constituents. (See the RFI/RI report for additional details [CH2M Hill 2009b:2-3 and 6-26].) Some salts are assumed to have affected groundwater within the project area; however, because the blowdown was discharged to natural waters that already contained elevated salts, a discernible plume is not readily evident.
- The total dissolved solids (TDS) levels in the Colorado River are about 600 milligrams per liter (mg/l), while the TDS of site groundwater ranges from as low as 300 mg/l (at well MW-1) to over 40,000 mg/l (wells MW-30-30 and MW-32-20). Most monitoring wells on-site contain TDS in the 1,000 to 10,000 mg/l range. In general, high TDS is associated with natural conditions in bedrock wells, deep alluvial and fluvial wells, and a few shallow fluvial wells. (See the RFI/RI report for additional details, including figures illustrating the distribution of TDS in groundwater [CH2M Hill 2009b:Sections 5.3.1.4 and 6.5.1]).
- A background level for salt in soil has not yet been calculated, but might range significantly considering the desert environment within the Topock area. Soils or wastes that could contain elevated salts that might affect groundwater in the future will be assessed during the soil investigation process. No further environmental analysis is needed in the DEIR.

- I1-67 Please see the response to comment I1-7.
- I1-68 According to PG&E, all chromium containing blowdown generated at the site after the injection attempts was pretreated at the compressor station and was sent to the former wastewater ponds west of the facility. These ponds were subsequently removed as part of the RCRA closure of regulated units.
- Cr(VI) was a common chemical additive for cooling water in various industries before the 1980s. DTSC's understanding is that past management of Cr(VI) is a companywide challenge for PG&E, including at the Hinkley Compressor Station.
- I1-69 Please see the response to comment I1-4.
- I1-70 The components of the system for treating blowdown from the cooling tower were physically removed by the early 1990s. Closure reports for hazardous waste management units, including the former waste water pond were prepared by PG&E documenting that soil contamination was not left below units and, therefore, not a threat to groundwater. In June 1995, DTSC accepted PG&E's closure certification reports in that the closures were completed pursuant to the approved closure plans. Based on closure confirmation sampling results submitted by PG&E, soil beneath regulated units are similar to background concentrations.
- I1-71 According to the Statement of Basis, PG&E and DTSC first identified solid waste management units and areas of concern in the late 1980s. Additional solid waste management units and areas of concern have been identified during the course of site investigation. As of the time of the preparation of the DEIR, 14 solid waste management units (SWMUs), 20 areas of concern (AOCs) and two undesignated areas (see Section 4.5.1.5 of the DEIR) were formally designated for evaluation (CH2M Hill 2007 and 2009b). The SWMUs and AOCs are summarized in Section 4.5.1.5 of the DEIR. Eight SWMUs and AOCs have completed investigation and these areas have received regulatory closure (CH2M Hill 2007:ES-5). Eight other SWMUs and AOCs that previously obtained closure will be included in the Part A or Part B soils investigations and reported in the RFI/RI Volume 3 (CH2M Hill 2007:ES-6, Section 4.5.1.5 of the DEIR). The East Ravine groundwater investigation is also underway to further characterize the impacts and this information will be used in the final design. Please also see the response to comment I1-9. Known sources of groundwater impacts include SWMU-1/AOC-1; the Part A and Part B soils investigations will evaluate the impacts associated with the respective SWMUs and AOCs, including whether any of these are sources of groundwater impact.
- I1-72 Although the active interim measure (IM-3) is controlling the hydraulic gradient of the groundwater plume from entering the Colorado River, the measure is designed only to stabilize the contaminant from migration for the short term. Furthermore, in California, DTSC must protect the groundwater basin from contamination because the basin is designated by the Regional Water Quality Control Board as a groundwater body suitable for beneficial use for drinking water supply. Although the interim measures are currently protecting the Colorado River from potential threat, the interim measures are doing little to remediate the groundwater basin. Therefore, a final action must be taken to reduce the toxicity and mobility of the hazard from the Cr(VI) to ensure protection of this beneficial use. No additional environmental analysis is needed in the DEIR.
- I1-73 The gap in timing between the groundwater investigation and soil investigation was a result of many factors, including the focus of specific stakeholders (e.g., Metropolitan Water District, Regional Water Quality Control Board) and the weight of priorities between possible exposure risks. Another factor is that DTSC acknowledges the difficulties in balancing the tribal sensitivity

of the land and the need for extensive soil sampling because of the diverse geology of the release areas. Finally, PG&E did request a deferral of investigation of on-site contamination because of safety and operational concerns.

- I1-74 Please see the response to comment A4-3 in Chapter 2, “Agency Comments and Responses,” of this FEIR. Regarding the spiritual significance of the area, refer to Section 4.4.13 of the DEIR. Whether the Topock Cultural Area, as identified in the DEIR, has any spiritual significance to nontribal people in the area is unknown. To date, no other interested party has provided information that claims the area as spiritually significant. Please note, DTSC has not defined the area as “spiritually significant,” but is relaying the belief that the area is considered to be spiritually significant by many of the involved tribes (based on their own definition). DTSC only defines the Topock Cultural Area as a historical resource under CEQA. Neither the PG&E nor the DTSC settlement agreement provides for a shutdown of IM-3 in the event of spiritual or tribal activities in the area.
- I1-75 The idea to separate the soil and groundwater investigation as separate operable units was discussed with stakeholders in the consultative workgroup as early as May 2004, when the groundwater issues were thrust to the forefront of priorities after detection of Cr(VI) in a new well near the edge of the Colorado River. The hope was to continue a parallel track until the project schedule dictated a separation. On April 2, 2008, PG&E presented to the consultative work group that the time lag between the groundwater remedy and soil remedy would be greater than 2 years. In the interest of expediting the groundwater cleanup, DTSC and DOI agreed to separate the soil investigation from the groundwater remedy.
- DTSC recognizes that the groundwater remedy is focused on Cr(VI), which is the major risk driver at the site. DTSC has determined, based on the well sampling data, that no other potential chemicals of concern warrant a separate active remediation. Please see the response to comment I1-62. No additional environmental analysis is needed in the DEIR.
- I1-76 DTSC and DOI are currently keeping nine Native American Indian tribes apprised of the status of this project. Although the membership enrollment of the tribes varies and not all tribes are along the river, these are all Yuman or Numic speaking tribes and share similar ancestral ties to the Colorado River. DTSC understands from cultural exchanges that different tribes have varying beliefs regarding the Topock area, but all tribes agree that the Colorado River must be protected. DTSC is not in the position to determine whether one’s beliefs are more important than another’s. It is DTSC’s endeavor to protect human health and the environment through our actions while respecting all beliefs, however they may vary.
- I1-77 Any gifts between PG&E and the tribes are not within DTSC’s jurisdiction or purview. DTSC only knows of a property transfer associated with the current IM-3 treatment plant location from PG&E to FMIT as a result of a settlement agreement between the two parties. DTSC was not involved with the negotiations of the settlement agreement between these parties.
- I1-78 Please see the response to comments I1-34, I1-35, and I1-76. As detailed in Section 4.4.1.3 of the DEIR, no tribal entity stated that cultural resources should take precedence over the protection of the Colorado River.
- I1-79 DTSC believes that the groundwater remedy can proceed without full knowledge of potential leaching from soil contaminants. The SWMUs and AOCS to be evaluated in the Part A and Part B soils investigations are located within the area encompassed by the groundwater impacts. DTSC understands that the mass of contaminant within the groundwater may change if leaching does occur and that additional contaminants maybe locally present, but these factors would not be substantial in comparison to the existing need for groundwater remediation to treat the Cr(VI).

The localized extent of these other potential sources is a factor that limits potential groundwater impacts. That fact may change the time required for cleanup from the estimated 29-year operational period, but does not change the ability of the technology to reduce the Cr(VI) to Cr(III). The technology is capable of treating additional contaminants present in groundwater, including molybdenum, selenium, and nitrates. DTSC understands that some remedial design uncertainties exist in proceeding with the groundwater remedy without fully understanding the soil contamination; however, the benefit in an expedited cleanup to protect the Colorado River and return of the groundwater basin to beneficial use outweighs the soil contamination unknowns in this case.

- I1-80 The intent is not to minimize the importance of the Colorado River; instead, the river is one of the major reasons for DTSC to undertake the proposed cleanup action. The background and environmental setting discussions of the DEIR explain the importance of the river for drinking water and recreational uses (see Sections 4.7.1. and 4.1.1.3).
- I1-81 The remediation of groundwater contamination is not being limited by cultural resources concerns, despite the fact that many mitigation measures have been identified to mitigate impacts. In no part of the Statement of Basis or DEIR does DTSC suggest that the Topock Cultural Area is somehow of greater cultural importance than the Colorado River. Please see the responses to comments I1-34 and I-35 regarding the various tribal views elicited for this document and the DEIR. In addition, please see the responses to comments I1-62 and I1-80.
- I1-82 When evaluating environmental impacts, all issue areas are considered. DTSC does not weigh the protection of cultural resources greater than the protection of the drinking water supply for millions of people in Arizona and Southern California. DTSC's objective in requiring PG&E to remediate the contaminated groundwater at the site is to protect the valuable drinking water resource in the river and in the ground. However, it is also a goal of DTSC to conduct such remediation by avoiding or minimizing the project impacts on the cultural and biological resources of the area. The referenced settlement agreement by the commenter does not limit DTSC's ability to act as an independent regulatory agency or fully comply with the CEQA process. No terms in the settlement agreement cause DTSC to bias its decision-making process or violate State laws or regulations.
- I1-83 Please see the response to comment I1-80.
- I1-84 Whether hexavalent chromium with concentrations below detection limits is discharging to the river is unknown because analytical techniques and modeling tools are not available or precise enough to make such a refined assessment. PG&E's surface water database does clearly indicate that chromium is generally not detected and is not detected above any regulatory standards. Details of the surface water data and resulting evidence suggesting the Colorado River is not affected are presented in the responses to comments I1-10, I1-59, and I1-61.
- Data do not indicate East Ravine groundwater contamination is in direct contact with the Colorado River based on the absence of Cr(VI) impacts detected in river samples. Refer to the responses to comments I1-9, I1-10, I1-59, and I1-61.
- I1-85 DTSC is mandated to investigate and remediate contaminated sites to protect human health and the environment. This action can be achieved without the full removal of all constituents that are anthropogenic or nonnative by removing the risk associated with the substance at the site. Regulatory agencies may never know how much chromium was introduced by PG&E to the site or may never be able to fully remove all of it. In contrast, DTSC and DOI do understand the undeniable difference in the physical and chemical properties of the two valence states of

chromium and the dramatic risk difference between the two. Reduction of Cr(VI) is a core technology behind both in situ and ex situ treatment (i.e., treatment plant). The difference is that one method is conducted in the ground using a biological process while the other is conducted through a chemical treatment train within an above ground treatment plant. DTSC understands that safeguards should be in place for the proposed remedy and would be directing PG&E during the remedy design to ensure such safeguards are in place. The tribes would also have an opportunity to provide input during the remedy design process.

I1-86 Please see the response to comment I1-62.

I1-87 As specified in PG&E's RFI/RI report (CH2M Hill 2009b), uncertainties do remain regarding the extent to which reducing conditions in fluvial deposits provide a pervasive and permanent barrier to Cr(VI) contaminant migration to the river. Organic-rich conditions do not exist in East Ravine, but the cited section is not describing East Ravine conditions.

To address this comment, the following language has been added after the cited sentence on page 7 of the draft Statement of Basis:

Uncertainties remain regarding the extent to which reducing conditions in fluvial deposits provide a pervasive and permanent barrier to Cr(VI) contaminant migration to the river.

I1-88 Based on existing data, the cited sentence is accurate. No changes were made to the cited statement.

I1-89 The treatment of molybdenum, selenium, and nitrate concurrent with Cr(VI) reduction to Cr(III) was discussed in the In-Situ Reactive Zone Treatment Design Elements (Arcadis 2009:2). The DTSC and DOI require monitoring for molybdenum, selenium, and nitrate. The treatment of these chemicals was evaluated and verified during pilot testing.

These chemicals are reduced or transformed from more soluble forms to insoluble forms and precipitate within the aquifer. The response to comment I1-8 provides a detailed discussion of the respective transformations.

Groundwater monitoring during remedy operation would include the required analyses for molybdenum, selenium, and nitrate to verify that these chemicals are being treated as part of the Cr(VI) treatment. DTSC does not believe an active remedy is required for these chemicals of potential concern. See the response to comments I1-19 and I1-62.

I1-90 PG&E is uncertain how the East Ravine contamination originated. It may be associated with the large Bat Cave Wash plume, it may have originated from on-site operations at the compressor station, or it may be related to historic waste discharges that might have occurred directly to the East Ravine. Additional groundwater investigation at the compressor station and at the East Ravine may suggest a source. Although PG&E did not oppose the investigation in the East Ravine area, PG&E was not overtly proactive. Please also see the response to comment I1-9.

I1-91 The commenter is correct by stating that the volume of contamination within the bedrock area can only be estimated based on a general understanding of the porosity of the bedrock, the depth of contamination, and the lateral extent of contamination. It is realistic, however, to envision limited volume within bedrock. At this time, DTSC does not believe an interim measure is necessary because of the contamination found within the bedrock area. DTSC has, and will continue to monitor the water quality of the Colorado River. To date, the river water quality has not been adversely affected by Cr(VI) as a result of PG&E's historical release or operational practices.

- I1-92 Please see the responses to comments I1-15, I1-19, I1-62, and I1-89.
- I1-93 A human health risk assessment of groundwater at the site found that Cr(VI) was the predominant risk driver. Although three other constituents (molybdenum, selenium, and nitrate) thought to be associated with site activities were found above background levels in groundwater, the noncancer hazard quotient were only slightly above unity (or 1) in several wells at the site. In general, if a study area has a hazard quotient value greater than one, it is categorized as having a potential noncarcinogenic health risk. However, when compared with a noncancer hazard of 340 for Cr(VI) at the monitoring well with the maximum concentration, these constituents are not health risk drivers. These three other constituents will continued to be monitored during ongoing remediation and sampling events.
- I1-94 Contamination was not found in Arizona; thus no institutional controls over water usage are required. DTSC will negotiate with private landowners in good faith for a land use covenant to restrict installation of water production wells and or redevelopment that would impede the proposed remediation. DTSC does not envision the need to restrict the Topock Marina or Moabi Regional Park from installing water production wells because they are not within the footprint of the groundwater contamination.
- I1-95 The EPA guidance for developing a final remedy does not require complete knowledge of the extent of contamination. Rather, the level of detail in the DEIR need only reflect the potential effects relating to Alternative E derived from the FINAL CMS/FS process. EPA encourages the final remedy and design to be initiated with sufficient knowledge of the contamination to design the remedy. DTSC believes that with the additional data from the upcoming installation of groundwater monitoring wells within the East Ravine and the compressor station in conjunction with the technologies evaluated as part of the groundwater remedy study, PG&E will have sufficient information to properly design a remedy. Please also see the response to comment I1-9.
- I1-96 Potential contaminant uptake by plants growing above potentially contaminated groundwater on top of bedrock near the river's edge has been considered. Please see the responses to comments T3-5 and T7-4 in Chapter 4, "Tribal Comments and Responses," of this document.
- Please note that remediation of bedrock groundwater contamination has already been identified for cleanup. Also see the response to comment I1-84.
- I1-97 Leaching of contaminants from soils to groundwater will be investigated during the soils investigation. A comprehensive risk assessment will summarize the results of the risk assessments conducted for all media (groundwater, soils, surface water) and pathways (ingestion, dermal and inhalation) of exposures.
- I1-98 Cr(VI) is not detected at surface water sampling locations located upstream of the compressor station and groundwater plume. The proposed remedial approach requires PG&E to clean up the Cr(VI) groundwater plume where concentrations exceed the regional background level of 32 µg/l. Some wells near the plume could temporarily increases in contaminant concentrations as the plume mass is flushed toward the IRZ. However, the last remedial action objective requires that the groundwater plume boundary not be expanded long term. DTSC interprets this as not having chromium concentrations in wells along the boundary of the plume increase, especially at floodplain wells where Cr(VI) concentrations are not detected. Please also see the response to comment I1-1.

PG&E will monitor other analytes in groundwater as the remedy is executed to ensure that the remedy is properly implemented. Dioxins have been analyzed in some site wells and have not been detected.

- I1-99 Please see the response to the previous comment regarding potential for chromium at detectable levels in the Colorado River. As identified in the response to comment I1-10 and as summarized in Section 4.7.1.2 of the DEIR, more than 700 surface water samples were collected from 43 locations as part of RFI/RI activities between July 1997 and October 2007 (CH2M Hill 2009b:10-4) and surface water sampling is continuing. Only one Cr(VI) detection, 0.23 µg/l in sample SW-R-23 (SW-1), has occurred in the more than 700 RFI/RI surface water samples. River and surface water samples from the East Ravine investigation and from 2009 sampling were nondetect for Cr(VI) and data do not indicate groundwater impacts are migrating into the Colorado River (CH2M Hill 2009a, Figure A-7; CH2M Hill 2010:3-9). DTSC does not anticipate that chromium levels would increase in the river as a result of PG&E implementation of the remedy because of the combined effects of the naturally occurring reducing zone within floodplain sediments, groundwater extraction to provide hydraulic control within the floodplain, and the operation of the IRZ wells to promote Cr(VI) reduction to Cr(III), which provides a combination of engineered approaches supplemented by the naturally occurring reducing zone. Monitoring during implementation and operational modifications, if warranted based on performance data, will be made to ensure protection of the Colorado River. The 11 µg/l concentration cited refers to the surface water limit of Cr(VI) contained in the Federal Water Pollution Control Act, which was identified in the Final CMS/FS (CH2M Hill 2009a; included in Appendix CMS of the DEIR) as a chemical-specific applicable or relevant and appropriate requirement. This limit is being applied to both Cr(T) and Cr(VI). See the response to comment I1-1 regarding citation of the Federal Water Pollution Act.
- I1-100 Because the trivalent form of chromium [Cr(III)] will precipitate into the natural formation and drop out of solution, a reduction in mass of the hazardous form of the contaminant [Cr(VI)] will take place. In addition, because Cr(III) is less toxic and would be adsorbed into the soil formation, the toxicity and risk from chromium would be significantly reduced because it would no longer be bio-available to receptors in groundwater.
- I1-101 Remedial alternatives that considered both in situ and pump-and-treat components were evaluated in the Final CMS/FS (Alternatives G and H), but were not selected as the preferred remedy. The estimated cleanup times specified in the Final CMS/FS and draft Statement of Basis for Alternatives G and H were, while shorter, very similar to the proposed remedy. Both Alternatives G and H would direct groundwater away from the river. For detailed evaluation between the alternative options, please see Final CMS/FS.
- I1-102 Due to the brevity of the Statement of Basis, DTSC did not provide significant discussion on “high level of operation and maintenance.” Although this conclusion was also included by PG&E in the Final CMS/FS, DTSC’s perspective is that the extended remediation time necessary for both Alternatives B and I (approximately 1,000 years) would require a higher cumulative level of operation and maintenance. Alternative B would have a higher cumulative impact on human health and the environment when the essential wells would need to be sampled throughout the 1,000 years remediation period, not including continued maintenance and upkeep of the wells (including periodic need for replacement of existing and future wells) and property. Alternative I would also require trucking and off-site disposal of sludges from the filtration process and brine from the reverse osmosis process for the same extended period of time. During the short time period when contaminated water was trucked to Los Angeles for treatment under Interim Measures 2, accidents were reported, including one fatality. Although DTSC recognizes that it

was not the fault of the truck driver for that event, all increased trucking for extended distances would have significant risk. DTSC does recognize that these risks are manageable; therefore, DTSC agrees with PG&E that the ranking assessment for these technologies should be medium when compared with other technologies for the same criteria.

- I1-103 Natural attenuation is occurring at the site. However, consideration of the natural attenuation as a component of the remedy is not the same as using monitored natural attenuation as the primary cleanup technique. There is no conflict in adding this as a viable component to the proposed remedy.
- I1-104 The ranking of low, medium, and high is in reference to the relative comparison of remedial alternatives against the selection criteria as discussed in the Final CMS/FS. The ranking was derived after weighing the specific technology's advantage and disadvantage when compared with other technologies for the same criteria.
- I1-105 Please see the response to comment I1-104.
- I1-106 As stated in the draft Statement of Basis, DTSC and DOI did coordinate in the issuance of the Statement of Basis and the Proposed Plan. DOI provided the same review and comment period as DTSC on the release of the proposed plan. Because of this coordination, as well as in the review of the Final CMS/FS (CH2M Hill 2009a; included in Appendix CMS of the DEIR), DTSC learned that DOI had independently concluded that the use of in situ treatment with freshwater injection would be the preferred technology.
- I1-107 Although the "pump-and-treat" system has been in place and operating successfully for the interim measure to control the net flow direction of the contaminated plume, the current system was not designed to operate as a standalone system to remediate the entire plume. Furthermore, even if PG&E is successful in maintaining the system, the current interim measure pump-and-treat system would take an unreasonable length of time to fully remediate the plume (between 100 and 960 years, [CH2M Hill 2009a:5-41]). Other alternatives using the pump-and-treat technology were contemplated in the Final CMS/FS, but with a significantly higher cost and larger extent of ground disturbance.
- I1-108 DTSC agrees that Alternatives G and H are possible alternatives to the preferred remedial alternative but believes that the best engineered estimates between the three alternatives are comparable with maximum durations of 110, 90, and 70 years for Alternatives E, G and H, respectively. Furthermore, DTSC believes that PG&E considered similar safe guards to prevent the byproducts of remediation from entering the Colorado River by using extraction wells near the Colorado River. The conversion of Cr(VI) to Cr(III) has been demonstrated in pilot tests, and DTSC does consider the footprint of a large pump-and-treat system, which has a greater need for off-site waste disposal and a higher cost, to be serious disadvantages of Alternatives G and H.
- I1-109 Please see the responses to comments I1-29 and I1-89.
- I1-110 The proposed remedy is anticipated to attain the remedial action objectives specified in the Statement of Basis, including reducing chromium concentrations significantly and substantially to the regional background value of 32 µg/l. As described in the paragraph following the cited section of the draft Statement of Basis, monitored natural attenuation would also be considered for those areas where recalcitrant chromium may reside.

The creation of byproducts including arsenic, iron, and manganese are discussed in the responses to comments T3-6, T7-8, T7-11, and T8-4. The monitoring and operations and maintenance

activities that would be performed during the implementation of Alternative E would include sampling for arsenic, iron, and manganese, in addition to Cr(VI) for evaluating the byproduct generation and persistence. Modifications and fine tuning of the treatment program may be implemented as discussed in Section 4.7.3.3 of the DEIR.

- I1-111 A “reasonable time frame” is relative for remediation projects. DTSC considers a reasonable time frame to be the shortest duration possible with a high probability of success given the remedial alternatives available.
- Furthermore each remedial alternative in the Final CMS/FS was evaluated by California Regional Water Quality Control Board specifically to determine if they satisfied the “reasonable time frame” requirement in California State Water Resources Control Board Resolution 92-49. Alternatives A, B, and I in the Final CMS/FS were determined to not satisfy the Board Resolution 92-49, therefore are not eligible for selection as standalone alternatives
- I1-112 Figure 5-12 of the Final CMS/FS provides a summary of the “rankings” for each remedial alternative criteria. The factors evaluated and the rationale for each ranking are described in Section 5 of the Final CMS/FS.
- I1-113 Controlling the movement of contaminated groundwater is simply referring to tracking the movement/flow of groundwater through conventional monitoring of groundwater chemistry and hydraulics and modifying flow if necessary through adjustments in groundwater extraction and/or injection. Criteria for establishing adequate treatment and flow of contaminated groundwater would be developed in the remedy design and would be prepared by PG&E after the remedy is selected. See also the response to comments T3-6, T7-8, T7-11, and T8-4 regarding byproducts and additional information contained in Appendix G of the Final CMS/FS.
- I1-114 The commenter references DTSC’s potential to use monitored natural attenuation to remedy pockets of recalcitrant contamination in the subsurface groundwater as a reason to consider using the aggressive pump-and-treat technology. DTSC disagrees with the suggestion because it is equally likely to have pockets of recalcitrant contamination in pump-and-treat systems as. The main difference between the two technologies is that pump-and-treat system pulls the contaminated groundwater while the in situ freshwater flushing pushes water toward a treatment area. Neither technology precludes stagnant zones or localized areas of lower hydraulic conductivity. Both technologies can minimize these occurrences by refining the remedy design to target those specific areas.
- I1-115 Please see the response to comment I1-114. Subsurface geochemical conditions can be manipulated to a large degree by adding or depriving microorganisms of a carbon nutrient source. If necessary, microorganisms can also be introduced into an environment to increase the sustainability of a treatment zone.
- I1-116 DTSC would only restrict the use of contaminated water and activities that infringes on the remedial action. Wells in Arizona are not anticipated to require restrictions because the groundwater in Arizona is neither contaminated nor influencing the hydraulic gradient of the plume in California. Nevertheless, PG&E must monitor the hydraulic gradients carefully and adjust the contaminated groundwater flow regime to counteract any external affects.
- The 1,000 gallons per minute rates identified by the commenter are hypothetical rates that do not compare to actual rates. PG&E is not aware of any proposed new water supply well(s) in the Park Moabi vicinity, or any changes in pumping that would be of sufficient capacity to represent a potential detrimental effect on Alternative E hydraulic performance. There could be an infinite

number of scenarios associated with potential future well locations and pumping rates and as such, any modeling would be speculative and without a realistic basis on potential future private well development. The freshwater injection wells in the conceptual configuration of Alternative E are located between the chromium plume and Park Moabi (CH2M Hill 2009a: Figure 5-7A and Figure 5-7B). The conceptual freshwater injection rate for Alternative E is 500 gallons per minute (CH2M Hill 2009a:5-31). The estimated annual average pumping rate from Park Moabi is about 3 gallons per minute (6 acre-feet per year [CH2M Hill 2006:2-13]). Even if Park Moabi were to increase its water use tenfold, it would still be a small rate (an order of magnitude lower) compared to the proposed Alternative E freshwater injection rate of 500 gallons per minute.

- I1-117 DTSC does not have jurisdiction to restrict uses, including fishing or other recreational uses, outside of the influences of the contamination. DTSC will not be restricting the use of the Colorado River. Any dredging would be subject to applicable state and federal regulations.

The risk assessment information summarized in Responses T3-5 and T7-4 regarding potential chromium uptake of plants along with the September 28, 2010, memorandum from the Human and Ecological Risk Division of DTSC (Appendix HERA of the FEIR) indicate that there is not a complete exposure pathway for human exposure to Cr(VI) resulting from plant uptake of affected groundwater. Additionally, DTSC understands, from the perspective of natural botanical uptake process, that Cr(VI) within the plant roots is typically transformed to Cr(III). DTSC believes that plant uptake issues can be evaluated with additional studies to be performed as part of the soils assessment program. DTSC, however, is confident that the proposed project to remediate the Cr(VI) concentration in groundwater will only improve the existing condition at the site.

- I1-118 Financial assurance for completion of the remediation by a responsible party is a requirement of California state law and part of the RCRA. The financial assurance mechanisms available to PG&E are prescribed in Title 22 of the California Code of Regulations and in the California Health and Safety Code. The general public can monitor PG&E's compliance with financial assurance through public records review; however, DTSC cannot establish any advisory committee for this purpose. The commenter and interested members of the public may organize a voluntary advisory oversight committee.

- I1-119 DTSC regrets that a wrong fax number was printed in the draft Statement of Basis. The number provided is the direct telephone number to Mr. Aaron Yue, DTSC project manager. DTSC has considered the requestor's rationale for renoticing the public comment period and reopening the comment period; our review, however, shows that all other contact information within the draft Statement of Basis, the fact sheet, flyers, and public notices are correct. Therefore, DTSC does not agree that a renoticing of the proposed remedy is required.

From: [Lori Hare](#)
To: [Hoagland, Anne](#); [Choi, Pete](#); [Heipel, Steve](#); [Karen Baker](#)
Subject: Fwd: EIR Comments
Date: Wednesday, July 21, 2010 9:41:31 AM
Attachments: [Comments \(Statement of Basis % Proposed Plan\)I1.pdf](#),
[Comments \(EIR\)I1.pdf](#),
[comments \(Intro\)I31.pdf](#)

>>> Michael Tsosie <samutyi@yahoo.com> 7/19/2010 5:38 PM >>>
Dear Aaron:

Attached are my full comments following my personal testimony provided at your June meeting in Parker. I am also requesting an extension of time per the action taken by the Mohave Elders at CRIT, for an additional thrity (30) days. which was sent by regular mail to you last week. If have need to reach me you may do so at (623) 755-4302. Thanking you in adavce for your kind attention and response to the numerous concerns and issues raised in my attached comments, which are in three parts.

I2-1

Sincerely,

Michael Tsosie.

Mr. Aaron Yue
Project Manager
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630

Pamela S. Innis
Topock Project Manager
U.S. Department of Interior – OEPC
P.O. Box 25007 (D-108)
Denver, Colorado 80224-0007

Comments are being submitted on the following documents:

Draft Statement of Basis
Groundwater Proposed Plan
Draft Environmental Impact Report

Comments apply equally to each and every document, regardless of the specific location that the comment was provided.

I2-2

For purposes of the Administrative Record comments are being submitted equally to the Department of Toxic Substances Control and the Department of Interior. The submitted comments are intended to be documented and recorded in the format as the following example illustrates. The highlighted portion of the text is intended to be part of the comment.

Draft Statement of Basis, Dated April 28, 2010

Page 3 – Introduction

The Department of Toxic Substances Control (DTSC) is issuing this draft Statement of Basis for a preferred groundwater remedy (Preferred Alternative) at the Pacific Gas and Electric Company ("PG&E"), Topock Compressor Station and its surrounding area affected by the groundwater contamination ("the Site") located near Needles, California. This draft Statement of Basis identifies the Preferred Alternative among the remedial action alternatives evaluated for cleaning up groundwater contaminated by past waste disposal practices at the Site.

Comment

These statements are not true and correct. The statements are also misleading. The action being proposed is not for cleaning up groundwater contaminated by past waste disposal practices at the Site as stated. This groundwater remedy being proposed is limited and restricted and does not address all the groundwater contamination. This groundwater remedy only addresses one (1) chemical in the groundwater plume of

I2-3

contamination in a very limited area since the entire extent of groundwater contamination is not known at this time. Further remediation of the other chemicals in groundwater in addition to any potential new chemicals are proposed to be addressed in an unspecified future unspecified time when PG&E may decide to do so. This Statement of Basis is defective and is segmenting and piece-meal of a complete groundwater remedy without an adequate scientific basis or rationale justification. Further DTSC/DOI is allowing PG&E to minimize groundwater remedial actions by NOT requiring PG&E to completely remediate the entire groundwater plume of contamination that was caused by PG&E dumping hazardous materials and hazardous substances onto the ground surface. Rather than PG&E dealing with the contamination in an environmentally sound and appropriate manner PG&E chose to dump this waste onto the ground and allow it to impact the groundwater. DTSC/DOI should not acquiesce to PG&E corporate desires, political pressures, and the desires of a few upstream non-impacted Tribal members in order to limit and restrict the complete removal and remediation of all contamination caused by PG&E is not protective of human health and the environment, and is not protective of current and future generations of the people of the State of California and the People of the State of Arizona. DTSC/DOI should be requiring the highest possible protection for the Colorado River and PG&E should be required to remove all contamination that they caused as a direct result of their activities.

I2-3
con't.

Letter
12
Attachment 1

Draft Environmental Impact Statement

for the

Topock Compressor Station
Groundwater Remediation Project

California Department of Toxic Substances Control



SCH #2008051003

Prepared for:

California Department of Toxic Substances Control
1001 I Street
Sacramento, CA 95814

Contact:

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

Prepared by:

AECOM
2022 J Street
Sacramento, CA 95811

April 2010

AECOM

2.1.1.1 FUTURE REVIEW OF PROJECT-LEVEL DESIGNS

When PG&E reduces the proposed final remedy to specific designs associated with a discrete footprint within the project area, DTSC shall review these plans which would include the Corrective Measures Implementation Workplan and subsequent design. DTSC shall determine if the impacts associated with the project-level designs are generally consistent with the significance conclusions of this EIR, after implementation of mitigation. On this basis, DTSC shall determine whether the specific design for the final remedy is within the scope of the program EIR, pursuant to the provisions of Section 15168 of the CEQA Guidelines.

In some cases, site-specific mitigation planning may be necessary when project designs are available. This EIR evaluates these potential consequences to the extent possible and provides program-level mitigation measures and performance criteria to guide mitigation planning; however, site-specific impact or mitigation analyses have not been achievable at this juncture in project development.

2.1.2 CONTENTS AND PURPOSE OF THIS ENVIRONMENTAL IMPACT REPORT

In accordance with Section 15125 of the CEQA Guidelines, the EIR must include a description of the physical environmental conditions in the vicinity of the project as they exist at the time of the notice of preparation (NOP), or, if no NOP is published, at the time the environmental analysis begins. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The environmental analyses contained in Chapter 4 of this DEIR uses the NOP as the baseline for the description of the physical conditions that might be affected by the proposed remedial options. However, based on a 2005 Stipulation and Settlement Agreement between DTSC and the Fort Mojave Indian Tribe regarding an interim remediation system that was constructed at the compressor station in 2004, the EIR must also evaluate potential impacts (on biological and cultural resources solely) using a baseline date of January 2004, the date after which construction of the interim remediation system was initiated. Therefore, this DEIR considers two separate baselines in analysis of potential impacts for biological and cultural resources. The analyses conducted using the January 2004 baseline date are contained in Chapter 7 of this DEIR.

This document has been prepared in sufficient detail to support a decision for approval or rejection of the proposed project. DTSC intends that this EIR be used by other local, regional, and state agencies in the approval process of related permits associated with cleanup efforts within the project area. These agencies are identified in Section 2.5 of this chapter. To the extent that the CEQA streamlining processes described above are available to such agencies, they may choose to rely on them as well.

The purpose of an EIR is not to recommend approval or denial of a proposed project. Rather, an EIR is required to identify the significant adverse environmental effects of a proposed project to the physical environment, and to further identify measures that avoid or mitigate those impacts to the extent feasible. If environmental impacts are identified as significant and unavoidable in the sense that no feasible mitigation measures or alternatives have been identified, DTSC may still approve the project after adopting all feasible mitigation measures and alternatives if, through the adoption of CEQA findings and statement of overriding considerations, it finds that social, economic, legal, technological, or other benefits outweigh these impacts.

2.2 BACKGROUND OF THE PROPOSED PROJECT

2.2.1 COMPRESSOR STATION HISTORY AND ACTIVITIES

The compressor station is owned and operated by PG&E. It began operating in 1951 and is still active today. From 1951 to 1964, the compressor station was located on a 65-acre property that PG&E leased from the U.S. Bureau of Land Management (BLM). In 1964, BLM transferred the property to the State of California and in 1965 PG&E purchased the property from the state. The compressor station is used to compress and cool natural gas for transport through PG&E pipelines to customers in central and northern California. Pipeline pressure must

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 4:40:04 PM

T Did BLM and the State of California own the land during the time that contamination was discharged to the land by PG&E? Is it possible for BLM to be considered a potential responsible party under RCRA or CERCLA? Is it possible that the State of California and DTSC can be considered a responsible party under RCRA or CERCLA?
If DTSC is able to be considered a potential responsible party under RCRA or CERCLA then are they able to legally act as a reasonable independent lead responsible agency without the perception that they may have a vested interest in minimizing the extent and cost of any remedial activities?

I2-4

be increased at regular distances along the pipeline to effectively transport natural gas through the pipelines. As the pressure is increased, the temperature of the gas also increases. Cooling towers located at the compressor station use water to lower the temperature of the gas before reintroducing the gas to the PG&E pipeline system.

The main structures at the facility include the cooling towers (Towers A and B), compressor building, and generator building (Exhibit 2-1). Adjacent to the main buildings are various auxiliary structures including an office, a warehouse, a vehicle garage, maintenance buildings, equipment and chemical storage buildings, and a water softening building. Aboveground tanks used for storage of water, water treatment chemicals, new and waste oil, gasoline and diesel fuel, and wastewater also are located at the facility. Exhibit 2-1 identifies existing infrastructure at the compressor station and vicinity.

When originally constructed, the facility was equipped with six compressors and could process 400 million standard cubic feet per day (scfd) of natural gas. As demand increased, PG&E added new compressors and upgraded existing compressors to increase the volume of gas that the compressor station could process. Most of the upgrades were completed by the mid-1950s. Following the upgrades, the facility is currently capable of processing 1.1 billion scfd of natural gas.

Currently, the compressor station processes between 300 million and 1.1 billion scfd of natural gas, depending on demand. The compressor station operates and is staffed 24 hours per day, 7 days a week. Operations at the compressor station have been relatively unchanged since it opened in 1951. The operations at the compressor station consist of: (1) conditioning the cooling water; (2) compressing the natural gas, (3) cooling the gas and compressor lubricating oil, (4) treating the wastewater that is generated during the cooling process, (5) maintaining the facility and equipment, and (6) miscellaneous operations.

2.2.2 CHEMICAL USE AND DISPOSAL AT THE COMPRESSOR STATION

¹From 1951 through 1985, PG&E added chromium to the water circulating in the cooling towers to inhibit corrosion, minimize scale, and control biological growth that affected the mechanical equipment. Chromium is a chemical found in air, soil, water, and food. There are two common forms of chromium: trivalent chromium [Cr(III)], which is considered an important mineral needed in small amounts for healthy human growth, and hexavalent chromium [Cr(VI)], which is considered harmful to human health at elevated concentrations, because it is carcinogenic if inhaled. While Cr(III) is the less toxic form of chromium for humans, it can have adverse impacts to the environment (e.g., plants, animals).

From 1951 to 1964, untreated wastewater (also known as “blowdown”) containing Cr(VI) was discharged directly to Bat Cave Wash, a natural wash located adjacent to the western boundary of the compressor station. During this period of uncontrolled wastewater discharge, an area of groundwater contaminated with Cr(VI), known as a plume, was formed. Beginning in 1964, PG&E began to treat the wastewater to convert Cr(VI) to Cr(III). Cr(III) is essentially insoluble and tends to bind to soil, so is not as easily transported to groundwater. PG&E also constructed a percolation bed in the wash by creating soil berms that impounded the discharged wastewater and allowed it to percolate into the ground and/or evaporate. In 1969, PG&E began treating the wastewater using a two-step process that converted Cr(VI) to Cr(III) and then removed the Cr(III).

²Beginning in May 1970, wastewater discharges to Bat Cave Wash ceased, and treated wastewater was discharged to an injection well located on PG&E property, known as PGE-8. The well facilitated the injection of the treated wastewater into the subsurface at depths in excess of 405 feet below ground surface. In 1973, PG&E discontinued use of injection well PGE-8, and wastewater was discharged exclusively to a set of four, single-lined evaporation ponds located about 1,600 feet west of the compressor station.

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Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 4:41:22 PM

T This is inconsistent with the Statement of Basis. The Statement of Basis says that PG&E also added biosides. What are biosides and what did they contain?

I2-5

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/6/2010 4:41:29 PM

T What concentration was is treated to?

I2-6

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/6/2010 4:40:52 PM

T What was the concentration of the water injected? How much water was injected?

I2-7

PG&E replaced the Cr(VI)-based cooling water treatment products with nonhazardous phosphate-based products in 1985, at which time PG&E discontinued operation of the wastewater treatment system. Use of the four, single-lined evaporation ponds continued from 1985 to 1989. In 1989, the single-lined ponds were replaced with four new, Class II (double-lined) ponds. The wastewater treatment system and the single-lined ponds were physically removed and closed between 1988 and 1993. The four, Class II double-lined ponds are used currently. The disposal of wastewater from ongoing operations at the compressor station is regulated by the State of California's Colorado River Basin Regional Water Quality Control Board (RWQCB), a department under California's Environmental Protection Agency.

2.2.3 GROUNDWATER CONTAMINATION

RCRA corrective action activities at the compressor station were initiated in 1987 with the completion of a RCRA facility assessment (RFA) conducted by the U.S. EPA. The RFA identified areas of possible contamination through records review, data evaluation, interviews, and visual site inspection. The investigation activities conducted at the compressor station are summarized in the RCRA Facility Investigation and the CERCLA Remedial Investigation (RFI/RI) report. This document has been divided into three volumes. Volume 1 contains the site background and history of the compressor station. Volumes 2 and 3 contain information regarding the nature and extent of hazardous waste and constituent releases in groundwater and soil, respectively¹.

Based on the findings contained in the RFI/RI report, the principal contaminant in groundwater in the project area is Cr(VI). The majority of the Cr(VI) present in groundwater at the compressor station is believed to have been released during the 13-year period (1951–1964) when untreated wastewater was discharged to Bat Cave Wash. From the discharge locations in Bat Cave Wash, the cooling tower “blowdown” water infiltrated into the coarse sand and gravel of the wash bed and percolated downward approximately 75 feet through the unsaturated zone to reach groundwater.

In addition to Cr(VI), elevated concentrations of molybdenum, nitrate, and selenium have been detected within the boundaries of the contaminated groundwater plume. These contaminants are likely released through activities associated with facility operations including compression of natural gas, cooling of the compressed natural gas and compressor lubricating oil, water conditioning, wastewater treatment, and facility and equipment maintenance.¹ However, due to the relatively limited sampling data and lower risks as compared with Cr(VI) at this site, these contaminants would be further addressed through monitoring and institutional controls during implementation of the remedy. Furthermore, it is anticipated that molybdenum, selenium and nitrate would be cleaned up with any of the remedial alternatives proposed by PG&E.

The Cr(VI) groundwater plume has been defined as chromium-bearing groundwater exceeding a regional background (or naturally occurring) value of 32 micrograms per liter (µg/l), or 32 parts per billion (ppb).² Based on testing data to date, the majority of the Cr(VI) plume resides predominantly in the more permeable alluvial/fluvial deposits, with the southernmost portion extending into an area of less permeable bedrock known as the East Ravine. The contaminated groundwater plume underlies an area of approximately 175 acres and extends approximately 2,800 feet down-gradient of the former cooling water disposal area in Bat Cave Wash toward the Colorado River, which is adjacent to and east of the contaminated groundwater plume. The thickness of the plume varies from approximately 50 to over 150 feet.³ Extensive monitoring efforts indicate that the contaminated alluvial groundwater plume has not reached the surface waters of the Colorado River. Based on the results of well installations in the alluvial aquifer on the California and Arizona shores of the Colorado River, the chromium plume has not been detected in Arizona or under the Colorado River just south of I-40 (CH2M Hill 2008:3-2; CH2M Hill 2009; Figure 2-12, included in Appendix CMS of this EIR).⁴ The extent of the bedrock plume near the Colorado River is less certain. Cr(VI) concentrations range from less than 0.2 µg/l to 15,700 µg/l

¹ The revised final version of Volume 1 was issued on August 10, 2007. The final version of Volume 2 was issued on February 11, 2009. Volume 3 currently is being completed and is anticipated to be issued in 2011.

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Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 4:43:09 PM

T This is inconsistent and contradicts information presented for the proposed remedial alternative presented in the Statement of Basis. This is evidence of pre-selecting or pre-determining a remedy solution. The proposed remedy described in the Statement of Basis does not do anything to cleanup molybdenum, selenium and nitrate.

I2-8

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/6/2010 4:43:00 PM

T Is the complete extent of groundwater contamination know? Is the extent of groundwater contamination know in east ravine?

I2-9

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/6/2010 4:45:38 PM

T Has the groundwater contamination reached the Colorado River from contamination in the bedrock at east ravine? Is the contaminated groundwater at east ravine in contact with any portion of the Colorado River Water (surface or subsurface)?

I2-10

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/6/2010 4:48:10 PM

T This presents evidence that the complete extent of groundwater contamination is not defined. Therefore, an EIR can not evaluate the potential impacts since the extent of the contamination is not completely know, and the project can not be defined. The complete direct and indirect impacts as well as the cumulative impacts are not able to be evaluated, or the complete extent of the project be know.

I2-11

within the plume boundaries, with the highest concentrations observed in the area of the MW-20 and MW-24 benches (CH2M Hill 2008:Table 2-4).

A primary route of contaminant migration in the project area is through groundwater transport, given the proximity to the Colorado River. The groundwater gradient in the project area is slight, on the order of 0.0005 vertical feet per horizontal foot, and the hydraulic conductivity of the aquifer along the axis of the plume is moderate, averaging about 30 feet per day. Groundwater is therefore expected to move relatively slowly. The direction of groundwater flow from the source area in Bat Cave Wash generally is toward the north or northeast.

2.2.4 CORRECTIVE ACTION HISTORY

RCRA corrective action at the compressor station was initiated in 1987. Investigation and remedial activities have been ongoing since contamination was discovered at the compressor station in 1995. These activities include:

- ▶ groundwater and river water sampling and monitoring;
- ▶ extraction, treatment, and reinjection of groundwater;
- ▶ other environmental investigation activities; and
- ▶ evaluation of long-term cleanup technologies.

Groundwater and river water sampling, or monitoring, began in 1998 as part of initial site investigation activities, and a regular monitoring program is established at the compressor station. Monitoring activities include groundwater sampling from over 100 wells and river water sampling from 18 locations both along the shoreline and from the Colorado River channel (see Chapter 6, “Cumulative Impacts,” regarding past groundwater remediation activities on-site and their corresponding level of CEQA documentation).

A total of 14 solid waste management units (SWMUs), 20 areas of concern (AOCs), and two other undesignated areas have been identified at the compressor station. The SWMUs, AOCs, and other undesignated areas have been identified at different times during the history of the RCRA corrective action process, and therefore, the status of the various sites differs. The status of sites ranges from those where no investigation has yet been performed to sites where remediation and closure have already been completed. For the purpose of developing appropriate conclusions and recommendations, the sites have been divided into three groups, identified below, according to their status within the site investigation, remediation, and closure process:

- ▶ SWMUs and AOCs for which the site investigation and closure process is complete,
- ▶ previously closed SWMUs and AOCs for which further investigation has been requested, and
- ▶ SWMUs, AOCs, and other undesignated areas to be carried forward in the RFI/RI.

Table 2-1 provides a summary of the names, locations, and status of the SWMUs, AOCs, units, and undesignated areas.

2.2.4.1 INTERIM MEASURES

As part of the corrective action process, in 2004, DTSC determined that immediate action was necessary at the compressor station, as a precautionary measure, to ensure that chromium-contaminated groundwater does not reach the Colorado River. Interim Measures (IM) were instituted to protect the Colorado River. IMs are cleanup actions that are taken to protect public health and the environment while long-term solutions are being developed and evaluated. There have been three separate but related IMs at the compressor station since 2004 in response to the need to control the groundwater plume. IM-1, IM-2, and most recently IM-3, are collectively referred to as the IM. The IM currently consists of three steps: (1) groundwater extraction from the areas of groundwater containing Cr(VI) for hydraulic control in the Colorado River floodplain, (2) treatment of extracted groundwater in a groundwater treatment plant, and (3) reinjection of the treated groundwater back into the subsurface through injection wells. This treated groundwater meets the standards set by DTSC and the RWQCB.

AECOM Introduction	2-8	Topock Compressor Station Final Remedy DEIR California Department of Toxic Substances Control
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Page: 78

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 4:51:37 PM

T What is the movement of groundwater in fractured bedrock at east ravine? Is it significantly faster? This is an false and misleading statement. What are you defining as the project area for this statement?

I2-12

Notices of exemption were prepared pursuant to CEQA for IM-2 (February 2004) and IM-3 (June 2004), which are available for review on the project website at <http://www.dtsc-topock.com/>. It was determined that the notice of exemption was the appropriate level of CEQA review for IM-2 and IM-3 because the project activities were necessary to prevent or mitigate an emergency situation wherein the waters of the Colorado River may be impacted with a hazardous constituent, chromium, and immediate action was necessary to contain and reverse the flow of groundwater toward the Colorado River.

2.2.5 ONGOING EVALUATION OF SOILS CONTAMINATION

In addition to groundwater contamination, investigation activities conducted to date within the project area indicate that contaminants have been released to soils through past management practices such as those associated with hazardous materials handling/disposal, waste discharges, spills, and leaks of cooling water and other fluids at the compressor station. Investigation and cleanup of contaminated soils associated with the long-term operation of the compressor station is being conducted under both RCRA and CERCLA. The characterization of soil contamination on and around the compressor station is preliminary and is based on information collected during the RFI/RI data collection process. The nature and extent of hazardous waste and constituent releases in soil in detail, is in the process of development and is expected to be completed in 2013.

To date, the following chemicals have been detected in several soil samples at elevated concentrations: various metals (including chromium and hexavalent chromium), dioxins/furans, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). Semi-volatile organic compounds have also been detected, but at lesser frequencies. Many of the highest contaminant concentrations are associated with waste materials within the Debris Ravine area (also known as AOC 4), which is located at the southern end of the compressor station on lands managed by DOI. To address the potential for imminent impacts to the downriver Havasu Wildlife Refuge property, DOI has directed PG&E to remediate portions of the Debris Ravine on an expedited schedule under a time-critical removal action pursuant to DOI's CERCLA authority. Additional soil samples will be collected at various SWMUs, AOCs, and undesignated areas to complete Volume 3 of the RFI/RI. Following completion of the soils investigation, risk assessments will be performed to estimate potential exposure levels, evaluate potential adverse effects of exposures, and estimate potential adverse human health and/or environmental effects based on carcinogenic, noncarcinogenic, and environmental risks. These assessments will determine whether contaminants are present at concentrations that pose unacceptable risk to human health and/or the environment. If it is determined that the presence of these contaminants represents an unacceptable risk, these investigations and assessments will form a basis for determining the geographic locations where risks must be controlled or eliminated through cleanup and/or removal.

DTSC originally planned to combine in a single remedy decision the groundwater and soil investigation and remediation, and to conduct both soil and groundwater evaluation and remediation simultaneously. By June 2007,^[1] it became apparent to DTSC that legal and technical impediments would delay the soils investigations and the subsequent development of a proposed remedy for any soil contamination.^[2] For instance, DTSC learned that certain aspects of the soils remediation project would require compliance with section 106 of the National Historic Preservation Act (NHPA), which is often a time-consuming process. Thus, at that time, DTSC decided that a single remedy decision for the two projects would not be feasible. Nevertheless, DTSC remained hopeful that it would be able to gather sufficient soil information to provide a program-level evaluation of the potential soil remediation along with the groundwater final remedy in a single environmental document under CEQA. For this reason, the May 2, 2008 release of the NOP referenced a single "final remedy" to address both soil and groundwater contamination at the station. However, delays in the soil investigations have continued in the time since DTSC issued the NOP and the lack of a full soil characterization has prevented the preparation of an evaluation of feasible remedies to address the soil contamination. DTSC anticipates that it will be able to begin evaluating a soils remedy in 2014.^[3] Because the extent of the soils contamination is not fully known and because feasible remedies have not been identified, inclusion of soils remediation in this EIR would involve a high degree of speculation. Such speculation is neither required under CEQA nor helpful in decision making.

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 5:01:52 PM

T Please explain in detail what are the specific "legal" and "technical" impediments that you reference is the cause for the delay in conducting the soils investigations and the subsequent development of a proposed remedy for any soil contamination? Please list them and identify who was responsible for the delays. You state that certain aspects of the soil remediation project would require compliance with section 106 of the NHPA which is often a time-consuming process. This is for soil remediation. The sentence before you state soils investigations? What is it? Is DTSC responsible for section 106 consultation? Who is?

I2-13

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/6/2010 5:05:02 PM

T The reference to delays in the Section 106 process is not a basis or justification to piece-meal the remedy or EIR process. Who was specifically responsible for delaying the Section 106 process? Did PG&E request to delay any portions of the soil investigation? If so, please provide a summary of that PG&E request and the basis PG&E used as justification for that request?

I2-14

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/6/2010 5:02:44 PM

T Can any of the soil contamination potentially migrate, leach and/or impact groundwater?
If the potential to impact groundwater from soil contamination is not know, a complete groundwater remedy can not be determined, nor the magnitude of the project. This is further evidence of piece-mealing the EIR and actions inconsistent with the initial NOP.

I2-15

¹ Since the issuance of the NOP, DTSC has publically discussed its efforts to keep the soils and groundwater remediation projects on parallel tracks, and its subsequent decision to separate the analyses of the groundwater remedy from the soils remedy. ² This information, for instance, was evident in the published project schedules. ³ The decision to select two formally separate remedies for groundwater and soil is reflected in the June 2007 project schedule and was presented at the Topock Consultative Work Group meeting held on June 20, 2007. At that time, DTSC still hoped that the projects would remain on relatively parallel tracks and could be evaluated in a single programmatic EIR. By the summer of 2008, however, the focus to select a final remedy for the restoration of the groundwater resource and protection of the Colorado River was intensified while the schedule for investigation of the soil contamination fell further behind.

In sum, at this time, due to limited soil contamination data, it is impossible to determine the extent of soil contamination at or surrounding the site, and thus even a preliminary determination of potential remediation needs are still undetermined. Therefore, this EIR could not feasibly analyze both the groundwater and soils remediation projects as envisioned during the release of the NOP in May 2008.

⁴ DTSC could delay moving forward with the groundwater remediation project, so that the groundwater and soils remediation projects could be analyzed in a single EIR. DTSC has determined, however, that it is not in the public interest to delay the groundwater remediation project until the soils remediation project is developed. The groundwater and soil remediation activities currently are on different schedules and tracks and will be evaluated in separate environmental documents. It is important to note that while it might have been more efficient administratively to pursue the two projects in tandem because of their geographic proximity and because of the commonality of stakeholders, these two projects are not dependent on one another for completion. The soils remediation project is not an expansion of the groundwater remediation project and will not change the nature or scope of the groundwater project. ⁵ In fact, the two projects involve different contaminants and distinct environmental risks; while Cr(IV) may be present in the soil as well as the groundwater, elevated concentrations of dioxins/furans, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH), as well as some semi-volatile organic compounds, have also been detected in the soils. Because of the nature of the contamination and contaminated substrate, the two projects would necessarily employ different remediation technologies on different schedules for different durations. Potential soil contamination cleanup activities in the future may prove to be a key component of the overall cleanup efforts at the compressor station, but would represent a separate project from the groundwater remediation project and would have independent utility. If further soils investigations indicate that soils remediation is suggested, future environmental review would be required before initiating any remediation of contaminated soils.

The remedial alternatives evaluated for groundwater are anticipated to be different from the alternatives to be evaluated for soil. The RFI/RI Volume 3 and associated risk assessment will complete the evaluation of soils, and will provide conclusions about remedial objectives, if any, associated with any potential soil contamination that might migrate to groundwater. While this evaluation is not complete, it is not anticipated that this evaluation will redefine the objectives of the groundwater remedy. Thus, this DEIR does not consider future soil remediation activities as part of the proposed project; however, for the purposes of full disclosure soil remediation activities are considered a reasonably foreseeable future project and considered as part of the cumulative impacts analysis in Chapter 6 of this DEIR.

Such division of remedial activities at the Topock site is common at remediation sites. Much emphasis has been placed in recent years on reforming EPA policies for remediation sites to phase site remediation programs to focus resources on the areas or pathways of highest concern (e.g., Corrective Action Advance Notice of Proposed Rulemaking, EPA Results-based Approaches and Tailored Oversight Guidance document (EPA 530-R-03- 012 September 2003)).

Sequence number: 1
Author:
Subject: Highlight
Date: 7/7/2010 4:44:51 PM

T

Sequence number: 2
Author:
Subject: Comment on Text
Date: 7/6/2010 5:07:13 PM

T

When was the actual decision made to deviate from the information provided in the NOP? Who from DTSC actually made this decision? What was the administrative record document that was approved by DTSC? Who from DOI actually made this decision? Please provide a copy of DOI approval decision document. Once a decision was made why was the NOP not revised and publicly re-noticed?
Who was responsible for publishing the project schedule? Was it PG&E? Were comments received on the NOP? If so, what were the complete comments and the response to those comments?

I2-16

Sequence number: 3
Author:
Subject: Highlight
Date: 7/6/2010 5:18:11 PM

T

This is evidence of a significant defect in the NOP and EIR process. DTSC is incorrect when stating that the NOP was publically discussed after being issued. First, please provide documented evidence that the Topock Consultative Work Group is a public meeting that any member of the public may attend? Provide documentation that these meetings were properly noticed by posting agendas at the meeting place 72-hours in advance of the meeting and that the notice of public meeting was placed in the local newspapers and at other locations. 2. Please provide a copy of the agenda that demonstrates that this was a public meeting and where the agenda states that the public was allowed and had the opportunity to comment after each agenda item was presented? The public had an expectation that the NOP accurately described the anticipated extent of the project to be considered in the EIR. This is a bait-and-switch. You told the public one thing in the NOP but when the EIR comes out it is something different. Lead agencies as well as responsible, and trustee agencies relied on information presented in the NOP. This is a defect in the process. The NOP must be re-noticed with the correct information. This bait-and-switch is not good faith effort at full and complete disclosure by DTSC.
The NOP did not meet its intended function as a procedural device used to initiate interagency dialogue. Was the NOP posted for 30 days in the office of the county clerk of the county or counties in which the project was located? The NOP did not include a consistent description of the project as presented in the EIR. Therefore, the responding agencies were misled as to the extent of the actual project and comments may have been omitted.

I2-17

Sequence number: 4
Author:
Subject: Comment on Text
Date: 7/6/2010 5:10:53 PM

T

Why is it not in the public interest? Has DTSC and/or DOI determined that there is an immediate threat or danger to the Colorado River? If so please provide the documentation that supports this statement.
Is groundwater contamination currently entering the Colorado River? If so where and how much? Is the Interim Measures facility not able to maintain a landward groundwater gradient away from the Colorado River? Has PG&E requested a delay to conduct the soil investigation? We do not see any viable stated basis or rationale to bifurcate and piece-meal the groundwater and soil remedy as well as the EIR process. We do not see any rational basis or weight of evidence that supports this piece-meal remedy and EIR approach. A complete groundwater and soil remedy with associated EIR should be conducted together so that we completely understand what the complete project is in order to evaluate all the various impacts as a result of those activities. Also PG&E will be informed as to the complete magnitude and cost associated with the cleanup.

I2-18

Sequence number: 5
Author:
Subject: Comment on Text
Date: 7/6/2010 5:11:45 PM

T

What is incorrectly being proposed is a groundwater remedy for only one chemical Cr(IV) while other contaminants exist in groundwater and other contaminants may leach from the soil into groundwater. The proposed remedy is flawed and the evaluation of impacts in the EIR is defective since a complete groundwater remedy is not known.

I2-19

~~Comments from page 81 continued on next page~~

This approach is supported by the following legal precedence and directives:

- ▶ ^[1] “project” under CEQA is defined as the whole of an action which has the potential for resulting in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment (Public Resources Code Section 21065). In this case, the “whole of the action” does not include soils cleanup activities.
- ▶ ^[2] Currently, meaningful information is not available regarding the soil cleanup activities (*No Oil, Inc. v. City of Los Angeles* [1987] 196 Cal. App. 3d 223), and CEQA does not mandate that agencies engage “rank speculation as to possible future environmental consequences” of actions that may or may not occur in the future (*Laurel Heights Improvement Assn. v. Regents of University of California* [1988] 47 Cal.3d 376, 395).
- ▶ ^[3] Information about the soils contamination and the associated cleanup is not necessary to make an environmentally informed decision whether to proceed with the groundwater contamination cleanup (*No Oil, Inc. v. City of Los Angeles* [1987] 196 Cal. App. 3d 223).
- ▶ ^[4] The soils project is not a reasonably foreseeable consequence of the groundwater project, nor would the soils project change the scope or nature of the initial project (*Laurel Heights Improvement Assn. v. Regents of the University of California* [1988] 47 Cal.3d 376.) Rather the soils and groundwater projects, while geographically proximal, are separate distinct actions, and DTSC’s decisions on the groundwater project will not affect its decisions on the soils project, and vice versa. Thus, the soils cleanup appears independent of, and not a contemplated future part of the groundwater cleanup efforts (*Christward Ministry v. County of San Diego* [1993] 13 Cal. App. 4th 31; *Del Mar Terrace Conservancy, Inc. v. City Council* [1992] 10 Cal.App.4th 712).
- ▶ ^[5] CEQA Guidelines section 15165 provides that, “[w]here one project is one of several similar projects of a public agency, but is not deemed a part of a larger undertaking or a larger project, the agency may prepare one EIR for all projects, or one for each project, but shall in either case comment upon the cumulative effect.”
- ▶ ^[6] The EIR does consider the potential for the soils and groundwater remediation projects to result in cumulative impacts, the potential for such cumulative impacts is disclosed, and appropriate mitigation measures are identified.

2.3 AGENCY ROLES AND RESPONSIBILITIES

^[7] The CEQA Guidelines identify the lead agency as the public agency with the principal responsibility for carrying out or approving a project (14 California Code of Regulations Section 15367). DTSC is the CEQA lead agency for the proposed project because DTSC has the primary approval authority for the project. In addition to approving the final remedy, DTSC would approve the subsequent Corrective Measures Implementation Workplan, preliminary design, intermediate design (if needed), and final remedial design.

A number of other agencies in addition to DTSC will serve as Responsible and Trustee Agencies, pursuant to CEQA Guidelines Section 15381 and Section 15386, respectively. This DEIR provides environmental information to these and other public agencies, which may be required to grant approvals or otherwise coordinate with DTSC, PG&E, or other agencies as part of project implementation. For the purposes of CEQA, the term “responsible agency” includes all state and local public agencies other than the lead agency that have discretionary approval power over the project (14 California Code of Regulations Section 15381). “Trustee agencies” are state agencies that have jurisdiction by law over natural resources affected by the project and held in trust for the people of the state, such as the California Department of Fish and Game and the State Lands Commission (CEQA Guidelines Section 15386). Future discretionary approvals may include issuance of a permit, if not otherwise exempt as explained below, or other required action. Responsible agencies may consider and use the analysis provided in this DEIR to satisfy their responsibilities under CEQA, as they deem appropriate. Federal

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Sequence number: 1 Author: Subject: Comment on Text Date: 7/6/2010 5:20:00 PM	
<p>T Since the complete extent of the groundwater contamination is not know, the direct physical change to the environment or the reasonably foreseeable physical change as a result of the project is not know. Therefore, this EIR is deficient in its ability to know the defined limits of the project area as well as the potential direct and indirect impacts as well as potential cumulative impacts.</p>	I2-20
Sequence number: 2 Author: Subject: Comment on Text Date: 7/6/2010 5:20:54 PM	
<p>T The failure of DTSC/DOI to not direct PG&E to conduct the soil investigation as a result of PG&E's request to delay this investigation is not a legal basis to bifurcate and piece-meal the EIR process.</p>	I2-21
Sequence number: 3 Author: Subject: Comment on Text Date: 7/6/2010 5:21:51 PM	
<p>T The administrative record is clear that DTSC previously determined that information about soil contamination is necessary to make an environmentally informed decision. This is evidence by the NOP as well as other DTSC technical documents indicating the concern for leaching of soil contamination to potentially effect groundwater, in addition to directing PG&E to conduct the soil investigation.</p>	I2-22
Sequence number: 4 Author: Subject: Comment on Text Date: 7/6/2010 5:22:23 PM	
<p>T The administrative record is clear that the soils project is a reasonably foreseeable consequence of the groundwater project as documented in the administrative record.</p>	I2-23
Sequence number: 5 Author: Subject: Comment on Text Date: 7/6/2010 6:25:13 PM	
<p>T Since the complete project is not know it is impossible to evaluate or consider a potential cumulative effect.</p>	I2-24
Sequence number: 6 Author: Subject: Comment on Text Date: 7/6/2010 6:25:22 PM	
<p>T How does it actually do what you are stating such that anyone can make an informed decision?</p>	I2-25
Sequence number: 7 Author: Subject: Comment on Text Date: 7/6/2010 5:23:08 PM	
<p>T What is DTSC's CEQA authority in Arizona? How will DTSC enforce mitigation measures in Arizona? Is this a joint CEQA/NEPA document? If so were noticing requirements set forth in the NEPA regulations (40 CFR 1500.1 et seq) followed?</p>	I2-26

Lake Havasu City, Arizona:

Lake Havasu City Aquatic Center
 100 Park Avenue
 Lake Havasu City, AZ 86403
 Wednesday, June 23, 2010
 Open House—5:30 p.m. to 7:00 p.m.
 Public Hearing—7:00p.m. to 8:30 p.m.

Needles, California

Needles High School
 1600 Washington Street
 Needles, CA 92363
 Tuesday, June 29, 2010
 Open House—5:00 p.m. to 6:30 p.m.
 Public Hearing—6:30 p.m. to 8:00 p.m.

Please submit your written comments on the DEIR, with the subject line “Topock DEIR Comments,” postmarked or dated (for e-mails) no later than July 19, 2010, to:

Aaron Yue
 Project Manager
 California Department of Toxic Substances Control
 5796 Corporate Avenue
 Cypress, CA 90630
 ayue@dtsc.ca.gov
 Phone: 714-484-5439
 Fax No.: 714-484-5411

2.5 SCOPE OF THIS ENVIRONMENTAL IMPACT REPORT

The scope of the analysis contained within this DEIR is focused on the environmental resource areas that could be affected by construction or operation of the proposed project. The DEIR therefore addresses the following environmental issues:

- ▶ aesthetics
- ▶ air quality
- ▶ biological resources
- ▶ cultural resources
- ▶ geology and soils
- ▶ hazardous materials
- ▶ hydrology and water quality
- ▶ land use and planning
- ▶ noise
- ▶ transportation
- ▶ utilities and service systems
- ▶ water supply

^[1] was determined that several issue areas would not be affected by implementation of the proposed project based on a review of the NOP, public comments received on the NOP, comments from the public scoping meetings, and review of existing information. These issue areas include agricultural resources, mineral resources, population and housing, public services, and recreation. Section 5.3 of this DEIR provides a summary of those issue areas for which a detailed analysis is not included and the basis for those determinations.

2.6 DEIR ORGANIZATION

This DEIR is organized into chapters, as identified and briefly described below. Chapters are further divided into sections (e.g., Section 4.2, “Air Quality”).

Chapter 1, “Summary”: This chapter presents a summary of the proposed project activities and the potential environmental impacts. It describes mitigation measures that would be implemented and level of significance after mitigation (as fully described in Chapter 4). It also provides a summary of alternatives to the proposed project, a summary of known controversial issues, and issues to be resolved.

AECOM
 Introduction

2-18

Topock Compressor Station Final Remedy DEIR
 California Department of Toxic Substances Control

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 6:26:17 PM

1 Who provided public comments? What were the comments and what were the responses to those comments?

12-27

Park in California (Exhibits 3-1 and 3-2). The compressor station is approximately one-half mile west of the community of Topock, Arizona, which is situated directly across the Colorado River and is 5 miles south of Golden Shores, Arizona. The compressor station is approximately 1,500 feet west of the Colorado River and less than 1 mile south of Interstate 40 (I-40). The compressor station is within a 66.8-acre parcel of land owned by the Pacific Gas and Electric Company (PG&E). The area of the compressor station that is developed is fenced and encompasses approximately 15 acres. As shown in Exhibit 3-2, the area within which corrective action activities would occur (the “project area”) includes 40.3 acres of the 66.8-acre PG&E-owned parcel as well the immediate surrounding area that could be affected by construction, operation, and/or decommissioning activities associated with the proposed project. This project area encompasses 779.2 acres. The lands adjoining the PG&E parcel are owned and/or managed by a number of government agencies and private entities, including the Havasu National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service; lands managed by the U.S. Department of Interior, Bureau of Land Management; U.S. Bureau of Reclamation managed by the U.S. Bureau of Land Management; the Burlington Northern Santa Fe Railway (BNSF); California Department of Transportation–leased land; lands owned by the Fort Mojave Indian Tribe; and privately owned lands. Exhibit 3-3 depicts the division of land ownership within the project area and the horizontal limits of the contaminated groundwater plume.

3.3 PROJECT PURPOSE

Past activities at the compressor station have resulted in contamination of groundwater with Cr(VI), Cr(T), molybdenum, selenium, and nitrates, which have the potential to affect human health and the environment. Protection of California’s groundwater resources, including the Colorado River, which is adjacent to the contaminated groundwater plume, is one of DTSC’s highest priorities. DTSC has directed PG&E to take actions, which include operation of the existing IM-3 Facility, to control the groundwater gradient in the floodplain area of the site from the compressor station to protect the Colorado River (see Section 2.2.5). This measure has proved successful to date in preventing contaminated groundwater from reaching the Colorado River. However, further actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA) corrective action process, which is a process designed to evaluate the nature and extent of releases of hazardous substances and implement appropriate protective measures, are needed to ensure the long- term effectiveness and protection of human health and the environment. Thus further cleanup actions are needed to treat the contaminated groundwater plume.

The long-term cleanup options are summarized in the Final CMS/FS (CH2M Hill 2009, included in Appendix CMS of this EIR). The Final CMS/FS was evaluated by stakeholders, agencies, and tribal governments interested in the site. The CMS/FS identifies the cleanup objectives, evaluates remedial alternatives, and provides the basis for selecting a recommended alternative to address the defined objectives for the remedial action. As the lead agency under the RCRA, DTSC reviewed the alternatives considered in the Final CMS/FS and agrees with PG&E’s recommendation in the Final CMS/FS that Alternative E—In Situ Treatment with Freshwater Flushing provides the best balance within the regulatory selection criteria framework identified in the Final CMS/FS and the potential site impacts identified within this EIR. The Alternative E—In Situ Treatment with Freshwater Flushing remedy is, therefore, carried forward in the statement of basis under the RCRA corrective action process and for analysis as the proposed project in this EIR.

3.4 PROJECT OBJECTIVES

The objectives of this project are defined based on the conclusions of the Ground Water Human Health and Ecological Risk Assessment and identification of applicable or relevant and appropriate requirements (ARARs). The remedial action objectives (RAOs) for the project are intended to provide a general description of the cleanup objectives and to provide the basis for the development of site-specific remediation goals. In accordance with CERCLA guidance, RAOs specify the COPCs, the exposure routes and receptors, and an acceptable contaminant concentration for each exposure pathway (EPA 1988a and 1988b, cited in CH2M Hill 2009:3-7, included in Appendix CMS of this EIR). Protectiveness can be achieved by limiting or eliminating the exposure pathway,

AECOM Project Description	3-2	Topock Compressor Station Final Remedy DEIR California Department of Toxic Substances Control
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Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 6:27:49 PM

T Who previously owned this land? When and how did the Fort Mojave Indian Tribe (FMIT) obtain this land from PG&E? Was it a gift of land from PG&E to FMIT? How much did FMIT pay for this land? Was there any agreement with FMIT that in exchange for this land that PG&E would recommend a reduced or lessor cleanup of the contamination in consideration for the land transfer?

I1-28

reducing or eliminating chemical concentrations, or both. Guidance from the RCRA corrective action describes goals for final cleanup both in terms of protecting human health and the environment as well as performance standards that must also include controlling future sources of releases (EPA 2004, cited in CH2M Hill 2009:3-7, included in Appendix CMS of this EIR). Further, California State Water Board Resolution 92-49 requires the selection of a remedial alternative that would achieve compliance with RAOs within a reasonable timeframe.

The primary objective of the proposed project is to clean up the groundwater contamination related to the historical release of chemicals into Bat Cave Wash and the East Ravine near the compressor station in a manner that would be consistent with all applicable regulatory requirements and to do so within a reasonable period of time when compared between viable alternatives. These objectives establish specific cleanup goals for Cr(VI) and Cr(T), and address the other identified COPCs (molybdenum, selenium, and nitrates) through monitoring and institutional controls. The proposed project RAOs for groundwater are to:

- ▶ prevent ingestion of groundwater as a potable water source having Cr(VI) in excess of the regional background concentration of 32 micrograms per liter (µg/l) Cr(VI);
- ▶ prevent or minimize migration of Cr(T) and Cr(VI) in groundwater to ensure concentrations in surface waters do not exceed water quality standards that support the designated beneficial uses of the Colorado River [11 µg/l Cr(VI)];
- ▶ reduce the mass of Cr(T) and Cr(VI) in groundwater at the project area to comply with ARARs,¹ which would be achieved through the cleanup goal of 32 µg/l of Cr(VI); and
- ▶ ensure that the geographic location of the target remediation area (contaminated groundwater plume) does not permanently expand following completion of the remedial action.

3.5 DESCRIPTION OF THE PROPOSED PROJECT

This section describes the proposed project, or the final remedy, that would be implemented at the compressor station in order to meet the objectives stated above. This project description is consistent with the description contained in the statement of basis and is based largely on information contained within the Final CMS/FS (CH2M Hill 2009, included in Appendix CMS of this EIR). The Final CMS/FS examined nine remedy alternatives. This project description is based on what is identified in the Final CMS/FS as Alternative E—In Situ Treatment with Freshwater Flushing.

¹ Specifically, the proposed project involves flushing the contaminated groundwater plume through an in situ reactive zone (IRZ) and installing extraction wells near the Colorado River to hydraulically control the plume, accelerate cleanup of the groundwater within the floodplain, and flush the groundwater with elevated Cr(VI) through the IRZ. The proposed project consists of five main elements: (1) an IRZ zone along a portion of National Trails Highway, (2) extraction wells near the Colorado River that would pump approximately 640 gallons per minute (gpm) of contaminated groundwater that would be amended with organic carbon before reinjection in the western end of the plume, (3) approximately 500 gpm of freshwater that would be injected west of the plume to accelerate groundwater flow, (4) institutional controls on groundwater use, and (5) monitoring. The project description is divided into sequential phases of project implementation: construction, operations and maintenance, long-term monitoring, and decommissioning. It is estimated that the duration of these phases is 3 years, 29 years (could be up to 110 years), 10 years, and 2 years, respectively.

¹ CERCLA Section 121 requires cleanups to meet “ARARs”: any “legally applicable or relevant and appropriate standard, requirement, criteria or limitation” that has been promulgated under federal or state environmental laws. The ARARs include such things as the federal and state “Safe Drinking Water Act” and the Solid Waste Control Act’s land disposal restrictions.

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/6/2010 8:00:35 PM

T Will this remediation method move any portion of the mass of the groundwater plume closer to the Colorado River? If so how and how much?

Will this method also move other contaminants contained in groundwater closer to the Colorado River? If so what are they and where will they move to? How will this method treat the other contaminants besides CR(6)? Where will these other contaminants end up? Will they eventually enter the Colorado River?

The groundwater gradient is currently away from the Colorado River in order to protect it. What will be the direction of groundwater gradient when this process starts?

When the pumping begins what is the quality of the water pumped? Will it be contaminated? Where will the initial contaminated go. Injecting any contaminated water into the aquifer is not acceptable. Will other contaminants besides CR(VI) be removed from the aquifer? Will these other contaminants be allowed to be injected into the aquifer? How long will it take before clean water reaches the extraction wells and the extraction wells pump clean water?

I2-29

of well size would be between 4 and 12 inches in diameter. As discussed for IRZ wells, not all new extraction and injection wells would need to be constructed at the outset of the remedy, but could be constructed as needed during the operation and maintenance period to optimize the cleanup process.

Reductant Storage and Associated Facilities

Up to 240,000 gallons per year of reductant chemicals would be used for the remediation. The reductant for the in situ portion of the proposed project would be stored in aboveground tanks, which would be located within the defined project area shown in Exhibit 3-4, ideally near the injection wells for efficient management of the material. Other likely locations for reductant storage facilities are at the compressor station, existing monitoring well 20 bench (MW-20 bench), which is adjacent to the east side of National Trails Highway in the project area (see Exhibit 1-1), or near the existing IM-3 Facility. The maximum footprint of the area in which the tanks, control buildings, and associated equipment would be located is estimated to be a maximum of 35,000 square feet, which may consist of facilities at multiple locations. Tanks and equipment may be located within a permanent enclosed structure. Alternatively, final design of the project may be based on a mobile delivery system involving a central reductant storage area with one or more concrete or steel tanks built in the project area, ideally at the compressor station within the existing fence line. The tanks would be sized for the demand and are expected to have a storage capacity of up to 100,000 gallons. If multiple tanks are necessary, each tank would be approximately 12 feet wide, 24 feet long, and up to 15 feet tall, with a capacity of 24,000 gallons. The storage or delivery areas would have fencing and lighting for safety and security purposes.

3.5.1.2 FRESHWATER FLUSHING

Freshwater flushing involves using injection wells to introduce clean water to the aquifer. These injection wells may be located beyond the margin of the plume (but within the defined project area shown in Exhibit 3-4) and would contribute to flushing groundwater through the IRZ. These injection wells may be located in bedrock or along the leading edges of the plume to control movement of groundwater. The injection of freshwater at an assumed rate of approximately 500 gpm would induce a hydraulic gradient to accelerate the movement of the contaminated groundwater through the IRZ, where it would be treated. In addition to the 500 gpm of freshwater, 640 gpm of treated groundwater extracted from the plume would be reinjected. This combined freshwater and treated groundwater injection would also serve to constrain westward movement of the carbon amended water from the IRZ and flush much of this water eastward toward the extraction wells.

[1] Freshwater injection would involve piping water in from an off-site source. Currently, the compressor station receives freshwater from two wells located on the Arizona side of the Colorado River through a Lower Colorado Water Supply Project subcontract with the City of Needles. The water is pumped across the Colorado River through piping mounted on a bridge and then through an aboveground pipeline to two aboveground water tanks located south of the compressor station, where it is stored for use in the operation of the compressor station on an as-needed basis. Freshwater for the flushing portion of the proposed project would come from PG&E's existing Lower Colorado Water Supply Subcontract entitlements and would be pumped either from new or existing Arizona wells, from new wells in California north of the compressor station, or from a new surface water intake at or near the Colorado River (as shown in Exhibit 3-4). Freshwater would be transported by pipeline to injection wells located north, west, and/or south of the plume. Any water pipelines that may be needed to deliver water from freshwater wells and which may extend through or adjacent to the communities of Moabi Regional Park and Topock would be built underground and primarily within existing utility corridors or roadways. The source of freshwater may change during the operation and maintenance period of the remedy; not all freshwater supply structures (wells, intakes, pipelines) would need to be constructed at the outset of the remedy, but could be constructed as needed during the operation and maintenance period. To accommodate the flow volume that would be required for remediation, new pipelines would likely need to be constructed connecting the water supply with the injection wells.

All off-site freshwater delivered to the site may need to be adjusted to match the water quality at the injection point to prevent water fouling. This could require minor pH adjustments to make the water chemically compatible

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Date: 7/6/2010 7:47:47 PM

The EIR is defective because it fails to consult and evaluate the impacts with public and private water systems agencies. The EIR fails to identify who will provide water service for the project and ask those suppliers whether water demand associated with the proposed project has been included and accessed. How has this EIR and DTSC addresses water supply issues? How will this pumping impact water quality?

I2-30

3.5.4.3 DECOMMISSIONING OF THE FRESHWATER FLUSHING

While most facilities would be expected to be decommissioned following the completion of the remedial action, it is possible that water supply wells or the surface water intake structure may not be decommissioned and that it could be transferred to another use.

3.5.4.4 WATER CONVEYANCE, UTILITIES, AND ROADWAYS

Pipelines would be decontaminated as appropriate. Aboveground piping would be removed and either reused or disposed off-site as scrap material. Subsurface pipelines would likely be abandoned in place following decontamination. Decontamination wash water would be treated on-site or disposed off-site as described above. Electrical utilities would be disconnected from their service points and underground conduit would be left in place. Electrical or piping vaults would be excavated and removed, with the piping or conduit left in place. The excavation would be backfilled. Aboveground conduit would be removed with the piping. Electrical cable would be disposed of or sold for salvage value. Waste materials described above would be disposed of at a permitted off-site disposal facility located within approximately 200 miles of the site.

As wells and other infrastructure are removed and it is determined that access roads are no longer necessary, roads would be decommissioned from further use. The efforts involved in decommissioning would be dependent on the type of road (could be paved with asphalt, covered in gravel, or left unpaved) and the location of road (such as in previously disturbed areas or areas that were in a more natural state prior to the proposed project). Areas that are decommissioned from further use as roads would be restored back to preproject conditions. After deconstruction and decommissioning of the facilities, the areas would be restored using decompaction and grading techniques designed to decrease erosion and accelerate revegetation of native species or as directed.

3.5.4.5 DECOMMISSIONING OF IM-3

¹IM-3 facilities include extraction wells, injection wells, pipelines, an aboveground treatment plant and brine storage and loading facilities. IM-3 facilities that are not incorporated into the final remedial action are expected to be decommissioned following the determination that the facilities are not needed to meet remedial goals. Methodologies for decommissioning are described below.

The two interim measure injection wells (IW-02 and IW-03) and four extraction wells (PE-1, TW-2D, TW-2S, and TW-3D) would be decommissioned using similar practices as described for well decommissioning as described above. Pipelines would be decontaminated as appropriate. Aboveground piping from the treatment plant to the injection well field would be removed and either reused or disposed off-site as scrap material. Subsurface pipelines from the extraction wells to the treatment plant would likely be abandoned in place following decontamination. Decontamination wash water would be treated on-site or disposed off-site as appropriate. Electrical utilities would be disconnected from their service points and underground conduit left in place. Aboveground conduit would be removed with the piping. Electrical cable would be disposed of or sold for salvage value.

Decommissioning of the existing IM-3 Facility and brine storage and loading facilities would include removing the exterior structure, interior treatment equipment, and associated tanks and facilities from the site. Related process piping, conduit, incandescent lights, electrical trays, concrete, road surfacing, and sunshade metal cladding would be removed and either reused or transported to a local nonhazardous waste landfill. Other components such as the control trailer, sunshade steel supports, tanks, pumps, polymer system, microfilter system, reverse osmosis system, mixers, control panels, switchgears, panels, and generators are expected to be removed and either sold for salvage value or stored at the compressor station as shelf spares.

Similar to well decommissioning, the decommissioning of the treatment plant would generate solid and liquid waste. Waste streams would be identified and evaluated prior to decommissioning. This effort would involve

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Author:

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Date: 7/6/2010 7:54:49 PM

T Decommissioning of the IM3 treatment system is premature and should not be considered until such time as a complete remedy (soil and groundwater) is approved and it is determined that the proposed remedy is meeting objectives and the Colorado River can not be potentially impacted.

I2-31

hunting-and-gathering lifestyle, and eventually resulting in intensive agriculture with irrigation strategies and substantial dietary shifts. Archaeological evidence of this shift is seen in the establishment of increased use of storage pits, increased population, and domesticated varieties of plants, including corn, becoming more common in the assemblage over time.

Discovery of Patayan sites near the project area have not typically resulted in a clear subsistence history. However, one site identified by Geib and Keller in 2002 (CH2M Hill 2004:3-6), Bighorn Cave, suggests a rich plant-based diet that complemented hunting and gathering expeditions. The earliest components of the Bighorn Cave site include agave parts, cactus stems, screwbean mesquite pods, juniper bark, and goosefoot or pigweed greens. Domesticated corn kernels, squash rinds, and a bean were also found, although in small quantities in the earliest components of the site (CH2M Hill 2004:3-6).

Population increases during the Patayan II and III phases occurred in conjunction with increases in cultural complexity and differentiation, including the adoption of some ceramic decorative styles (recurved rims, stucco finishes) and the abandonment of others (incised decoration). Increased complexity and regional differentiation appears to be related to increases in migration of people from the Lake Cahuilla area sometime near 600 B.P., with ceramic traditions such as Colorado Buff, Palomas Buff, and Parker Buff found at Patayan sites and throughout the region (CH2M Hill 2004:3-6).

Ethnographic Setting

Several culturally distinct Native American groups have long-standing historical and cultural ties to the project area and the surrounding region. The following section contains ethnographic information regarding these cultural groups, including the Mojave, Chemehuevi, Hualapai, Quechan, Cocopah, Halchidoma, Maricopa, Serrano, Cahuilla, Yavapai, and Havasupai peoples.

Mojave

The Mojave, or Aha Makav, are a Yuman-speaking people whose territory, according to the ethnographic literature, included both riverine and inland areas; their riverine settlement area was mainly north of the Bill Williams River up to the present Nevada border. This main area of Mojave occupation extended on both sides of the lower Colorado River from south of Davis Dam to Topock (Stewart 1983:55). At one time, however, they also occupied Cottonwood Island farther to the north, and the Chemehuevi and Colorado valleys to the south (Stewart 1969:257–276). The historical record indicates that the Mojave were encountered by the Juan de Onate Spanish expedition as far south as the present Colorado River Indian Reservation in 1604 (Stewart 1969:257-276) and that they intermittently controlled areas as far south as Palo Verde valley. Sherer (1965:5) describes their settlement area thusly:

Their river holdings stretched from Black Canyon, where the tall pillars of First House of *Mutavilya* loomed above the river, past *Avi kwame* or Spirit Mountain, the center of spiritual things, to the Quechan Valley, where the lands of the Indians began. Translated into present landmarks, their lands began in the north at Hoover Dam and ended about one hundred miles below Parker Dam. Their tribal name was *Aha macave*, meaning the people who lived along the water (the river).

In addition to the Mojave occupation of the river, there are ethnographic accounts and archaeological evidence that groups of Mojave also occupied interior regions in both California and Arizona for extended periods of time. Habitation patterns and types during the ethnographic past typically consisted of flat-topped shade structures during the summer months and low, rectangular, sand-covered structures during the winter months. The roofs were typically covered with arrowweed thatch, upon which a thick layer of muddy sand was created for insulation (Kroeber 1925:731–735).

Subsistence for the Mojave was dependent partially on agriculture, with crops such as maize, tepary beans, pumpkins, and melons forming the foundation of their diet. Maize was by far the most principal of all the crops,

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 10:49:10 AM

TWho conducted and prepared the ethnographic information contained in this section? How does this information relate to the requirements in the IM3 MOU mitigation measures that PG&E was required to prepare an ethnographic study? Did any Tribal entity request to PG&E, DTSC, DOI or any other agency that they be allowed to prepare an ethnographic study for purposes of this EIR in order to present information on their Tribal beliefs? What was the decision regarding any such request? Was PG&E ask by any Tribe to fund such a study? Did PG&E agree to fund such a study? Did DTSC provide any specific direction to PG&E to fund any requested Tribal ethnographic study? Previously the Interim Measures 3 Memorandum of Understanding (MOU) identified mitigation measures that were required of PG&E. What was the effective date of the MOU? What were the required mitigation measures? What has been accomplished related to these required mitigation measures by PG&E? Who was responsible to ensure that these required mitigation measures were enforced? Was an ethnographic study a required mitigation measure? Why has it not been completed? This is documented evidence that demonstrates PG&E's lack of regard for complying with agreement terms and required mitigation measures. Therefore, PG&E can not be trusted to fulfill any future requirements related to mitigation measures or any other requirement. All the requirements of the previous MOU must be completed before the EIR can move forward. To ignore these requirements is a serious and significant deficiency of this EIR.

12-32

along with a list of Native American tribes, communities, groups, organizations, and individuals with historical ties to the area that should be involved in the process. The NAHC replied on October 18, 2007 that a search of the Sacred Lands File failed to indicate the presence of Native American cultural resources in the area. The NAHC also provided a list of 10 tribal contacts that may have knowledge of cultural resources in the project area. This NAHC tribal contact list was expanded to 13 based on prior experience in the region and ongoing existing tribal interest in other compressor station projects.

On February 15, 2008, a letter was mailed to each of the Native American tribal contacts informing them of the proposed project. The letter included a brief project description, project location and vicinity maps, a copy of the NAHC tribal contacts who received the letter, and a response form soliciting feedback. Follow-up calls to each tribal representative were completed by DTSC staff to ensure receipt of the contact letter and to solicit comments directly. In the instances that phone calls were unsuccessful, a follow-up e-mail was sent to the tribal representative.

At the beginning of the Notice of Preparation (NOP) process for this EIR, members of the Native American community were invited to scoping meetings held for purposes of assisting DTSC in determining the scope and content of the environmental document. A series of five scoping meetings were held during which oral and/or written comments were submitted. Written comments to DTSC were also collected throughout the NOP commenting period, including written comments from Native Americans. Table 4.4-2 outlines the tribal concerns, both oral and written, expressed regarding cultural resources that emerged during the NOP process.

Following the NOP process, DTSC and its consultants prepared and implemented a separate Native American Communication Plan (NACP), due in large part to traditional cultural concerns about potential impacts on the Topock Maze (a large geoglyph in the area with substantial cultural significance to some tribal members; see below for full description of this feature), the Colorado River, and the surrounding landscape. The NACP was intended to inform Native American tribal representatives about the EIR process and provide them with adequate opportunity beyond the NOP process to comment. The NACP was also meant to provide a forum to elicit sensitive and confidential information as part of the identification and evaluation of cultural resources for the EIR. Finally, the NACP provided the opportunity for tribal representatives to offer input into the evaluation of potential project impacts, cumulative impacts, and possible mitigation measures. Tribes included in the NACP were those identified early in the EIR process by the NAHC and other nearby tribes that were known historically to have concerns about the Topock region and the Colorado River. Exhibit 4.4-2 shows the various Native American tribes contacted through the NACP in relation to the proposed project area. The following sections briefly describe the communications among DTSC, its subconsultants, and the tribes as part of the NACP process, including a summary of project concerns.

Chemehuevi Indian Tribe

The chairman of the Chemehuevi Indian Tribe expressed that the tribe does not have any cultural resource concerns in the project area. However, the tribe does have pronounced water-quality concerns in regard to the Colorado River and possible contamination from the groundwater plume. As the Chemehuevi reservation and riverside resort casino are downriver of the project area and contaminated groundwater plume, the tribe believes that an unsuccessful remediation of the groundwater plume may result in socioeconomic and environmental impacts on the tribe.

Cocopah Indian Tribe

The vice chairman of the Cocopah Indian Tribe expressed that the Colorado River is an important cultural element to all tribes along the river, and the region has been occupied and utilized by Yuman-speaking tribes throughout history. Equal in importance to the river, however, are the cultural resources in the surrounding landscape, which the tribes consider irreplaceable and unique to the region. The tribe has great concern over the destruction of cultural resources in the area and believes that the preservation of a feature known as the Topock

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 10:57:43 AM

TA distinction needs to be made that identifies and defines what is considered an actual Tribal government concern for the administrative record. An individual tribal member who may provide a comment is most likely not be speaking on behalf of the Tribal government and the Tribal members. Only the Tribal council can provide and present Tribal concerns. This demonstrates the lack of understanding that the author of this DEIR has in relation to the understanding of what is consider an individual concern related to what is considered a Tribal government concern. The author further takes these individual concerns and inappropriately frames them as Tribal concerns when in fact they are not. The author inappropriately attempts to use this limited undocumented and unverified information as a basis to support PG&E's desire to limit the overall extent of the remedial activities. What Tribal document supports the reference to these concerns? If none exists then they need to be documented and treated as general individual stakeholder concerns and not Tribal concerns and should be listed and documented as such.

I2-33

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 10:59:59 AM

TPlease identify the specific individuals that have expressed this concern and their tribal affiliation. What was the specific cultural significance that that was provided by the Tribal Government that documents this significance by the Tribal government and their members?

I2-34

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 10:56:32 AM

THow were these Tribal representatives determined to be actually authorized to speak, represent, and provide information on behalf of the Tribal governments. If an individual US citizen states to you that he/she is speaking on behalf of the US Government would you require some documentation and authorization that they actually represent and speak for the US Government? If an individual from a foreign country stated that they represent their country, would you require and confirmation? Were any authorized governmental resolutions presented by any Tribes?

I2-35

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 10:56:24 AM

TFor Exhibit 4-4-2 Please provide a mileage radius circles originating form the source of the contamination so that we can understand how close each Tribes physical Tribal land is related to the contamination. Please identify what Tribes are upstream? What Tribes are downstream?
Please provide on the map information on the total number of Tribal members enrolled in each Tribe and currently living on the reservation at the location referenced. Please provide on the map information on the total number of acres of land that each Tribe has.

I2-36

Table 4.4-2 Summary of Cultural Resources Concerns Communicated During the NOP Process	
Tribal Entity	Comment
Colorado River Indian Tribes	The tribe is in the process of preparing an ethnographic study and requests updates as to the EIR schedule so that information from the ethnographic study can be incorporated. Additional questions were posed by the tribe through its attorney. ¹ See Letter to Aaron Yue, DTSC, from Greg deBie, Deputy Attorney General, CRIT [June 13, 2008].
Fort Mojave Indian Tribe	<p>The Mojave people are affiliated deeply with the land, air, water and all living things within the region. The protection of the Colorado River and sacred land areas are the primary concerns to the tribe. The EIR should recognize the tribe's strong and continuing cultural affiliation to the area.</p> <p>² The EIR should include a thorough cultural resources technical report and ethnographic study.²</p> <p>The area of the proposed project is critical to the beliefs, especially those beliefs related to the afterlife, and the area should be treated with respect and acknowledged as sacred despite evident ground disturbance in the area.</p> <p>The EIR should contain an honest assessment of the cumulative past, current, and planned impacts on the sacred area, which is considered to be a cultural and ethnographic landscape by the Tribe.</p> <p>Regulatory agencies are required under federal law and the recent settlement agreement to consult with the tribe.</p> <p>The tribe will be hosting a forum for tribal members to discuss the project. The tribe would like the comments to be incorporated into the NOP process and to inform the EIR.</p> <p>All efforts must be made to avoid and minimize impacts on the cultural and spiritual values the tribe ascribes to the landscape, air, and water subject to effect.</p> <p>Cultural resource management must fully consider the cultural value attributed by the tribe to the entire landscape and its constituent parts, and not focus on the research value of specific sites.</p> <p>Residual data gaps may be acceptable and decisions regarding the need for additional data acquisition should be balanced against further impacts on the sacred area and legal obligations to prevent or minimize such impacts.</p> <p>All efforts must be made to correct the damage that has already been sustained and the tribe must be consulted on such matters.</p> <p>The EIR should be consistent with the settlement agreement in <i>Fort Mojave Indian Tribe v. Department of Toxic Substances Control, et al.</i>, Sacramento Superior Court Case No. 05CS00437.</p> <p>The EIR must include a consideration of the entire Topock area as a traditional cultural property and determine its eligibility for the California Register of Historical Places and the National Register of Historic Places.</p> <p>The project must be consistent with, and the EIR must fully evaluate, Public Resources Code Section 5097.97 on project design and impacts on both state and federal lands.</p> <p>Consultation between DTSC, its consultants, and the tribe should occur regarding each and every alternative prior to the finalization of the EIR, as different alternatives may affect cultural resources differently.</p>
Morongo Band of Mission Indians	<p>If human remains are encountered during grading and other construction excavation, work in the immediate vicinity shall cease and the county coroner shall be contacted pursuant to State Health and Safety Code Section 7050.5.</p> <p>In the event that Native American cultural resources are discovered during the project development/construction, all work in the immediate vicinity of the find shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find.</p> <p>If significant Native American cultural resources are discovered, for which a treatment plan must be prepared, the developer shall contact the Morongo Band of Mission Indians. If requested by the tribe, the developer shall, in good faith, consult on the discovery and its disposition.</p>
<p>Notes: DTSC = California Department of Toxic Substances Control, NOP = notice of preparation. Source: Data compiled by AECOM in 2009.</p>	

² The Fort Mojave Indian Tribe later recommended that an ethnographic study not be conducted (FMIT letter to Arizona SHPO, August 17, 2009).

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 11:03:38 AM

T Why are the comments of this Tribe marginalize and the reader is referred to a corresponding reference when the statements from the FMIT are given more weight and detailed presentation and discussion in this section. This is evidence of addressing the concerns of only specific individuals at the FMIT while attempting to reduce the concerns of other Tribes. Why is DTSC and DOI allowing this to occur? All comments related to the NOP should be presented equally, and a determination made if they represents the views of the Tribe or the views of individuals. It is incorrect to assume that statements by individuals represent the views of the Tribe.

I2-37

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 11:18:29 AM

T Since an ethnographic study would be a significant document that would assist DTSC/DOI in understanding and definition of the complete religious, spiritual, and cultural history of the area, what was the reason that the FMIT did not want to conduct an ethnographic study? Was this a formal request by Tribal Council? or an individual or group that had a vested interests in limiting the preparation of documented factual verifiable information? What was the relation of this request to the FMIT settlement agreement? Was this action before or after the date of the settlement agreement and the proposed gift of land to FMIT?

I2-38

Is any decision regarding the remedy or the evaluation of potential direct and/or indirect impacts related to Tribal religious or spiritual concerns being considered or evaluated by DTSC and/or DOI in the EIR or decision making process?

What is the basis under CEQA for the evaluation of religious and spiritual concerns?

I2-39

What is the defined extent of the religious and spiritual area that was identified and is being considered by DTSC and DOI and considered part of the Project area?

By conducting a complete ethnographic study DTSC and DOI would be able to evaluate if in fact the Topock Maze is or is not a religious and spiritual significant relate to historical and current practices of Mohave. To allow a few individuals to invent Mohave cultural traditions would not be appropriate.

I2-40

visited and described for purposes of the EIR. The field trip began with a visit to Spirit Mountain and ended with a visit to Locus A of the Topock Maze.

¹According to Fort Mojave Indian Tribe representatives, the Topock Maze is the area where deceased spirits go to pass on to the next world. The Maze, which is an array of windrows, is not considered to be a true Maze with an entrance and exit, but is represented as a place where a final test of character for a deceased spirit occurs. There is a belief that the remaining parts of the Topock Maze are part of a larger system of cultural sites that once existed that were important areas for rituals and celebrations. For tribal members, the Topock Maze is more than an archaeological site, as it is representative of larger, intangible cultural beliefs.²In example given by one tribal member likened the Topock Maze to Arlington National Cemetery, with both areas serving not only as the final resting place of those who have passed on, but also a symbolic image of honor, sacrifice, and shared history.

The Fort Mojave Indian Tribe also expressed a deep cultural connection to the Colorado River and the water in the area. It is widely noted that the Mojave term for themselves, the AhaMaKav, means “People of the Water,” which suggests a strong connection by itself. Tribal representatives also noted that the linguistic part “MaKav” is also used in the term for “diaper” and has a connotation similar to “swaddle,” suggesting that “People Swaddled by Water” could be a more literal translation of AhaMaKav. This is an important distinction because it suggests a more nuanced connection between the Mojave people and the Colorado River. Aside from being a people in close proximity to the river, the Mojave believe that they are protected and secured by the river, as it provides everything for them and is a constant, reliable force in the Mojave culture as a source of water and nourishment.

In addition to the field trip described above, the Fort Mojave Indian Tribe has met and spoken with members of the NACP team on a number of occasions over the course of the CEQA process. During these confidential conversations, as well through comments submitted to DTSC on the CMS/FS, representatives of the Fort Mojave Indian Tribe expressed concerns about cultural resources. Generally, the Fort Mojave Indian Tribe believes that the area surrounding the compressor station, the Topock Maze, and the entire surrounding landscape are of paramount importance to the tribe. The Fort Mojave Indian Tribe notes that the cultural resources of importance to the tribe not only include the artifacts found within the project area and that, “the cultural landscape within which the artifacts are located...has the deepest importance to the tribe, and the desecration of this landscape, not simply the disturbance or destruction of artifacts that needs to be, and must be, acknowledged.” (FMIT 2009a). Due to the strong cultural ties to the area, the Fort Mojave Indian Tribe believes that any remediation activity that requires the construction of additional facilities would be detrimental and continue the historic and contemporary desecration of the area. The tribe believes that the naturally occurring reactive zone in the fluvial sediments of the Colorado River is, “owed to the wisdom of Providence,” and believes that, “this is earth’s natural process of self-healing after an unnatural intrusion.” (FMIT 2009a).

Specific concerns regarding cultural resources identified over the course of the NACP outreach include:

- ▶ The Fort Mojave Indian Tribe has a cultural affiliation with an expansive traditional territory extending from north of Las Vegas, south/southeast to the Phoenix area, east into Kingman, and as far west as Santa Barbara. Representatives state that Mojave have lived within this area since time immemorial and, although tribal lands are now confined to reservations, the Mojave people still have very strong cultural affiliation with the entire traditional territory.
- ▶ The Tribe has concerns about the many areas of cultural and spiritual connection throughout the Colorado River valley. The traditional beliefs about these areas are very important in defining tribal identity and are critical to how the Mojave people continue to exist as a people.
- ▶ The Tribe is affiliated deeply with the land, plants and animals, air, and water of the region. The Tribe feels a responsibility to be stewards of its historical land and the environment. The tribe respects the land and the spirit of the place, and believes they were put there by the Creator for a purpose. They’ve never severed their relationship with the land and the entire environment.

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Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 11:21:47 AM

T This is inconsistent with actual historical and current Mohave Tribal beliefs as would be evident if an ethnographic study was conducted. Please identify who made these statements and what was their gender and Tribal origin.

I2-41

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 11:23:47 AM

T Please identify this person? Was this person Mohave? Is this an individual viewpoint or an authorized position of the Tribal government? This is an example of DTSC's invention of cultural tradition. The final resting place according to Mohave tradition is not the Topock Maze.

I2-42

- ▶ The Tribe did not create and had no power to stop the contamination of the Topock area, but now it has to live with the consequences of that, including impacts to its culture, religion, and people.
- ▶ The Tribe's traditional songs are evidence of strong cultural ties to the Topock area and are tied to the land on and surrounding the project site. The songs describe the Tribe's creation, history, and provide guidance about the Creator's commandments about how to live life.
- ▶ Members of the Tribe want to be able to continue to conduct traditional religious activities in the area.
- ▶ The area of the proposed project is critical to tribal cultural beliefs, especially those beliefs related to the afterlife, and the area should be treated with respect and acknowledged as sacred despite previous impacts and desecrations to the area. According to the Fort Mojave Indian Tribe, the Topock area is place where deceased spirits go to pass on to the next world. It is very important to living tribal members that the spirits of the departed can pass properly from this world.
- ▶ The Topock area is also a place for purification after engaging in warfare or other actions.
- ▶ Any approach to cultural resource management must fully consider the cultural value attributed by the Tribe to the entire landscape and its constituent parts (e.g., landforms, water, plants, animals, spiritual relevance), and not focus only on the research value of specific sites that are of interest to archaeologists.
- ▶ The Fort Mojave Indian Tribe asserts that the entire Topock area is a traditional cultural property and deserves protection. The Tribe believes that an area larger than what has already been listed on the NRHP since 1978 is eligible for listing on the NRHP and the California Register of Historical Resources (CRHR). According to the Tribe, the TCP includes essentially the entire area potentially affected by the proposed project. If desecration occurs to the area, the damage cannot be repaired. The BLM has recognized the cultural importance of the Topock area in designating the Beale Slough ACEC and the Topock-Needles Special Cultural Resource Management Area.
- ▶ The protection of the Colorado River is the primary concern to the Tribe, as well as other tribes along the Colorado River, but the remediation process should minimize impacts to religious and cultural resources. In the studies necessary for remediation, residual data gaps may be acceptable to the Tribe, and decisions regarding the need for additional data acquisition (which may involve the construction of test wells or other ground disturbance activities) should be balanced against further impacts to cultural resources and tribal members.
- ▶ The Tribe is concerned about potential visual impacts from viewpoints the general public may have in the area, as well as those viewsheds enjoyed by Tribal members as they look out and toward the Topock Maze area while carrying out spiritual activities. Sensitive viewsheds may also include those that include the river, the mountains, and other features of the landscape.
- ▶ The Tribe is concerned about potential noise impacts to the Topock area and surrounding landscape. The EIR should include an assessment of impacts on existing sensitive receptors, as well as impacts to tribal members who may be in the area engaging in cultural or spiritual activities.
- ▶ Lithic scatters at Topock are important to the Tribe. There is an overwhelming sense of connection there. These sites are markers of what is still there, and what remains of their ancestors. These sites deserve to be protected.
- ▶ The Tribe expects that impacts in the Topock area be as limited as possible. The Tribe believes that some groundwater and soil remediation technologies are more damaging than others and will comment on the alternatives. They have stated that a complete analysis of alternatives must include Tribal views on the relative impacts. Consultation between DTSC, its consultants, and the tribe should occur regarding each and

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4.4-30

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Author:

Subject: Comment on Text

Date: 7/7/2010 11:24:18 AM

T Please define the general Topock Area that this relates to. Is it across the river in Arizona?

I2-43



Source: Photograph taken by AECOM in 2009

Aerial Photo of the Topock Maze Locus A with Compressor Station in the Distance

Exhibit 4.4-3

only the faintest hint that rows once existed. The evidence suggests, and interviews with the Mojave confirm, that all Topock Maze loci and nearby geoglyphs form a complex suite of an associated cultural complex that has been partially destroyed by the construction of the railroad, interstate, and various other linear features in the area and by off-road vehicle activity. As discussed above, members of the Fort Mojave Indian Tribe assert that the Maze as understood by archaeologists is only part of the Maze as they understand and value it; the tribally valued property includes the disturbed inter-locus areas as well as surrounding lands and is linked conceptually and spiritually to other landforms in the area.

¹The origin of the Topock Maze has been disputed. Some arguments support a Native American origin, while others have suggested that the Maze is a byproduct of railroad construction, which occurred between 1888 and 1893. On the assumption that the Maze is of Native American origin, there is also little agreement as to its age or how it was created. Those who consider its origin related to the construction of the railroad typically cite a memo from a railroad engineer in 1891 that describes the collection of gravel into windrows by Mojave workers, prior to the gravel being hauled and used to support a bridge caisson. Photographic evidence of the bridge construction, interviews with railroad workers from that time, and statements from Needles residents present at the time of the bridge construction all suggest, however, that the Maze was present prior to bridge construction, even if portions of it were later collected for ballast or support.


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Author:

Subject: Comment on Text

Date: 7/7/2010 11:25:35 AM

 An ethnographic study would have evaluated this and made a conclusion regarding potential Native American origins.

I2-44

We request funding and authorization to conduct an ethnographic study.

Earle's draft report (2005:42–44) notes that some interviews conducted with Mojave tribal members in the early 20th century have been cited to suggest that the Topock Maze did not have a strong cultural affiliation with the Mojave people, and that its origin can be attributed to a tribe that had lived in the area prior to the Mojave, perhaps the Maricopa. Interviews conducted with Fort Mojave Indian Tribe representatives for this EIR as part of the NACP indicate that the Tribe considers it inappropriate for them to discuss who made the Maze; however, interviewees believed that the Maze is of ancient origin and of deep cultural importance to the Mojave people.

Other interviewees suggested that stories or songs telling of its construction were present in the Mojave culture, but these stories are only told in some family lines and are not known by everyone (FMIT, pers. comm., 2008). Other interviews in the 20th Century suggested that the Mojave would use the Maze to purify themselves by running through the Maze or by navigating through the Maze without walking over a windrow, leaving evil spirits or ghosts in the Maze, or that the purpose of the Maze is to help the deceased atone for their life before fully passing to the afterlife.

Taking into account the numerous comments of Native American representatives throughout the EIR process, the Topock Maze and the surrounding area—including many of the other cultural sites and geoglyphs in the vicinity—are an integral part of the worldview of the Fort Mojave and other Yuman tribes. Earle's draft report (2005:50–52) outlines the many other cultural sites in the region, as well as many Mojave song cycles that speak of the Topock area, and concludes that the Topock area is a key location for supernatural events and mythical feats for the Mojave. The Topock Maze is believed by some Tribes to form part of a geoglyph tradition for the lower Colorado River valley that has “its origin in the sacred song and story traditions of the prehistoric and historic Yuman-speaking cultures of the region” (Earle 2005:51). For example, official statements from the Fort Mojave Indian Tribe state the cultural significance of the Topock area: “Archaeologists may view [the Topock Maze] as three archaeologically distinct areas,¹¹ but as the Tribe has commented many times, the Tribe sees the Maze as a spiritual whole and within the context of the surrounding landscape” (FMIT 2009b).¹² As stated above, the Hualapai, Quechan, and Cocopah tribes have also expressed cultural concerns for the Topock area during the EIR process, and the CRIT has stated that some of its members also view the area as culturally significant.

4.4.1.4 PALEONTOLOGICAL RESOURCES

A paleontological records check was conducted by Dr. Samuel McLeod, Vertebrate Paleontology Division of the Natural History Museum of Los Angeles County (LACM) on March 2, 2010 and by Eric Scott, Curator of Paleontology Division of Geological Sciences Museum of San Bernardino County (SBCM) on March 8, 2010. The records check from the SBCM indicated that three fossil localities (SBCM 1.39.1, SBCM 1.39.2 and SBCM 1.39.3), lie within the proposed project area. The fossil localities SBCM 1.39.1, SBCM 1.39.2 and SBCM 1.39.3 are located just west and south of the existing PG&E Topock Compressor Station and are associated with the presumed Pleistocene age from the sediments of the Chemehuevi Formation. In addition, the LACM records check indicated that one locality (LACM 4090), has been documented in the general vicinity but is not within the project area itself.

Quaternary Alluvium

The project site contains within its boundaries, a layer of Quaternary Alluvium of the late Pleistocene and/or Holocene age that is deposited at the surface level in the western and southwestern areas of the proposed project. Quaternary lake sediments in this region have undetermined paleontologic sensitivity; if confirmed to be of Pleistocene age, they likely have high paleontologic sensitivity.

Bouse Formation

Marine late Miocene Bouse Formation has also been documented in the western and southwestern portions of the proposed project area in slightly elevated terrain. One locality (LACM 4090) is not located within the proposed project boundaries but, shares the same sedimentary deposits of the Bouse Formation and is situated south of the

AECOM		Topock Compressor Station Final Remedy DEIR
Cultural Resources	4.4-34	California Department of Toxic Substances Control

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Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 11:27:16 AM

T Has the Mohave Tribal elders or the Tribal members provided this information? Or is this the comments of only one or two people?
What is the defined area that is considered culturally significant? Please identify this area on a map.

I2-45

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 11:26:09 AM

T You have omitted the views of the Chemehuevi Tribe. This appears to be a purposeful exclusion. Why?

I2-46

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 9:45:47 PM

T How is this relevant to the EIR process? Why is it included? Was this at the request of any one Tribal group? Does a TCP currently exist? What is the conclusion here?

I2-47

Prehistoric and Historic-Era Resources

As described in Section 4.4.1, “Existing Setting,” above, 193 prehistoric and historic resources were documented within the 1,815-acre survey area and by subsequent surveys conducted by PG&E, with approximately 80 of these resources located within the proposed project area (see Table 4.4-3). A formal determination of eligibility for inclusion in the CRHR has not been performed for most of the individual prehistoric and historic-era sites within the project area. However, several resources have been evaluated and recommended or determined eligible for listing on the NRHP, and thus are historical resources for the purposes of CEQA. Thus, documented sites analyzed for this project fall into two main categories: those sites that have been determined eligible for inclusion in the NRHP (which makes them historical resources subject to CEQA) and those sites for which a determination of eligibility has not yet been made.

NRHP-eligible and listed sites within or immediately adjacent to the project area include CA-SBR-219 (Topock Maze Loci A–C, which is adjacent to the project footprint), historic-era resources such as CA-SBR-2910H (Historic Route 66 and portions of the National Old Trails Road), CA-SBR-6693H (Atlantic and Pacific Railroad Company rail line, which is adjacent to the planned project activities), and CA-SBR-11701, which consists of numerous lithic artifacts, stone tools, and features such as an aboriginal trail.

The remaining resources documented within the project area have not been formally evaluated for eligibility for listing on the NRHP or CRHR as formal eligibility evaluations are not required by CEQA. Historic-era resources that have not been evaluated may be significant for a number of reasons, for example, for their association with important historical themes such as transportation and westward migration along historic highways such as Route 66. Such resources may also be significant because they contain information about these historic themes that would be of importance in historic research. If such resources are significant for these reasons, or meet other criteria for listing on the NRHP or CRHR and have sufficient integrity to convey this significance, they would qualify as historical resources under CEQA.

Also, many of the archaeological resources in the group of unevaluated resources may be significant under CEQA because of their association with the Topock Maze. A high probability also exists that some of these resources are significant because they contain information that is important in prehistoric research.

Topock Cultural Area

In addition to the cultural resources recorded by these previous surveys, DTSC has determined, based on the weight of the evidence, that the Topock Maze and the surrounding area appear to qualify as a historical resource under CEQA as an area that is significant in the social and cultural annals of California. This section explains DTSC’s determination that the Topock Cultural Area is a historical resource for purposes of impact evaluation under CEQA.

As noted above, PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) establish three analytical categories for use in determining whether a historical resource exists for purposes of CEQA. These are (1) mandatory historical resources; (2) presumptive historical resources; and (3) discretionary historical resources. A mandatory historical resource is one that has been listed on or determined eligible for listing on the CRHR. Only an official determination by the State Historical Resources Commission triggers this mandatory determination. A presumptive historical resource is one that has been listed on a local register or included in a local survey that meets specified criteria, unless the preponderance of evidence demonstrates otherwise.

A discretionary historical resource is a resource that does not fit within the mandatory or presumptive categories, but that is determined to be a historical resource in the exercise of the lead agency’s discretion. Under CEQA case law, a lead agency evaluating potential project impacts under CEQA has broad discretion to determine whether a particular resource that may be affected by a proposed project is a historical resource for purposes of CEQA, provided the lead agency determination is supported by substantial evidence. When such a determination is made, the criteria to be applied include the criteria for listing on the CRHR.

Sequence number: 1

Author:

Subject: Highlight

Date: 7/7/2010 11:42:34 AM

DTSC has incorrectly concluded using a significantly bias and narrow weight of evidence based on limited information (without appropriately requiring an ethnographic study) obtained from a minority fringe Tribal group that possibly may be considered an outlier to basic traditional tribal values and beliefs. DTSC is assisting and enabling this to continue without fully investigating, verifying, and requiring substantiated factual and documented evidence. This supports our continued concern that DTSC is contributing to only what may be called as the "Invention of Mohave Cultural Tradition" and not "Mohave Cultural Preservation". Mohave Elders are a formal standing committee of the Tribal Council for some Tribes. The Tribal Council has delegated authority to the Mohave Elders to consider and act on: All cultural issues affecting Mohave people; Protection and retention of the natural resources of the reservation. Genealogies of Mohave people. The purpose of this committee is to promote and protect the interests and needs of the Mohave people in a responsible and respectful manner by actively participating in the affairs of tribal government. What has DTSC done to communicate with this group, engage and use this process? speak to Elders? and obtain documented information that represents a Tribal view of cultural issues?

DTSC has neither the skills, expertise or authority to make such a determination.

12-48

The administrative record further documents how DTSC has restricted and limited the preparation and submission of information that would dispute any such evaluation of this determination by not allowing the preparation of or directing PG&E to fund the preparation of ethnographic studies by anyone who wanted to prepare and provided this information.

By DTSC not directing PG&E to fund these efforts and by PG&E not funding these efforts to groups who do not have the ability or resources to fund such a study by themselves, DTSC and PG&E supporting a pre-determined outcome and decision by limiting input as desired by DTSC in order to provide support to a pre-determined decision.

DTSC further incorrectly makes a concluding determination based on limited comments from a few select individuals that do not represent the views of the majority of Tribal members.

DTSC is further hobbled, bound, and is being influenced by terms and fear related to a previous DTSC settlement agreement in addition to the PG&E settlement agreement is not allowing DTSC to evaluate and make decisions in the best interest on behalf of the people of the State of California and Arizona.

Please provide a detailed summary of how this determination was made, the verifiable facts, including, names and documented information that was used to lead to this determination. Who at DTSC was the person that made this determination? What consultation occurred with Tribes before making this decision? What consultation occurred with Arizona and California SHPO before making this decision? What were their responses? What consultation occurred with the DOI and BLM before making this decision?

12-49

Please identify on a map what DTSC has determined to be the entire extent of the "Topock Cultural Area". How far does this area extend? Does it extend into Arizona? Does DTSC have the legal authority to make a determination that the Topock Cultural Area is a historical resource for areas in Arizona?

12-50

Therefore, DTSC has looked beyond the specific cultural resources recorded by previous archaeological surveys, and has determined, based on the weight of the evidence, that the Topock Maze and the surrounding area within the project area appears to qualify as a historical resource under CEQA as an area that is significant in the social and cultural annals of California. The historical resource consisting of the project area depicted in Exhibit 3-2 and the Topock Maze is referred to in this EIR as the "Topock Cultural Area."

In making its discretionary determination under CEQA, DTSC has carefully weighed the evidence, including (1) the testimony of Native American tribal representatives received during the confidential NACP tribal consultation process, (2) the ethnographic and historical literature and the archaeological record, and (3) California and federal regulations and guidelines. DTSC has also consulted the federal government's guidance regarding TCPs provided in National Register Bulletin 38 (NPS 1998). The Topock Cultural Area is of cultural significance to several different Native American tribes as described above. In accordance with federal guidelines, the significance of a TCP is derived from the "role the property plays in a community's historically rooted beliefs, customs, and practices" (NPS 1998:1). The consultations during the NACP process identified various aspects of the significance of the Topock Cultural Area.¹ For example, the Fort Mojave Indian Tribe indicated that the Topock area has symbolic value akin to the Arlington National Cemetery. Acknowledged representatives of this tribe stated during the EIR process that the Topock area is critical to tribal cultural beliefs, especially those beliefs related to the afterlife. They also stated that conducting cultural practices, including religious practices, within the Topock area is very important to the continuation of tribal traditions.

The Fort Mojave Indian Tribe attributes high cultural value to the entire area in which the project is located including the constituent parts of that area (landforms, water, plants, and animals), although for purposes of this analysis, it is not necessary to make any findings with respect to historical resources under CEQA beyond the area that may be affected by the proposed project (that area being the Topock Cultural Area as defined in this EIR).² Any ground-disturbing activity or impact to the plants, wildlife, visual characteristics, or setting of the Topock Cultural Area is considered by the Fort Mojave Indian Tribe to be a desecration of their religious and cultural beliefs. These kinds of impacts are experienced as a loss and sorrow akin to the passing of a loved one or family member.³ As noted above in Section 4.4.1.3, other Colorado River tribes, including the Hualapai, Cocopah, and Fort Yuma-Quechan, also expressed strong cultural concerns for Topock, and the Colorado River Indian Tribes indicated that some tribal members have cultural concerns for the Topock area.

Although the Topock Cultural Area has sustained some damage, the cultural significance ascribed to the resource by these Native American tribes appears to demonstrate that the Topock Cultural Area generally has sufficient integrity of relationship and condition to these communities. Tribal representatives have repeatedly stated that, despite existing impacts from highway, railroad, pipeline, and recreational developments, the resource continues to be important in their culture.⁴ Based upon the Native American testimony it appears that the Topock Cultural Area can still function for traditional cultural purposes despite the modern intrusions.

Certain tribes have repeatedly stated that the cultural significance of the Topock Cultural Area goes beyond the bounds of the Maze itself. For example, the Fort Mojave Indian Tribe stated, "the cultural landscape within which the artifacts are located...has the deepest importance to the tribe," (FMIT 2009a).⁵ This tribe also stated that the Topock Cultural Area includes the entire project area. Native American representatives have stated that the Topock Cultural Area is tied in with the larger regional landscape that includes the Colorado River corridor and that within that larger landscape, the Topock Cultural Area has distinctive importance because of the traditional cultural values at Topock itself. However, it is beyond the scope of this EIR to define whether there may be an additional historical resource area for purposes of the CRHR or the NRHP beyond the project boundaries, or to address areas that are not affected by the proposed project. As discussed above, a lead agency's evaluation under CEQA as to whether there is a discretionary historical resource on a project site is not a formal eligibility determination for the CRHR or NRHP, and CEQA does not require a formal eligibility determination. As such, in compliance with CEQA,⁶ DTSC has only referenced the federal TCP guidelines in weighing the balance of the evidence in order to determine if the proposed project would adversely impact the physical characteristics of the Topock Cultural Area that convey its historical significance as a historical resource under CEQA. DTSC has not

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 11:42:52 AM

T Was this a documented position of the Fort Mojave Tribal Government or a comment from one individual Tribal member?

I2-51

Please provide the information and documentation that supports this statement.

What is meant by the "Topock Area" please describe this area and identify it on a map.

Further clarification is needed here since the "Topock Area" is a small portion of the wider area related to cultural beliefs. To characterize or suggest that it is the center most important or most critical is not consistent with basic Mohave beliefs related to the afterlife. When someone says Topock Area there needs to be a defined reference of what specific area they are talking about.

I2-52

What cultural practices including religious practices are conducted and where are they conducted that is consistent with both current and historical traditional cultural values of the Mohave or any other tribal entity?

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 11:45:00 AM

T What are the defined limits of the Topock Cultural Area? Please identify this area on a map

I2-53

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 11:44:19 AM

T What were the specific cultural concerns that were expressed? by who? Was this an individual concern or a documented concern expressed by the majority of Tribal members that represented a Tribal government position?

I2-54

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 11:45:15 AM

T What testimony? Please provide copies of this testimony.

I2-55

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 11:46:05 AM

T What did the Tribe define on a map as the Topock Cultural Area? Please provide this information

I2-56

Sequence number: 6

Author:

Subject: Comment on Text

Date: 7/7/2010 11:44:45 AM

T Please describe this specific analysis and procedures used in weighing the balance of evidence as stated? Please state who made this decision and their technical qualification. what is the definition of "Physical Characteristics"

I2-57

1 Surface Faulting

The approximate locations of major faults in the southern California region and their geographic relationships to the project site are shown in Exhibit 4.5-5. Table 4.5-3 summarizes pertinent information regarding major active fault zones in the region.

Table 4.5-3 Major Regional Active Faults					
Fault Name	Moment Magnitude (Minimum–Maximum)	Fault Type	Approximate Slip Rate (mm/yr)	Peak Ground Acceleration (g)	Approximate Distance from the Site in Miles
Pinto Mountain Fault Zone	6.5–7.5	Sinistral	1.0	0.011	93.5
Pisgah-Bullion Fault Zone	6.0–7.1	Dextral	0.8	0.011	94.6
Mesquite Lake Fault	6.0–7.0	Dextral	Not Reported	0.011	94.6
Camp Rock–Emerson– Copper Mountain Fault Zone	6.0–7.3	Dextral	0.5	0.008	103.3
Calico-Hidalgo Fault Zone	6.4–7.1	Dextral	0.5–2.6	0.010	103.5
Lavie Lake Fault	7.1	Dextral	Not Reported	0.003	106.3
Landers Fault	4.8–5.3	Dextral	0.5	0.010	113.3
Homestead Fault	6.0–7.0	Dextral	0.5	0.010	114.2
Johnson Valley Fault Zone	6.5–7.3	Dextral	0.5	0.006	114.3
Eureka Peak Fault	5.5–6.8	Dextral	0.6	0.004	115.1
San Andreas Fault Zone (Coachella Section)	6.8–8.0	Dextral	20–35	0.008	115.6
Burnt Mountain Fault	6.0–6.5	Dextral	0.5	0.004	116.1
Brawley Seismic Zone	<5.0–6.5	Dextral	20	0.004	116.9
North Frontal Fault Zone	6.0–7.1	Thrust	1.0	0.005	119.6
San Andreas Fault Zone (San Bernardino Section)	6.8–8.0	Dextral	20–35	0.007	130.9
Imperial Fault	6.0–6.7	Dextral	15–20	0.009	139.1
San Jacinto Fault Zone (Superstition Section)	6.5–7.5	Dextral	7–17	0.008	140.1
San Jacinto Fault Zone (Borrego Section)	6.5–7.5	Dextral	7–17	0.008	144.0
Lenwood-Lockhart Fault Zone (Lenwood Section)	6.5–7.4	Dextral	0.8	0.003	148.2
Notes: g = local acceleration attributable to gravity; mm/yr = millimeters per year Sources: USGS 2008, SCEC 2009					

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Author:

Subject: Comment on Text

Date: 7/7/2010 9:40:05 PM

T The map should include the Topock area as well as portions of Arizona rather than indicating it is off the map by 66 miles. DO any faults exists in Arizona?

I2-58

(DTSC) has approved additional investigations (DTSC 2008) that include both soil and groundwater characterization because of the detection of highly elevated chromium in AOC 10 soil and groundwater (MW-23). The scope of the groundwater investigation was presented in *Revised Work Plan for East Ravine Groundwater Investigation: PG&E Topock Compressor Station, Needles California* (CH2M Hill 2008a). The findings of the East Ravine investigation are provided as Appendix A in the Final CMS/FS (CH2M Hill 2009a). Results of the East Ravine investigation have detected significant hexavalent chromium (e.g., 660 µg/l) in shallow bedrock groundwater wells (CH2M Hill, 2009d:A3-5).

SWMU 1 and AOC 1 (Percolation Bed and Bat Cave Wash)

Wastewater was discharged to Bat Cave Wash between 1951 and 1970. This wastewater consisted primarily of cooling tower blowdown (approximately 95%) and a minor volume of effluent from an oil/water separator (OWS) and other facility maintenance operations (approximately 5%) (CH2M Hill 2007:4-3). Chemicals present within this wastewater discharge include chromium [Cr(III) and Cr(VI)]; the COPCs are summarized below. The earliest available information from 1968 indicates an average of approximately 48,500 gallons per day (gpd) of cooling tower blowdown was discharged to Bat Cave Wash, with a high of approximately 64,300 gpd in July and a low of approximately 25,600 gpd in February (PG&E 1968, referenced in CH2MHill 2007: 4-3).

From 1951 until 1964, untreated cooling tower blowdown containing hexavalent chromium was released to the Bat Cave Wash. From 1964 to 1969, the cooling tower blowdown was treated at the project site with a one-step system to reduce Cr(VI) in the wastewater to Cr(III) before discharge to the percolation bed (SWMU 1), which was installed in the wash in approximately 1964 (CH2M Hill 2007:3-18). Although the process converted Cr(VI) to Cr(III), the concentration of total chromium [Cr(T)] was not affected. Beginning in late 1969, cooling tower blowdown was treated at the project site with a two-step system to reduce Cr(VI) to Cr(III) and then to remove Cr(III) from the wastewater before discharge to Bat Cave Wash (CH2M Hill 2007:4-3). The continuous discharge of wastewater to Bat Cave Wash ceased in May 1970 when injection well PGE-08 (SWMU 2) was brought online and the treated wastewater was injected into groundwater. PGE-08 had a very deep screen interval of 405–554 feet bgs.

SWMU 1 and AOC 1 have been identified as sources of groundwater contamination. Soil sampling data to be collected during RFI/RI activities for the Bat Cave Wash area are still pending. COPCs for soil and groundwater associated with SWMU 1 and AOC 1 consist of the following: Cr(T), Cr(VI), copper, lead, nickel, zinc, electrical conductivity, pH, Title 22 metals, volatile organic compounds, polycyclic aromatic hydrocarbons, semivolatile organic compounds, and total petroleum hydrocarbons. Dioxins and furans may be added to this list due to recent detections in soil at AOC 4 (Debris Ravine) which discharges to Bat Cave Wash above SWMU 1 and AOC 1.

1 AOC 10 (East Ravine)

East Ravine is a small ravine located on the southeast side of the compressor station. The ravine is approximately 1,600 feet long and runs eastward into the Colorado River. Portions of the East Ravine are on PG&E property outside the compressor station's fence line, and other portions of the ravine are located on property owned by HNWR. The East Ravine was designated as an AOC in a 2001 letter report from DTSC (2001).

The East Ravine contains two human-made impoundments of unknown origin and construction date. The largest impoundment is formed by a constructed earthen dam. A smaller impoundment is formed by a dirt road embankment that was built across the drainage channel in the lower portion of the East Ravine. Because of the impoundments, surface water flowing from most of the length of this ravine (west of the lower dirt road) currently does not appear to reach the Colorado River. The drainage for this ravine includes runoff from the compressor station's access road, runoff from the mountains to the south, and runoff from the compressor station itself.

Three subareas (Subareas 10b, 10c, and 10d) where water and soil collect, either within low-gradient areas along the ravine course or behind impoundments, have been identified within the East Ravine. Subarea 10b, a natural drainage depression, is located in a flat area in the upper portion of the ravine. The middle drainage depression

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 12:04:48 PM

T Has DTSC or DOI technical staff indicated that additional groundwater monitoring wells are needed in this area? If so what were the recommendations? Has DTSC formally requested that PG&E install additional wells in this area? Has PG&E delayed or requested to delay the installation of wells in this area?

I2-59

Is the extent of groundwater contamination known in this area?

What is the groundwater gradient in bedrock? What is the direction of groundwater flow? Is the contaminated groundwater in contact with the surface or subsurface water of the Colorado River? What is the delay in installing additional wells in this area and determining the extent of groundwater contamination? Is the bedrock fractured in this area? Is there any faults in this area? What was the source of the contamination in this area?

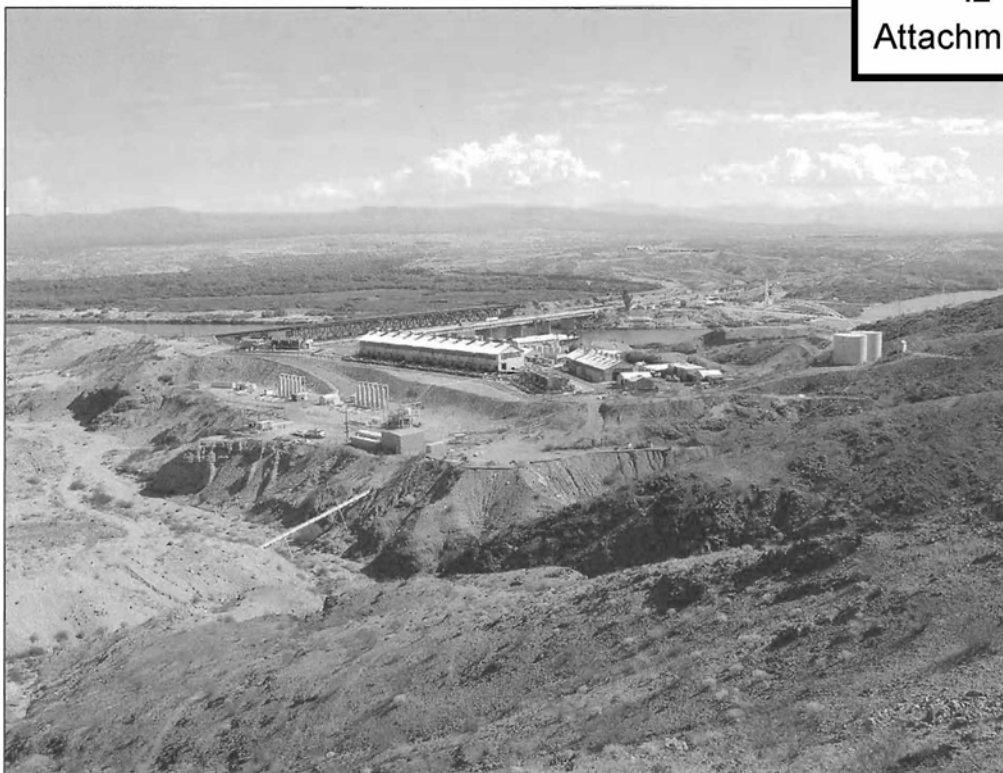
Was it the result of PG&E injecting contaminated groundwater into the aquifer?

I1-60

Is this contaminated groundwater entering the Colorado River?

Are there any other areas that may potentially have additional groundwater contamination?

I2-61



DRAFT STATEMENT OF BASIS

For a
Preferred Groundwater Remedy

Pacific Gas and Electric Company, Topock Compressor Station
Needles, California
EPA ID NO. CAT080011729

April 28, 2010

GROUNDWATER PROPOSED PLAN
Pacific Gas and Electric Company
Topock Compressor Station
Needles, California
June 4, 2010



U.S. Department of the Interior

DOI060410A – PG&E Topock Compressor Station Remediation Site – Community Involvement Plan

1

**DRAFT STATEMENT OF BASIS FOR A
PREFERRED REMEDIAL ALTERNATIVE AT
PACIFIC GAS AND ELECTRIC COMPANY,
TOPOCK COMPRESSOR STATION**

INTRODUCTION

The Department of Toxic Substances Control (DTSC) is issuing this draft Statement of Basis for a preferred groundwater remedy (Preferred Alternative) at the Pacific Gas and Electric Company ("PG&E"), Topock Compressor Station and its surrounding area affected by the groundwater contamination ("the Site") located near Needles, California. This draft Statement of Basis identifies the Preferred Alternative among the remedial action alternatives evaluated for cleaning up groundwater contaminated by past waste disposal practices at the Site.

This draft Statement of Basis is being issued by DTSC as the lead agency responsible for Corrective Action activities conducted at the Site pursuant to an agreement signed between DTSC and PG&E in 1996 under the authority of the California Health and Safety Code section 25187 and the Resource Conservation and Recovery Act (RCRA) addressing areas contaminated by the historical release of hazardous constituents at the Site. DTSC is coordinating the selection of the Preferred Alternative with the United States Department of the Interior (DOI). As a Federal agency with land ownership interests surrounding the Site area, DOI has a similar, but separate authority under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). DOI is concurrently proposing a Preferred Alternative under a Proposed Plan in accordance with CERCLA requirements.

DTSC is issuing this Draft Statement of Basis for a Preferred Alternative as part of its public participation responsibilities.

DTSC, in consultation with DOI, may modify the Preferred Alternative or select another response action presented in this draft Statement of Basis after

receipt of new information and/or review of public comments. Therefore, the public is encouraged to review and comment on all alternatives presented in this draft Statement of Basis.

**PUBLIC COMMENT PERIOD:
JUNE 4, 2010 - JULY 19, 2010**

DTSC will accept written comments on the draft Statement of Basis during the public comment period ending July 19, 2010. You may submit your comments to:

Mr. Aaron Yue
Project Manager
Department of Toxic Substances Control
5796 Corporate Avenue,
Cypress, California 90630
E-mail: ayue@dtsc.ca.gov

You are invited to attend one of the open house/public hearing sessions to learn about the draft Statement of Basis for cleaning up groundwater at the PG&E Topock Site. Written and oral comments will also be accepted during the public hearing portion immediately following the open house. These sessions will be held at the following locations:

OPEN HOUSES / PUBLIC HEARINGS

June 22, 2010	Parker Community/Senior Center, Parker, AZ
	Open House 5:00 – 6:30 p.m.
	Public Hearing 6:30 – 8:00 p.m.
June 23, 2010	Lake Havasu City Aquatic Center, Lake Havasu City, AZ
	Open House 5:30 – 7:00 p.m.
	Public Hearing 7:00 – 8:30 p.m.
June 29, 2010	Needles High School, Needles, CA
	Open House 5:00 – 6:30 p.m.
	Public Hearing 6:30 – 8:00 p.m.
June 30, 2010	Topock Elementary School, Topock, AZ
	Open House 5:00 – 6:30 p.m.
	Public Hearing 6:30 – 8:00 p.m.

This draft Statement of Basis, draft EIR, project reports, fact sheets, and other project related documents are located in the information repositories listed on the last page and at the Topock Website at: <http://www.dtsc-topock.com>, under "Document Library"

Page: 3

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 3:01:12 PM

T These statements are not true and correct. The statements are also misleading. The action being proposed is not for cleaning up groundwater contaminated by past waste disposal practices at the Site as stated. This groundwater remedy being proposed is limited and restricted and does not address all the groundwater contamination. This groundwater remedy only addresses one (1) chemical in the groundwater plume of contamination in a very limited area since the entire extent of groundwater contamination is not known at this time. Further remediation of the other chemicals in groundwater in addition to any potential new chemicals are proposed to be addressed in an unspecified future unspecified time when PG&E may decide to do so. This Statement of Basis is defective and is segmenting and piece-meal of a complete groundwater remedy without an adequate scientific basis or rationale justification. Further DTSC/DOI is allowing PG&E to minimize groundwater remedial actions by NOT requiring PG&E to completely remediate the entire groundwater plume of contamination that was caused by PG&E dumping hazardous materials and hazardous substances onto the ground surface. Rather than PG&E dealing with the contamination in an environmentally sound and appropriate manner PG&E chose to dump this waste onto the ground and allow it to impact the groundwater. DTSC/DOI should not acquiesce to PG&E corporate desires, political pressures, and the desires of a few upstream non-impacted Tribal members in order to limit and restrict the complete removal and remediation of all contamination caused by PG&E is not protective of human health and the environment, and is not protective of current and future generations of the people of the State of California and the People of the State of Arizona. DTSC/DOI should be requiring the highest possible protection for the Colorado River and PG&E should be required to remove all contamination that they caused as a direct result of their activities.

I2-62

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 3:10:58 PM

T Prior to the scheduled meetings in Parker Arizona and Lake Havasu City Arizona, a written request was provided to DTSC requesting a Mohave interpreter be present at the meetings because a number of Mohave speaking elders who have been previously excluded from the process wanted to attend and to understand what was occurring, participate in the meeting, and desired to speak at the meetings, provide comments for the administrative record and make their views heard. DTSC was not responsive and did not address our request and did have any Mohave speaking person available at either of the meetings. Therefore, Mohave elders were excluded from participating and did not want to attend as they desired. The group of Mohave elders believes that this is evidence of a continued pattern to exclude comments and input from a group of Tribal members and/or the public who do not directly support the predetermine remedy desired by PG&E and DTSC who have chosen to acquiesce to political pressures, and support unsubstantiated and unverified cultural concerns from a very small minority of Mohave people, rather than representing the people of the State of California and Arizona, and seeking to protect human health and the environment and the drinking water supply to millions of people in California and Arizona. Public participation is an essential part of the CEQA process. A paramount consideration is the right of the public to be informed in such a way that it can intelligently weigh the environmental consequences of the contemplated action and have an appropriate voice in the formulation of any decision. DTSC failure to provide requested interpreters is not consistent with the intent of public participation.

I2-63

Were any EIR notices mailed to interested parties? What was the criteria in mailing these notices? We understand that some individuals as well as environmental consultants that provided comments on the NOP and had previously participated and expressed an interest throughout the project who provided comments that were critical may have been excluded from receiving direct mail notices. Was this exclusion at the request of PG&E in an attempt to limit critical comments on negative input that was not consistent with the desired pre-determined remedy decision?

I2-64

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 3:17:44 PM

T It is stated that DTSC is the lead regulatory agency. Can you please explain the detailed process for DTSC and DOI responding to stakeholder comments on the Statement of Basis and the EIR that will be provided? Does DTSC/DOI staff actually review and prepare responses to comments received? Or does DTSC/DOI provide the comments to PG&E who then prepares the desired PG&E response to comments in order to frame the response that best meets PG&E desire and needs? Will DTSC/DOI ensure that each and every comment is provided a detailed and complete response? Does DTSC/DOI have an obligation to ensure that each and every comment is provided a detailed and thorough response? In the past rather than responding to comments DTSC/DOI has attempted to confuse persons making comments by limiting the response or by directing the author of the comment to some previous document rather than providing a direct and detailed response to the comments. Will DTSC/DOI provide responses that are intended to embarrass, minimize, and/or reduce the concern or importance of the comments made?

I2-65

Does DTSC/DOI have any obligation to provide the initial comments and/or the draft response to comments to PG&E or any

Comments from page 3 continued on next page

**DRAFT STATEMENT OF BASIS FOR A
PREFERRED REMEDIAL ALTERNATIVE AT
PACIFIC GAS AND ELECTRIC COMPANY,
TOPOCK COMPRESSOR STATION**

INTRODUCTION

The Department of Toxic Substances Control (DTSC) is issuing this draft Statement of Basis for a preferred groundwater remedy (Preferred Alternative) at the Pacific Gas and Electric Company ("PG&E"), Topock Compressor Station and its surrounding area affected by the groundwater contamination ("the Site") located near Needles, California. This draft Statement of Basis identifies the Preferred Alternative among the remedial action alternatives evaluated for cleaning up groundwater contaminated by past waste disposal practices at the Site.

This draft Statement of Basis is being issued by DTSC as the lead agency responsible for Corrective Action activities conducted at the Site pursuant to an agreement signed between DTSC and PG&E in 1996 under the authority of the California Health and Safety Code section 25187 and the Resource Conservation and Recovery Act (RCRA) addressing areas contaminated by the historical release of hazardous constituents at the Site. DTSC is coordinating the selection of the Preferred Alternative with the United States Department of the Interior (DOI). As a Federal agency with land ownership interests surrounding the Site area, DOI has a similar, but separate authority under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). DOI is concurrently proposing a Preferred Alternative under a Proposed Plan in accordance with CERCLA requirements.

DTSC is issuing this Draft Statement of Basis for a Preferred Alternative as part of its public participation responsibilities.

DTSC, in consultation with DOI, may modify the Preferred Alternative or select another response action presented in this draft Statement of Basis after

receipt of new information and/or review of public comments. Therefore, the public is encouraged to review and comment on all alternatives presented in this draft Statement of Basis.

**PUBLIC COMMENT PERIOD:
JUNE 4, 2010 - JULY 19, 2010**

DTSC will accept written comments on the draft Statement of Basis during the public comment period ending July 19, 2010. You may submit your comments to:

Mr. Aaron Yue
Project Manager
Department of Toxic Substances Control
5796 Corporate Avenue,
Cypress, California 90630
E-mail: ayue@dtsc.ca.gov

You are invited to attend one of the open house/public hearing sessions to learn about the draft Statement of Basis for cleaning up groundwater at the PG&E Topock Site. Written and oral comments will also be accepted during the public hearing portion immediately following the open house. These sessions will be held at the following locations:

OPEN HOUSES / PUBLIC HEARINGS

- | | |
|----------------------|--|
| June 22, 2010 | Parker Community/Senior Center,
Parker, AZ
Open House 5:00 – 6:30 p.m.
Public Hearing 6:30 – 8:00 p.m. |
| June 23, 2010 | Lake Havasu City Aquatic Center,
Lake Havasu City, AZ
Open House 5:30 – 7:00 p.m.
Public Hearing 7:00 – 8:30 p.m. |
| June 29, 2010 | Needles High School,
Needles, CA
Open House 5:00 – 6:30 p.m.
Public Hearing 6:30 – 8:00 p.m. |
| June 30, 2010 | Topock Elementary School,
Topock, AZ
Open House 5:00 – 6:30 p.m.
Public Hearing 6:30 – 8:00 p.m. |

This draft Statement of Basis, draft EIR, project reports, fact sheets, and other project related documents are located in the information repositories listed on the last page and at the Topock Website at:
<http://www.dtsc-topock.com>, under "Document Library"

specific Tribal group or legal firm for review prior to DTSC/DOI finalizing the comments? If so who are they? and what are the terms of providing the comments?

I2-65
con't.

Detailed information concerning groundwater contamination at the Site can be found in the 2009 Volume 2 RCRA Facility Investigation/Remedial Investigation (“RFI/RI”) Report and 2009 Volume 2 Addendum. The Detailed comparative evaluation of remedial alternatives can be found in the 2009 Corrective Measures Study/Feasibility Study (“CMS/FS”). These and other documents are contained in the Administrative Record file in the public repositories for the Site (see last page for locations). DTSC and DOI encourage the public to review these documents to gain a more comprehensive understanding of the Site and the activities that have been conducted to date.

PG&E TOPOCK COMPRESSOR STATION HISTORY

The PG&E Topock Compressor Station (“Station”) is located adjacent to the Colorado River in eastern San Bernardino County, California, approximately 15 miles southeast of Needles, California, south of Interstate 40, in the north end of the Chemehuevi Mountains. The Station occupies approximately 15 acres of a 65-acre parcel of PG&E-owned land. The PG&E property is surrounded by the Havasu National Wildlife Refuge (“the Refuge”) and lies directly south of land under the jurisdiction of the Bureau of Land Management (BLM) and Bureau of Reclamation (BOR).

PG&E began operations at the Station in December 1951 to compress natural gas supplied from the southwestern United States for transport through pipelines to PG&E’s service territory in central and northern California. Historic records indicate that PG&E held rights to operate a gas pipeline and compressor station dating back to the Federal Act of 2/25/20 (41 Stat. 449, as amended). Based on available title records, PG&E gained full ownership of the land in 1965.

Operations at the Station have been fairly consistent since the facility began operations in 1951. The operations consist of six major activities: compression of natural gas, cooling of the

compressed natural gas and compressor lubricating oil, water conditioning, wastewater treatment, facility and equipment maintenance, and miscellaneous operations. The greatest use of chemical products involves treatment of cooling water, and the greatest volume of waste produced consists of “blowdown” from the cooling towers. Blowdown consists of used cooling water that is periodically removed from the operating circuit because it contains too much salt generated from repeated evaporation of the cooling water.

From 1951 to 1985, hexavalent chromium-based corrosion inhibitors and biocides were added to the cooling water circuit to protect the piping and equipment in the cooling towers. After 1964, the cooling tower blowdown was treated to remove hexavalent chromium prior to discharge. Until approximately 1970, cooling tower blowdown was discharged directly into Bat Cave Wash, an unlined arroyo immediately west of the Station and either percolated into the ground or evaporated at the surface. Around 1970, PG&E discontinued blowdown discharge to the wash and began discharging treated blowdown into four single-lined evaporation ponds located west of Bat Cave Wash. From 1970 to 1973, PG&E injected treated blowdown into bedrock beneath the site using an injection well (well PGE-08), but that process proved impractical and was discontinued.

In 1985, PG&E replaced the hexavalent chromium-based cooling water treatment products with non-hazardous phosphate-based products, at which time PG&E discontinued operation of the blowdown treatment system. Use of the four, single-lined evaporation ponds continued until 1989, when they were replaced with four new double-lined ponds that are still in use under permits by the California Colorado River Basin Regional Water Quality Control Board. The cooling tower blowdown treatment system and the single-lined ponds were physically removed and clean-closed by 1993.

Page: 4

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 3:23:06 PM

T Is the salt that PG&E dumped on the ground considered a contaminant or contamination? Has the salt impacted groundwater or does it have the potential to impact groundwater? What is the background level for salt in soil, groundwater and surface water?

I2-66

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 3:21:58 PM

T What was the concentration level that PG&E treated this blowdown? Was it greater than the 32 micrograms per liter that was stated as being upland groundwater background levels? What was the total amount of treated water that was injected?

I2-67

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 3:22:17 PM

T What happened from 1973 when PG&E stopped injecting blowdown to the bedrock until 1985 when PG&E reported to replaced the hexavalent chromium?
Is this the same chemical that was the serious problem at the PG&E Hinkley facility that contaminated the drinking water wells in the Hinkley community? Is this the same chemical that the Hollywood movie was based on about PG&E?

I2-68

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 3:22:59 PM

T There seems to be an omission or gap in the stated land ownership from 1951 to 1965 that does not seem to be discussed or is being omitted. Why? Was the State of California ever a land owner when PG&E operated the facility? Did the State of California ever leased the land to PG&E for their operations? Was the State of California ever an owner of the land during a time when contamination was dumped on the ground? Can the State of California be considered, in any way, a potential responsible party for the cleanup?

I2-69

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 3:20:50 PM

T I do not understand what "clean closed" actually means please explain? Was PG&E allowed by DTSC to leave any residual contamination in the soil above residential standards or background levels? If so what were these levels that DTSC allowed to be left in the soil? Were these concentrations above regional soil background levels? Do any of these contaminants have the potential to migrate and impact groundwater? Have any of these contaminants migrated to groundwater?

I2-70

SITE BACKGROUND

Investigation activities at the Site by PG&E and DTSC date to the late 1980s with the identification of solid waste management units and areas of concern through a RCRA Facility Assessment. In 1996, PG&E and DTSC entered into a Corrective Action Consent Agreement in which PG&E agreed to perform a RCRA Facility Investigation/Corrective Measures Study subject to the oversight and approval of DTSC. In 2005, PG&E and DOI entered into an Administrative Consent Agreement in which PG&E agreed to perform a CERCLA Remedial Investigation/ Feasibility Study to characterize the nature and extent of contamination and develop and evaluate cleanup alternatives subject to the oversight and approval of DOI.

Since 2005, DTSC and DOI have coordinated in their oversight of PG&E's work under these agreements. Investigative and remedial activities have been performed pursuant to both RCRA corrective action and CERCLA remedial action requirements. The RCRA Facility Investigation has been combined with a CERCLA Remedial Investigation (the "RFI/RI Report") and the RCRA Corrective Measures Study has been combined with the CERCLA Feasibility Study (the "CMS/FS Report").

To efficiently manage the large volume of information generated by the investigation of the Site and accelerate cleanup of groundwater, the investigation of the Site has been separated into two components: the first is an investigation of groundwater contamination and the second will focus on contaminants in surface and subsurface soil. As a result, the RFI/RI Report has been separated into three volumes. PG&E has completed the 2007 Volume 1 (Site Background and History), 2009 Volume 2 (Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigations), and a 2009 Volume 2 Addendum. Volume 3 is pending and will include final characterization data of soil contamination and evaluation of the potential for soil contamination to leach into groundwater at the Site.

While the RFI/RI was underway, beginning in 2004, DTSC and DOI directed PG&E to undertake certain measures, known as "Interim Measures" or "Time Critical Removal Actions", to ensure that hexavalent chromium and other contaminants in the groundwater did not reach the Colorado River. Interim Measures 1, 2, and 3, collectively, involved the construction of treatment facilities and installation of four extraction wells to pump contaminated water out of the aquifer for treatment and disposal. More importantly, these Interim Measures were designed to pull contaminated groundwater away from the Colorado River until a permanent remedy could be selected. DTSC originally envisioned a single remedy decision for soil and groundwater. However, due to the potential threat to the water resource at the site and the Colorado River, selection of a remedy for the groundwater contamination became priority while the soils investigation was delayed. DTSC anticipates a separate soil remediation decision, if necessary, in the future.

SITE CHARACTERISTICS

Cultural and Environmental Resources

The Site is located within an area considered to be of traditional cultural importance and spiritual significance to federally-recognized Native American tribes with ancestral ties to the region. Five federally recognized Native American tribes have ancestral ties to the area and have expressed interest in the project: the Chemehuevi Indian Tribe, Cocopah Tribe of Arizona, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Havasupai Indian Tribe, Hualapai Indian Tribe, Quechan Tribe of the Fort Yuma Indian Reservation, Twenty-Nine Palms Band of Mission Indians, and Yavapai-Prescott Tribe. Many of these tribes expressed strong beliefs that the selection of remedial action at the Site must fully consider the significance of cultural resources potentially affected and that adverse effects must be mitigated to the fullest extent possible. Tribal views regarding the significance of the cultural resources potentially affected and the importance of mitigating adverse

Page: 5

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 3:25:42 PM

T So that I understand the magnitude of the issues, how many PG&E solid waste management units were identified that may potentially be sources of contamination? How many areas of concern were identified?
Are any of these solid waste management units or areas of concern a potential threat to groundwater? Is it possible that contamination from these units may have impacted groundwater?

12-71

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 3:32:35 PM

T Please explain what is the current and immediate threat to the water resource and the Colorado River at the site? Is there a current real and direct threat to the Colorado River? Is the Colorado River being impact right now? Is the Interim Measures No.3 keeping the contamination from the Colorado River?

12-72

Who requested that the soils investigation be delayed? Was it PG&E?

12-73

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 3:30:48 PM

T What is the three (3) dimensional define limits of the "area" considered to be of traditional cultural importance and spiritually significance for each specific federally recognized Tribe that you have referenced? What is the exact specific spiritual significance that you are referencing. Spiritual significance can take many forms in religious beliefs. Some religions worship "good" or the "bright side". Others worship "evil" or the "dark side". Since it appears that DTSC/DOI is making decisions based on spiritual beliefs, we would like to know in more specific detail what the beliefs that you reference actually are. Please describe for each Tribe and indicate the corresponding area on a map the area that they consider traditional cultural importance and spiritually significant. Please describe and present the documents and maps that each Tribal Government has provide to DTSC/DOI in order for DTSC/DOI to make this statement and conclusion. Does the area have any spiritual significance to to anyone else (non-tribal) in the area? What other non-tribal spiritually significant activities exist within the same boundaries that is considered having spiritual significance to the Tribes. What other non-tribal spiritual landmarks (i.e. crosses, gatherings, churches, places or worship) have existed or exist within the same defined area area considered spiritually significant to the Tribes. Does any portion of the PG&E or DTSC settlement agreement provide for a shut down of the Interim Measures No.3 treatment facility in the event of any recognized spiritual tribal activities in the area? If so, please provide a detailed summary table of the shut down, requesting party, dates, times, and activity conducted. What is DTSC/DOI definition of "spiritual significant" ?

12-74

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 3:28:18 PM

T What was the basis for this decision? Who made it? Was this a decision by only DTSC? Did DOI also approve and agree to this approach? This states that the decision was to "accelerate cleanup of groundwater" It does not state that the decision was to only cleanup one chemical in the groundwater and it does not state to only cleanup a portion of the contaminated groundwater plume. The decision does not match the actions that are being proposed. Therefore, the Statement of basis is defective.

12-75

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 3:35:15 PM

T So that I can have an appreciation of the proximity of each Tribe to the contamination and the potential impacts, please indicate how far each Tribe is from the contamination? So that I understand the number of Tribal people this may impact what is the enrolled member population currently living on this land? What Tribes are upstream and not potentially impacted from the contamination and what tribes are downstream and potentially impacted. What are the concerns of the upstream non-impacted tribes related to the concerns of the downstream impacted tribes?

12-76

Has any Tribe received a gift of land from PG&E related to this project? If so please identify the Tribe, the land, location and when the gift of land was received by that Tribe.

12-77

Sequence number: 6

Comments from page 5 continued on next page

SITE BACKGROUND

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SITE CHARACTERISTICS

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Author:
Subject: Comment on Text
Date: 7/7/2010 3:24:49 PM

T Was this an individual Tribal member comment our a written formal position of the Tribal government that represented the majority of the Tribal members beliefs? You say "many" who and which ones? Did any of these Tribal members state that the significance of cultural resources should take precedence over the removal of the contamination or the protection of the Colorado River? or allow the living people or future generations to be affected by this contamination? What Tribes stated that it was more important to protect cultural resources rather than e protecting of the Colorado River?

I2-78

Sequence number: 7

Author:
Subject: Comment on Text
Date: 7/7/2010 3:28:10 PM

T If this pending document will evaluate the potential for soil contamination to leach into groundwater, then how can DTSC/DOI proceed with any groundwater remedy at this time? Until DTSC/DOI knows the complete and full potential for contamination to leach from the soil into the groundwater DTSC/DOI will not know what the appropriate and complete groundwater remedy or project will be. Or has some pre-determined decision been reached with PG&E that they will not have to do any additional work or remediation? What is the complete list of contaminants that were found in soil so that I can know what possible contaminants may potentially leach from soil into the groundwater in the future?
Did PG&E at any time request that DTSC/DOI delay or defer this investigation or work? If so, please explain and describes PG&E's request and the response provided by DTSC/DOI. Therefore, this Statement of Basis is defective.

I2-79

Sequence number: 8

Author:
Subject: Comment on Text
Date: 7/7/2010 4:21:12 PM

T

²Effects on those resources have been and will continue to be solicited and incorporated into the decision-making process as the remedy is selected, designed, and implemented.

The project Site area contains sensitive cultural resources that are of religious and cultural significance to some of these tribes, as well as other identified historic areas, such as portions of Route 66. These cultural resources are subject to the protections provided by numerous federal statutes, regulations, and Executive Orders.

Protection of historic properties and cultural resources, in particular those that are listed, or eligible for listing, on the National Register of Historic Places, requires that DOI, in consultation with State Historic Preservation Offices, the Advisory Council on Historic Preservation, the tribes, and other consulting parties, identify adverse effects associated with remedial action at the Site and seek ways to avoid, minimize, or mitigate such effects. The BLM, on behalf of itself, DOI, Fish and Wildlife Services (FWS), and BOR, is the lead federal agency for historic and cultural issues at the Site. Substantive mitigation measures adopted by the BLM as a result of federal consultation will be satisfied during the design and implementation of the remedy at the site.

DTSC, as the California state lead agency on this project, solicited input from interested tribes, and evaluated the potential impacts of the remedial action and identified proposed mitigation measures within a draft Environmental Impact Report (dEIR) in accordance with requirements of the California Environmental Quality Act (CEQA). The dEIR is also available in the public repository for review and comment at the same time as this draft Statement of Basis.

The Site is also located within an environmentally sensitive area that includes the Havasu National Wildlife Refuge, endangered species and migratory bird habitat, and public land formally designated as an Area of Critical Environmental Concern by the BLM. Moreover, much of the Site lies within the

¹floodplain of the Colorado River, a source of drinking water and irrigation for millions of people downstream. Remedial action within this area must comply with the applicable land management requirements established and implemented by BLM, FWS, and BOR. ³In addition, the contaminated groundwater is located within a groundwater basin that has been designated for beneficial uses under the Colorado River Basin Regional Water Quality Control Board.

Hexavalent Chromium Groundwater Plume

The RFI/RI Volume 2 Report for groundwater, completed in February 2009, characterized groundwater and surface water for contamination associated with past PG&E blowdown discharges from the Compressor Station. Groundwater occurs beneath the ground surface in alluvial geologic deposits consisting primarily of sands and gravels, with some silts and clays.

The groundwater data indicate that a plume of groundwater contaminated with mainly hexavalent chromium extends from the location of the former area where blowdown was discharged in Bat Cave Wash to the floodplain area adjacent to the Colorado River, north of the railroad tracks. ⁴Current data indicate that hexavalent chromium is not discharging to the Colorado River. Within the plume, hexavalent chromium is typically present at all depth intervals of the upland portion of the aquifer, but is generally limited to deep wells in portions of the floodplain aquifer near the river. Organic-rich and low-oxygen conditions exist in the aquifer and sediments near and underlying the river that convert hexavalent chromium to a less mobile, less toxic form known as trivalent chromium. ⁵This trivalent chromium will drop out of the groundwater under normal subsurface conditions as it will bind to the geologic deposits at the Site.

Page: 6

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 3:40:42 PM

T Only one (1) sentence addresses the significance of the Colorado River as a critical water supply and major importance to millions of people of Arizona and Southern California. Why?

Why is so much discussion given regarding Tribal Cultural resources and the most significant concern of the Colorado River and water supply minimized?

I2-80

In fact the Colorado River represents a greater significant feature to the Mohave culture and not the Topock Maze. The name Mohave is composed of two Indian words "aha" which means water and "Maca" meaning alongside. The historic Mohave were know as Pipa Aha Macav, the people by the water. For DTSC to suggest that other features such a Topock Maze somehow has a greater or any significance in the Mohave Culture is incorrectly supporting and enabling the invention of Tribal Cultural Traditions. This is also, allowing PG&E to limit their remedial efforts and conducting a complete groundwater remedy by supporting limited, unverified, undocumented facts and comments from a few Tribal individuals that do not represent the documented views of the Tribal Government and their Tribal members. This is not a justification to limit complete and full removal and remediation of each and every chemical illegally dumped onto the soil and allowed to enter and contaminate the groundwater that has now moved under the Colorado River.

I2-81

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 3:44:03 PM

T In relation to the protection of human health and the environment and preventing the any possibility of contaminated groundwater entering the Colorado River and potentially impacting the lives of millions of people in Southern California, how has and will DTSC/DOI rank the protection of human health and environment related to impacting unverified and undocumented religious cultural significance when evaluating and selecting a remedy? What is more important? Will DTSC?DOI weight the protection of cultural resources greater than the protection of the drinking water supply for millions of people in Arizona and Southern California? Is DTSC or PG&E required to make any specific statements, propose or present any specific actions, based on any previous legal settlement agreements, judgements, or pre-determined side agreements? If so what are they? Does the existance of any settlement agreement limit, in any way, DTSC's ability to fully and completely act as an independent regulatory agency? Or is DTSC bound by any terms in the settlement agreement that may cause DTSC to be impartial in the decision making process?

I2-82

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 3:44:01 PM

T Why is considerable text and discussion given to Tribal Cultural Resources and little to minimal discussion provided relative to the importance of the Colorado River as the single most important source of drinking, agricultural and recreational water supply to Arizona and Southern California? There appears to be a purposeful decision to downplay the importance of the Colorado River as a water supply in favor of discussions related to Tribal Cultural resources. Why is this the case?

I2-83

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 4:18:11 PM

T Is it possible that hexavalent chromium is actually discharging to the Colorado River? However, due to laboratory detection limits and the fact that sampling techniques in the Colorado River allow for a mixing zone and potential dilution with with the fast moving Colorado River water before a sample is collected? Is DTSC/DOI able to state that the existing bedrock groundwater contamination in East Ravine is NOT in direct contact with the Colorado River? Is this contamination discharging into the Colorado River? Has the full and complete extent of the groundwater contamination been defined? Is their a greater potential direct threat to the Colorado River from the groundwater contamination at East Ravine since the bedrock is in direct contact with the Colorado River and no continuous reducing conditions exist in this area?

I2-84

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 3:45:58 PM

T This is the conversion of one type of contamination to another type of contamination and does not actually remove the contamination. This is still contamination that is being left in the ground. This gives the appearance and/or illusion of actually doing

I2-85

Comments from page 6 continued on next page

effects on those resources have been and will continue to be solicited and incorporated into the decision-making process as the remedy is selected, designed, and implemented.

The project Site area contains sensitive cultural resources that are of religious and cultural significance to some of these tribes, as well as other identified historic areas, such as portions of Route 66. These cultural resources are subject to the protections provided by numerous federal statutes, regulations, and Executive Orders.

Protection of historic properties and cultural resources, in particular those that are listed, or eligible for listing, on the National Register of Historic Places, requires that DOI, in consultation with State Historic Preservation Offices, the Advisory Council on Historic Preservation, the tribes, and other consulting parties, identify adverse effects associated with remedial action at the Site and seek ways to avoid, minimize, or mitigate such effects. The BLM, on behalf of itself, DOI, Fish and Wildlife Services (FWS), and BOR, is the lead federal agency for historic and cultural issues at the Site. Substantive mitigation measures adopted by the BLM as a result of federal consultation will be satisfied during the design and implementation of the remedy at the site.

DTSC, as the California state lead agency on this project, solicited input from interested tribes, and evaluated the potential impacts of the remedial action and identified proposed mitigation measures within a draft Environmental Impact Report (dEIR) in accordance with requirements of the California Environmental Quality Act (CEQA). The dEIR is also available in the public repository for review and comment at the same time as this draft Statement of Basis.

The Site is also located within an environmentally sensitive area that includes the Havasu National Wildlife Refuge, endangered species and migratory bird habitat, and public land formally designated as an Area of Critical Environmental Concern by the BLM. Moreover, much of the Site lies within the

floodplain of the Colorado River, a source of drinking water and irrigation for millions of people downstream. Remedial action within this area must comply with the applicable land management requirements established and implemented by BLM, FWS, and BOR. In addition, the contaminated groundwater is located within a groundwater basin that has been designated for beneficial uses under the Colorado River Basin Regional Water Quality Control Board.

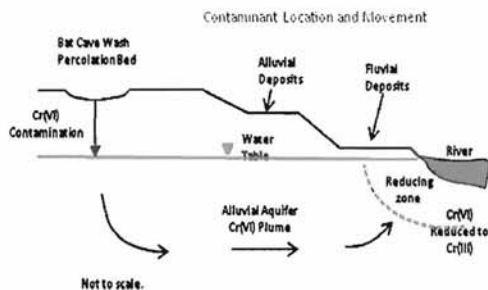
Hexavalent Chromium Groundwater Plume

The RFI/RI Volume 2 Report for groundwater, completed in February 2009, characterized groundwater and surface water for contamination associated with past PG&E blowdown discharges from the Compressor Station. Groundwater occurs beneath the ground surface in alluvial geologic deposits consisting primarily of sands and gravels, with some silts and clays.

The groundwater data indicate that a plume of groundwater contaminated with mainly hexavalent chromium extends from the location of the former area where blowdown was discharged in Bat Cave Wash to the floodplain area adjacent to the Colorado River, north of the railroad tracks. Current data indicate that hexavalent chromium is not discharging to the Colorado River. Within the plume, hexavalent chromium is typically present at all depth intervals of the upland portion of the aquifer, but is generally limited to deep wells in portions of the floodplain aquifer near the river. Organic-rich and low-oxygen conditions exist in the aquifer and sediments near and underlying the river that convert hexavalent chromium to a less mobile, less toxic form known as trivalent chromium. This trivalent chromium will drop out of the groundwater under normal subsurface conditions as it will bind to the geologic deposits at the Site.

something that we are to trust may take place somehow below the ground surface that we are not able to see in the hopes that subsurface conditions are continuous, homogenous, without variation and as expected in the laboratory. Frankly that is a risk that should not be taken or allowed by DTSC and DOI, considering the potential impact to millions of people in Arizona and Southern California if something goes wrong.

I2-85
con't.



As hexavalent chromium migrates in groundwater from the upland area deposits to the ²organic rich conditions near and beneath the river, it undergoes a chemical change to trivalent chromium.

Besides hexavalent chromium as the main groundwater contaminant, the February 2009 RFI/RI Volume 2 Addendum also indicated possible additional chemicals of potential concern within localized areas of the groundwater plume that may have originated from PG&E operations. ⁴These substances include molybdenum, selenium and nitrate.

East Ravine Bedrock Plume

⁵During the 2009 East Ravine Groundwater Investigation, hexavalent chromium was also found in groundwater within the bedrock formations east and southeast of the Compressor Station. The contamination occurs in discrete fractures in the bedrock which limits the flow and overall quantity of groundwater in the bedrock. ⁶PG&E has estimated that the mass of the hexavalent chromium in bedrock likely represents less than one percent of the total hexavalent chromium plume mass.

The lateral extent of East Ravine groundwater contamination appears to extend approximately 1,500 feet east southeast of the Compressor Station. However, the investigation of East Ravine groundwater is ongoing and the source and full extent

¹if the bedrock contamination has not been determined. Studies of the East Ravine area are expected to continue during the remedy design phase of the project.

SUMMARY OF SITE RISKS

As part of the Site investigation, a baseline risk assessment was conducted to determine the current and future risks posed by contaminants in groundwater to humans and ecological receptors. The primary contaminants of potential concern resulting from the evaluation in the risk assessment include hexavalent chromium, selenium, nitrate, and molybdenum.

Based on the results of the risk assessment, there are no unacceptable risks to human health or the environment from groundwater contamination under current conditions. ³Currently, there is no direct exposure to groundwater and no significant contaminant transport pathway from groundwater to surface water.

Hexavalent chromium is present at concentrations that could pose an unacceptable risk to a future hypothetical groundwater user, if the contaminated groundwater were to be used as a source of drinking water. Based on the results of the site investigation and risk assessment, hexavalent chromium was the contaminant addressed in the detailed alternative analysis in the 2009 Corrective Measures Study/ Feasibility Study and was carried forward into remedy selection.

Three additional contaminants of potential concern, (selenium, nitrate, and molybdenum), were evaluated in the RFI/RI and groundwater risk assessment. Although the risk assessment concluded that these constituents are not a source of significant risk in comparison to hexavalent chromium, these substances do contribute to a total non-cancer risk at localized areas within the plume boundary in excess of risk assessment guidelines. ⁷The presence and extent of these substances will be evaluated further during the soil investigation at the Site. The CMS/FS

Page: 7

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 4:17:57 PM

T If the extent of groundwater contamination is not know, an appropriate groundwater remedy can not be determined. Therefore, the Statement of Basis is deficient.

I2-86

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 3:47:30 PM

T Does organic rich conditions exists at all locations under the river? Are they continuous? Will these organic rich conditions remain stable over 100 years? Do organic rich conditions exist downstream in the area of bedrock contamination where the bedrock is in direct contact with the Colorado River?

This statement is misleading and attempts to assure the reader that there is a continuous blanket of organic rich conditions beneath the river, Which is not the case. As DTSC states later in this document in "3" Long Term effectiveness" " while the reducing conditions have been shown to be robust, there is no way to prove that these conditions exist everywhere or would persist into the future hundreds to thousands of years from now"

I2-87

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 3:51:03 PM

T This statement is not accurate and should not be made since the complete extent bedrock contamination is not known. Further groundwater contamination in bedrock is in direct contact with the Colorado River.

I2-88

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 3:49:59 PM

T How will these chemicals be remediated under the current proposed process? What will they be remediated too? Please explain how these chemicals will undergo chemical change when contacting the organic rich conditions and what will the change to?

I2-89

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 3:48:44 PM

T How did this groundwater contamination get here? What was the source of this contamination? This investigation was done in 2009. Was PG&E proactive and did they voluntarily want to do this investigation? Did PG&E resist and state at any time that they were not in support of doing this investigation? Are there any other areas that have not been investigated that may have potential groundwater contamination?

I2-90

Sequence number: 6

Author:

Subject: Comment on Text

Date: 7/7/2010 3:50:00 PM

T The desire to downplay this contamination by PG&E when the full extent is not know in addition to the location of this contamination related to immediate direct and substantial potential endangerment to impacting the Colorado River is serious cause for concern. Additional interim measures should have been taken by DTSC to protect the Colorado River. Why is DTSC/DOI using PG&E's estimate? What is DTSC/DOI estimate? With the BP oil spill in the Gulf of Mexico we can see how Corporate management will downplay and the extent of contamination. Further as evidence by PG&E's previous activities at Hinkley, we should be very cautious when evaluating any statements or information provided by PG&E.

I2-91

Sequence number: 7

Author:

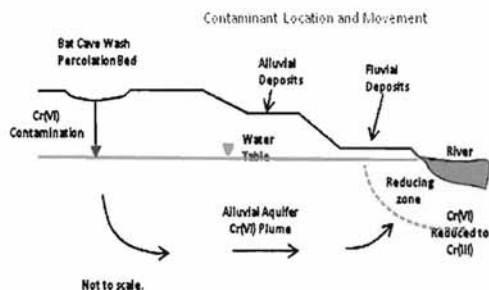
Subject: Comment on Text

Date: 7/7/2010 3:53:43 PM

T These 3 additional chemical contamination exists in the groundwater. However, you are now saying that you are not going to deal with them and you will further evaluate them during the soil investigation. Why? So in fact you are saying that the proposed

I2-92

Comments from page 7 continued on next page



As hexavalent chromium migrates in groundwater from the upland area deposits to the organic rich conditions near and beneath the river, it undergoes a chemical change to trivalent chromium.

Besides hexavalent chromium as the main groundwater contaminant, the February 2009 RFI/RI Volume 2 Addendum also indicated possible additional chemicals of potential concern within localized areas of the groundwater plume that may have originated from PG&E operations. These substances include molybdenum, selenium and nitrate.

East Ravine Bedrock Plume

During the 2009 East Ravine Groundwater Investigation, hexavalent chromium was also found in groundwater within the bedrock formations east and southeast of the Compressor Station. The contamination occurs in discrete fractures in the bedrock which limits the flow and overall quantity of groundwater in the bedrock. PG&E has estimated that the mass of the hexavalent chromium in bedrock likely represents less than one percent of the total hexavalent chromium plume mass.

The lateral extent of East Ravine groundwater contamination appears to extend approximately 1,500 feet east southeast of the Compressor Station. However, the investigation of East Ravine groundwater is ongoing and the source and full extent

of the bedrock contamination has not been determined. Studies of the East Ravine area are expected to continue during the remedy design phase of the project.

SUMMARY OF SITE RISKS

As part of the Site investigation, a baseline risk assessment was conducted to determine the current and future risks posed by contaminants in groundwater to humans and ecological receptors. The primary contaminants of potential concern resulting from the evaluation in the risk assessment include hexavalent chromium, selenium, nitrate, and molybdenum.

Based on the results of the risk assessment, there are no unacceptable risks to human health or the environment from groundwater contamination under current conditions. Currently, there is no direct exposure to groundwater and no significant contaminant transport pathway from groundwater to surface water.

Hexavalent chromium is present at concentrations that could pose an unacceptable risk to a future hypothetical groundwater user, if the contaminated groundwater were to be used as a source of drinking water. Based on the results of the site investigation and risk assessment, hexavalent chromium was the contaminant addressed in the detailed alternative analysis in the 2009 Corrective Measures Study/ Feasibility Study and was carried forward into remedy selection.

Three additional contaminants of potential concern, (selenium, nitrate, and molybdenum), were evaluated in the RFI/RI and groundwater risk assessment. Although the risk assessment concluded that these constituents are not a source of significant risk in comparison to hexavalent chromium, these substances do contribute to a total non-cancer risk at localized areas within the plume boundary in excess of risk assessment guidelines. The presence and extent of these substances will be evaluated further during the soil investigation at the Site. The CMS/FS

groundwater remedy is only for one (1) chemical hexavalent chromium that will be converted to another contamination chromium and left in the ground? This is completely misleading to the public since it is presented as a "groundwater remedy" when in fact it is not a complete groundwater remedy. This supports our claim that this process is being piece-mealed, segmented, and bifurcated in order to benefit the interests of some stakeholders and furthers desires to significantly limit the full and complete extent of any real required remediation. There is not a valid reason to be proceeding in this manner. A complete groundwater remedy should be considered. Not a piecemeal approach. In addition, since a complete groundwater remedy is not known, the IM3 facility should be expanded and more pumping and treating of contaminated groundwater should occur if there is a concern that contamination is entering the Colorado River. Also as stated in this section if DTSC/DOI needs to evaluate the presence of additional chemicals during the soil investigation then the potential impacts to groundwater from this soil contamination is NOT known and therefore, a complete groundwater remedy can not be determined at this time.

I2-92
con't.

²Concluded that institutional controls should be enforced to restrict development of contaminated groundwater as a drinking water supply and monitoring of these constituents should continue as part of the Site-wide groundwater monitoring activities throughout future actions taken at the Site.

⁴Because there is no significant ecological exposure pathway for contact with impacted site groundwater, there are no ecological receptors currently at risk of adverse effects due to the presence of contaminants of potential concern in the groundwater.

Based on the results of the risk assessment, it is DTSC's current judgment that the Preferred Alternative identified in this draft Statement of Basis, or one of the other alternatives considered in this document, is necessary to protect public health or welfare or the environment from releases of hazardous substances to the environment.

REMEDIAL ACTION OBJECTIVES

⁵The remedial action objectives ("RAOs") are based on the conclusions of the risk assessment and the requirement that the selected remedy attain applicable or relevant and appropriate requirements (ARARs) identified for the Site. The RAOs for groundwater are to:

- ⁶Prevent ingestion of groundwater as a drinking water source having hexavalent chromium in excess of the regional background concentration of 32 micrograms per liter.
- ⁷Prevent or minimize migration of total chromium and hexavalent chromium in groundwater to ensure concentrations in surface water do not exceed water quality standards that support the designated beneficial uses of the Colorado River (11 micrograms per liter).
- ⁸Reduce the mass of total chromium and hexavalent chromium in groundwater at the Site to achieve compliance with ARARs in groundwater.

¹This RAO will be achieved through attainment of a cleanup goal of 32 micrograms per liter of hexavalent chromium.

- ³Ensure that the current geographic plume boundaries are not permanently expanded following completion of the remedial action.

SUMMARY OF REMEDIAL ALTERNATIVES

The remedial alternatives to address contaminated groundwater at the Site that were evaluated in the 2009 CMS/FS are presented below. The alternatives are identified with letters to correspond with the description of the alternatives within the CMS/FS report.

Generally speaking, Alternatives A and B would not include any active treatment or other measures to remove hexavalent chromium from groundwater. Alternatives C, D, and E would rely primarily on treating the hexavalent chromium underground (also known as "in-situ" treatment) by injecting a carbon food source into the aquifer to "feed" the naturally-occurring bacteria thereby accelerating the change of hexavalent chromium to trivalent chromium by enhancing the naturally occurring biological conditions that degrade hexavalent chromium. Alternative F would extract contaminated groundwater and treat it above-ground using a water treatment plant. Alternatives G and H would combine in-situ treatment with above-ground treatment. Alternative I would continue the existing Interim Measure currently in place by which limited volumes of water are extracted and treated using an existing above-ground treatment facility. Except for Alternatives A and I, all other alternatives evaluated include the decommissioning of the existing Interim Measure treatment system. Decommissioning would occur after remedy construction and start up, and DTSC deems the remedy to be operating properly and successfully.

Provided below is a more specific description of each alternative. Because of the collaboration between

Page: 8

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 3:53:09 PM

TThats it? A RAO of 32 micrograms per liter for hexavalent chromium only? What about all the rest of the contamination?

I2-93

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 3:56:05 PM

THow will DTSC enforce this in Arizona? How will DTSC enforce this on private land? Will DTSC be placing deed restrictions on public and private property? Will development at Topock Marina, Park Moabi or other areas be limited or reduced as a result of institutional controls?

I2-94

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 3:54:12 PM

TYou indicated that the extent of groundwater contamination has not been completely defined. Therefore, how can you do this?

I2-95

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 3:57:11 PM

TIs the East Ravine groundwater contamination in direct contact with ecological receptors? Has this been evaluated? How can the human and ecological risk assessments make these evaluations if the extent of groundwater contamination has not been defined? or the potential discharge to the surface waters or uptake form plants?

I2-96

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 3:57:10 PM

TIf the extent of soil contamination is not know how can the risk assessment evaluate the potential pathway or potential risk from soil contamination leaching into groundwater? or the surface water to groundwater interaction?

I2-97

Sequence number: 6

Author:

Subject: Comment on Text

Date: 7/7/2010 3:59:37 PM

TWhat is the background level of hexavalent chromium currently in the Colorado River? Does this mean that DTSC and DOI will allow PG&E to discharge hexavalent chromium contamination in and allow it to enter the Colorado River as long as the level in the Colorado River is less less than 32 micrograms per liter? Does this mean that if I have a groundwater well that currently has non-detectable levels of hexavalent chromium in it, that PG&E will be allowed to increase the level of hexavalent chromium in my groundwater well to 32 micrograms per liter? What about the other chemicals that DTSC will be allowing PG&E to dump into the Colorado River? Has any Dioxin compounds been reported in soil samples onsite?

I2-98

What is the current background groundwater level of chromium in the floodplain adjacent to the Colorado River?

Sequence number: 7

Author:

Subject: Comment on Text

Date: 7/7/2010 4:00:48 PM

TWhat is the current background level of chromium and hexavalent chromium in the Colorado River? and how does that compare to what you will be allowing PG&E to dump into the river? What about a non-degradation protection policy? Does one exist? What is the 11 micrograms per liter you reference related to? Chromium? or hexavalent Chromium? if it only relates to one of them, then what is the amount that PG&E will be allowed to discharge for the other? Does a limit exist? What will be the level that PG&E will be allowed to increase the amount of Chromium or Hexavalent Chromium in the Colorado River?

I2-99

Sequence number: 8

Author:

Comments from page 8 continued on next page

concluded that institutional controls should be enforced to restrict development of contaminated groundwater as a drinking water supply and monitoring of these constituents should continue as part of the Site-wide groundwater monitoring activities throughout future actions taken at the Site.

Because there is no significant ecological exposure pathway for contact with impacted site groundwater, there are no ecological receptors currently at risk of adverse effects due to the presence of contaminants of potential concern in the groundwater.

Based on the results of the risk assessment, it is DTSC's current judgment that the Preferred Alternative identified in this draft Statement of Basis, or one of the other alternatives considered in this document, is necessary to protect public health or welfare or the environment from releases of hazardous substances to the environment.

REMEDIAL ACTION OBJECTIVES

The remedial action objectives ("RAOs") are based on the conclusions of the risk assessment and the requirement that the selected remedy attain applicable or relevant and appropriate requirements (ARARs) identified for the Site. The RAOs for groundwater are to:

- Prevent ingestion of groundwater as a drinking water source having hexavalent chromium in excess of the regional background concentration of 32 micrograms per liter.
- Prevent or minimize migration of total chromium and hexavalent chromium in groundwater to ensure concentrations in surface water do not exceed water quality standards that support the designated beneficial uses of the Colorado River (11 micrograms per liter).
- Reduce the mass of total chromium and hexavalent chromium in groundwater at the Site to achieve compliance with ARARs in groundwater.

This RAO will be achieved through attainment of a cleanup goal of 32 micrograms per liter of hexavalent chromium.

- Ensure that the current geographic plume boundaries are not permanently expanded following completion of the remedial action.

SUMMARY OF REMEDIAL ALTERNATIVES

The remedial alternatives to address contaminated groundwater at the Site that were evaluated in the 2009 CMS/FS are presented below. The alternatives are identified with letters to correspond with the description of the alternatives within the CMS/FS report.

Generally speaking, Alternatives A and B would not include any active treatment or other measures to remove hexavalent chromium from groundwater. Alternatives C, D, and E would rely primarily on treating the hexavalent chromium underground (also known as "in-situ" treatment) by injecting a carbon food source into the aquifer to "feed" the naturally-occurring bacteria thereby accelerating the change of hexavalent chromium to trivalent chromium by enhancing the naturally occurring biological conditions that degrade hexavalent chromium. Alternative F would extract contaminated groundwater and treat it above-ground using a water treatment plant. Alternatives G and H would combine in-situ treatment with above-ground treatment. Alternative I would continue the existing Interim Measure currently in place by which limited volumes of water are extracted and treated using an existing above-ground treatment facility. Except for Alternatives A and I, all other alternatives evaluated include the decommissioning of the existing Interim Measure treatment system. Decommissioning would occur after remedy construction and start up, and DTSC deems the remedy to be operating properly and successfully.

Provided below is a more specific description of each alternative. Because of the collaboration between

Subject: Underline
Date: 7/7/2010 4:20:57 PM




Sequence number: 9

Author:

Subject: Comment on Text

Date: 7/7/2010 4:00:31 PM

 Conversion of one form of contamination (hexavalent chromium) to another form of contamination (chromium) would therefore not be a reduction in mass of the contamination. Is that correct? This is just turning one form of contamination into another.

I2-100

Alternative E – In-situ Treatment with Fresh Water Flushing

Alternative E involves flushing to push the plume through an In-situ Reduction Zone (“IRZ”) located along National Trails Highway. Flushing would be accomplished through a combination of fresh water injection and injection of carbon amended groundwater in wells to the west of the plume. This alternative would also include using extraction wells near the Colorado River shoreline to capture the plume, accelerate cleanup of the floodplain, and flush the groundwater with elevated hexavalent chromium through the treatment zone. Additional extraction wells are located in an area northeast of the Compressor Station where the flushing efficiency from injection wells alone is relatively poor. Groundwater extracted from the near-river wells and wells northeast of the Compressor Station would be treated with the carbon food source and the water would be reinjected west of and/or within the hexavalent chromium plume.

Estimated Net Present Value: \$92,000,000 - \$198,000,000

Estimated Time to Achieve RAOs: 10 to 110 years

Alternative F – Pump and Treat

This alternative would involve pumping groundwater, above-ground treatment to remove chromium from the extracted groundwater, and reinjection of the treated water back to the aquifer.

Estimated Net Present Value: \$187,000,000 - \$401,000,000

Estimated Time to Achieve RAOs: 15 to 150 +years

Alternative G – Combined Floodplain In-situ / Pump and Treat

This alternative would combine floodplain cleanup by in-situ treatment, with treatment of the uplands portion of the plume by pumping groundwater, above-ground treatment to remove chromium from the extracted groundwater, and reinjection of the

treated water back to the aquifer. The floodplain cleanup would involve construction of in-situ treatment zones at National Trails Highway and between National Trails Highway and the Colorado River. This alternative differs from Alternative H in that pump and treat is the dominant feature of the cleanup rather than in-situ treatment.

Estimated Net Present Value: \$177,000,000 - \$380,000,000

Estimated Time to Achieve RAOs: 10 to 90 years

Alternative H – Combined Upland In-situ / Pump and Treat

This alternative would combine in-situ treatment in the upland portions of the plume, with pump-and-treat technology in the floodplain (consisting of pumping groundwater, above-ground treatment to remove chromium from the extracted groundwater, and reinjection of the treated water back to the aquifer). This alternative differs from Alternative G by relying on an in-situ treatment zone as the dominant feature of the cleanup rather than pump and treat.

Estimated Net Present Value: \$127,000,000 - \$273,000,000

Estimated Time to Achieve RAOs: 10 to 70 years

Alternative I – Continued Operation of Interim Measure Groundwater Treatment

This alternative would involve continued operation of the current Interim Measure Groundwater Treatment Plant as the final remedial action at the site. The plant includes a pump and treat system that removes groundwater and utilizes chemical reduction, precipitation and filtration to remove hexavalent chromium. The Interim Measure system would operate with the existing equipment with existing procedures using the existing process at the existing flow rate until RAOs are attained.

Estimated Net Present Value: \$186,000,000 - \$398,000,000

Page: 10

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 4:01:38 PM

The estimated time of up to 110 years to achieve RAOs is much too long. The length of time can be significantly reduced by adding pump and treat to the alternative. What would the time period be to complete the remediation if upland in-situ, flood-plain in-situ and pump and treat was used? If this alternative was used would the groundwater gradient and movement of groundwater contamination be away from the Colorado River?

I2-101

<p>Cost includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.</p>
<p>State/Support Agency Acceptance considers whether the State agrees with the analyses and recommendations, as described in the Proposed Plan.</p>
<p>Community Acceptance considers whether the local community agrees with DTSC's analyses and preferred alternative. Comments received on the draft Statement of Basis are an important indicator of community acceptance.</p>

As described below, two of these combined criteria, "Protect Human Health and The Environment, Attain Media Cleanup Goals, and Control Sources Of Releases" and "Compliance with ARARs," are considered Corrective Action Standards or Threshold Criteria. All remedial alternatives must satisfy these standards and criteria in order to be considered for selection. The next five criteria are known as "balancing criteria" or "remedy selection decision factors" which are factors that are used for relative comparison of the remedial alternatives under consideration. Finally, the last two criteria, State/Support Agency Acceptance and Community Acceptance are known as "modifying criteria."

1. Protect Human Health and The Environment, Attain Media Cleanup Goals, and Control Sources Of Releases

Alternative A does not meet the selection criteria for protecting human health and the environment because there would be no institutional controls imposed to restrict use of groundwater in locations where hexavalent chromium concentrations exceed the cleanup goals, and there would be no monitoring to evaluate whether geochemical conditions near the river required to reach the cleanup goals remained in place over the long time period necessary to achieve these goals. The remaining Alternatives (B through I), were all found to meet the standard and threshold criteria of protecting human health and the environment.¹ Alternatives C, D, E, F, G, and H were ranked high for this criterion while Alternatives B and I ranked medium for this criterion primarily

because of the long time required to attain cleanup goals, as well as the uncertainty about the robustness of the natural geochemical conditions near the river and the high level of operation and maintenance.

2. Compliance with ARARs

Applicable or Relevant and Appropriate Requirements (ARARs) are those cleanup standards, standards of control, and other substantive federal or more stringent State requirements that have been determined to be legally applicable to, or well suited to ("relevant and appropriate"), addressing hazardous substances, remedial actions, or other circumstances presented at a site. ARARs generally are classified as chemical-specific, location-specific, or action-specific. The ARARs for the Topock Site are identified in Appendix B of the CMS/FS.

Based on the specific circumstances presented at the Topock Site and as described in the CMS/FS, Alternatives A, B and I do not satisfy the requirement established by the California State Water Resources Control Board Resolution 92-49 that cleanup goals be achieved within a "reasonable time frame." For this reason, Alternatives A, B, and I have been eliminated from further consideration.

Because of the importance of the area to certain Native American tribes with ancestral ties to the region, and the presence of cultural resources of religious and cultural significance, as well as other sensitive cultural resources, several cultural resource protection statutes, regulations, and Executive Orders have been identified as ARARs for the Topock Site. As described in the CMS/FS, none of the alternatives under consideration were eliminated from further consideration based on its failure to satisfy cultural resource ARARs. In order to ensure that the remedy selected attains the substantive requirements established by these ARARs, however, as a remedy is selected, designed, and implemented, the federal agencies will continue to engage in consultation with tribes, State Historic Preservation Officers, and others to identify potential effects on

Page: 12

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 4:01:51 PM

T How is this ranking of "high level of operation and maintenance" related to the specific remedy selection criteria of protect human health and the environment, attain media cleanup goals and control sources of releases. This is evidence of incorrect analysis of screening criteria.

I2-102

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 4:02:18 PM

T If Alternative "B" Monitored Natural Attenuation" do not satisfy the requirements established by the California State Water Resources Control Board Resolution 92-49, then it is not appropriate for DTSC to include monitored natural attenuation as part of the remedy as DTSC has done. As stated in the "Summary of the preferred alternative" states that "Additionally, DTSC preferred alternative includes monitored natural attenuation as a long term component to address residual hexavalent chromium" This is a fatal flaw in DTSC's analysis and is in conflict with Resolution 92-49. If DTSC includes pump and treat as a component of the remediation, monitored natural attenuation would not be needed and the time to complete the remediation would be significantly quicker.

I2-103

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 4:03:15 PM

T What is the definition of "high" and "Medium"

I2-104

cultural resources and to seek ways to avoid, minimize, or mitigate any adverse effects.

With respect to any remedial action to be undertaken within the Havasu National Wildlife Refuge, the National Wildlife System Administration Act has been identified as an ARAR. As described in the CMS/FS, none of the alternatives under consideration were eliminated from further consideration based on its failure to satisfy this ARAR. After a remedy is selected, the Fish and Wildlife Service will identify, during remedial design and implementation, those measures necessary to ensure that the selected remedy satisfies this ARAR.

3. Long-term Effectiveness, Permanence, and Reliability

Alternative A (No Action) ranked the lowest of all alternatives because this alternative does not include monitoring to verify the effectiveness of natural recovery processes and to determine when the RAOs have been achieved.

1 Alternative B ranked medium because it would include monitoring and institutional controls; however, this alternative relies on natural attenuation to convert hexavalent chromium to trivalent chromium, and while the reducing conditions have been shown to be robust, there is no way to prove that these conditions exist everywhere or would persist into the future hundreds to thousands of years from now.

Alternatives F, G, H, and I all ranked medium for long-term effectiveness, permanence, and reliability. These alternatives include ex-situ treatment; the resulting waste generation requiring land disposal of treatment residuals at an offsite, permitted landfill requires long-term containment, management, and monitoring that are not required by the alternatives that include in-situ treatment.

Alternatives C, D, and E ranked medium-high for this criterion. While there is uncertainty regarding the ability to distribute the carbon food source across the

targeted area, and Alternative E relies on flushing to remove contaminants from the upland portion of the aquifer, comparatively few long-term controls are expected for these alternatives following attainment of cleanup goals.

4. Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment

Alternatives F, G, and I are ranked high because the toxicity, mobility, and volume of hexavalent chromium is lessened throughout the plume because the majority of the chromium mass after treatment would be removed and managed in a permitted disposal facility.

C, D, E, and H are ranked medium high because the converted chromium will remain within the subsurface formation. Additionally, byproducts are anticipated from in-situ treatment, but they are expected to be localized and could remain temporarily elevated above baseline and background concentrations in some portions of the aquifer.

Alternatives A and B ranked medium because the amount of plume destroyed or treated is less certain due to the passive nature of treatment and the extent and average capacity of the floodplain area to naturally reduce hexavalent chromium over time.

5. Short-term Effectiveness

Alternative B was ranked medium because of the minimal footprint, but relatively long time to cleanup.

Alternatives C and E were ranked medium-low because of the comparatively shorter remediation period and relatively limited construction and operational activities that would occur primarily in previously disturbed areas. Alternatives A, D, F, G, H, and I received a low ranking for short-term effectiveness. Alternative A was ranked low primarily because of the extensive time to cleanup with no controls during the remedial period. Alternatives F, G, H, and I were ranked low as a result of construction and operation of an

Sequence number: 1
Author:
Subject: Comment on Text
Date: 7/7/2010 4:03:29 PM
What is the definition of medium?

I2-105

aboveground treatment plant and the greater amount of construction, aboveground visual impact, worker/operator presence onsite, electrical power requirements, and trucking requirements for chemical delivery and waste transportation and disposal. Alternative D ranked low primarily because the location of remedial facilities would not be limited to previously disturbed areas and because of the need for subsequent additional disturbance from grading, road construction, facility construction, and operation and maintenance.

6. Implementability

Alternatives A and B are ranked high for implementability because Alternative A involves no remedial action, and the only remedial activities associated with Alternative B are monitoring well construction and maintenance and administration of an institutional control. ²Alternative I also ranked high because the system has been shown to be technically implementable over the years it has operated. Alternatives D, E, F, G, and H were ranked medium because while these alternatives are administratively implementable, there will be technical challenges associated with the active treatment processes. Alternative E requires additional approvals from landowners and associated water agencies for the water supply well and pipeline. Alternative C was ranked low for this criterion because of the relatively more complex technical challenges associated with balancing carbon delivery and hydraulic containment of the plume.

7. Cost

The costs for Alternatives A and B are the lowest; therefore, these alternatives are ranked high in cost-effectiveness. Alternatives C, D, E, and H are the next most costly; therefore, these alternatives are ranked medium in cost-effectiveness. Alternatives F, G, and I are the most expensive of the alternatives and are therefore ranked low in cost effectiveness.

8. State/Support Agency Acceptance

DTSC and DOI have worked together in closely coordinating each agency's respective authorities and overseeing PG&E's performance of work under the federal CERCLA Consent Agreement and the State Corrective Action Consent Agreement by which the CMS/FS has been prepared. Through this coordination, both DOI and DTSC approved the CMS/FS in December, 2009. Furthermore, DTSC and DOI worked in partnership to ensure that this draft Statement of Basis and the DOI Proposed Plan for the Preferred Alternative are closely coordinated in scope and in content. ¹Based on this coordinated approach, DTSC and DOI, while considering the action independently, reached a similar conclusion on the Preferred Alternative to submit for public review and comment.

9. Community Acceptance

Community acceptance of the Preferred Alternative will be evaluated after the close of the public comment period with consideration of the comments received. Community acceptance will be described in the Final Statement of Basis for the Site.

SUMMARY OF THE PREFERRED ALTERNATIVE

³DTSC's recommendation for the Preferred Alternative, based on the analysis and conclusions presented in the CMS/FS, and in conjunction with the findings of potential impacts evaluated in the draft EIR, is Alternative E – In-situ Treatment with Fresh Water Flushing. Alternative E is recommended because it will achieve the RAOs ⁴while substantially reducing, through treatment, the amount of hexavalent chromium in the groundwater [which is the principal threat at the site], ⁵and will do so in a reasonable time frame, ⁶and with fewer adverse effects to cultural resources and biological resources than other alternatives considered. Alternative E will also allow the decommissioning of the existing Interim Measure treatment plant after PG&E demonstrates, with DTSC's concurrence, that the remedy is successfully treating and controlling the

Page: 14

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 4:06:12 PM

T You state that DOI has reached a similar conclusion on the preferred alternative. When was that conclusion made by DOI and by whom?

What is the DOI public review that you referenced?

I2-106

Sequence number: 2

Author:

Subject: Highlight

Date: 7/7/2010 4:07:18 PM

T Pump and treat is ranked high for implementability since it has been proven to work. Therefore, pump and treat should be a continued component of any proposed remedial activity.

I2-107

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 4:04:38 PM

T We disagree with the selection of this alternative. Alternative G and H combined would provide 1. A higher safety factor for the protection for the Colorado River since it will maintain a landward groundwater gradient away from the Colorado River. 2. Actually reduce the mass of the contamination and not just convert one form of contamination to another. 3. Completed remediation in a shorter period. 4. Not allow any by-product contamination or other groundwater contamination to enter the Colorado River. 5. Provide more that just an illusion of a remedy that is magically to work beneath the ground surface and as we are to trust PG&E that it will actually occur.

I2-108

What alternative provides the greatest protection for the Colorado River? drinking water, agricultural and recreational activities, and provides to greatest protection and safety for the current living people and the future generations?

Did the previous DTSC settlement agreement have any impact on the decision to pre select this remedy?

With the proposed DTSC alternative E remedy. Will any groundwater contamination migrate or allowed to move any closer to the Colorado River?

What will happen to the current groundwater contamination that exists under the Colorado River that is beyond the proposed zone of in-situ treatment near the Colorado River? Will this contamination be treated? or will it be ignored and allowed to potentially migrate and enter the Colorado River?

I2-109

For this alternative what is the direction of flow for the contamination? Is it toward the Colorado River? or will it be away from the Colorado River?

This alternative will ignore and fail to treat other additional chemicals in groundwater (molybdenum, selenium and nitrate and will allow and push this contamination closer to the Colorado River will allow these chemicals to enter and impact the Colorado River.

Sequence number: 4

Author:

Subject: Comment on Text

Date: 7/7/2010 4:06:40 PM

T What does substantially reducing mean? Are you saying that this alternative will not completely treat all the contamination?

This alternative fails to address by-products and ignores the presence of does not treat

I2-110

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 4:06:58 PM

T What is DTSC perception of a "reasonable time frame"

I2-111

Sequence number: 6

Author:

Comments from page 14 continued on next page

aboveground treatment plant and the greater amount of construction, aboveground visual impact, worker/operator presence onsite, electrical power requirements, and trucking requirements for chemical delivery and waste transportation and disposal. Alternative D ranked low primarily because the location of remedial facilities would not be limited to previously disturbed areas and because of the need for subsequent additional disturbance from grading, road construction, facility construction, and operation and maintenance.

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Subject: Comment on Text
Date: 7/7/2010 4:06:32 PM
T was a scoring matrix used to determine this?

I2-112

Sequence number: 7
Author:
Subject: Comment on Text
Date: 7/7/2010 4:40:44 PM
T

1. Movement of contaminated groundwater and its secondary byproducts at the Site.

Because DTSC recognizes that the variable nature of the geologic materials beneath the site may result in some localized areas being resistant to in-situ treatment and flushing, these areas may require optimized remedial efforts including focused injection/extraction. 2. Additionally, DTSC's preferred alternative includes monitored natural attenuation as a long term component to address residual hexavalent chromium that may remain in portions of the aquifer formation after the majority has been treated by the in-situ treatment with fresh water flushing technology. 3. Monitored natural attenuation relies on the naturally occurring degradation and dilution properties of the groundwater system to convert hexavalent chromium to trivalent chromium in groundwater.

5. Land Use Restrictions – Due to the incomplete evaluation of soil contamination at the Site and the potential unacceptable risk to a future hypothetical groundwater user, the proposed remedy requires that certain restrictions be imposed on future land use activities. The proposed restrictions are necessary to protect human health and the environment, and to maintain the short and long term protectiveness of the remedy. The restrictions may be imposed through a "Covenant to Restrict Use of Property" ("Covenant") which is an enforceable institutional control mechanism. The Covenant restrictions "run with the land" and apply no matter who owns the property. The land use restrictions may, with regulatory agency approval, be revised if site conditions should change in the future (e.g., new land use). The specific language for the Covenant with PG&E, and other land owners will be developed after DTSC selects the final remedy. 6. However, restrictions to be considered may include, but not limited to the following:

- Growing food crops or any agricultural products
- Drilling for drinking water, oil or gas
- Extraction of ground water for purposes other than ground water monitoring, site remediation or construction dewatering

- Any activity that may disturb or adversely affect the operation and maintenance of the groundwater monitoring network and site remediation system that is not part of a DOI or DTSC approved corrective action work plan or facility closure plan for the property without prior written agency approval.
- Any redevelopment of the property until a Risk Management Plan (RMP) is prepared for the specific project and is approved in writing by DTSC. A RMP identifies, at a minimum, the specific project proposed for construction, the previous site history, the nature and extent of contamination from all media, the potential pathways of receptor exposure and health impacts from existing site contamination, and practical ways to mitigate the impacts for the specific project. The Covenant and the RMP work together to ensure that potential impacts from exposure to contaminated soils, ground water or other media are managed in a manner that is protective of human health and the environment. The RMP may be revised or amended.

Risk Management Activities. The following activities will require risk management at the Site:

- Any activities that will disturb the soil or ground water, such as excavation, grading, removal, trenching, filling, earth moving or mining, shall only be permitted on the property pursuant to a corrective action work plan approved in writing by DTSC, or an RMP approved in writing by DTSC.
- Any contaminated media brought to the surface as a result of remediation related activities including, but not limited to, pumping, grading, excavation, trenching, or backfilling shall be managed in accordance with all applicable provisions of state and federal laws.

Five Year Remedy Performance Evaluation Reports

The purpose of these reports is to provide an evaluation of the long-term effectiveness and reliability of the selected remedy including in-situ treatment and

Page: 15

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 4:07:12 PM

T What is the exact measure of this test? What does controlling the movement of contaminated groundwater mean?

I2-113

What are the secondary by-products that will be created and have not been discussed in this document?

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 4:07:26 PM

T Previously DTSC stated that they would require all the contamination to be treated to 32 micrograms per liter. Now it is stated that residual contamination may remain above this amount because complete information is not know about subsurface conditions. Why? This supports our previous comment that aggressive pump and treat needs to be a key component of any remedy selection. Protection of the Colorado River is primary.

I2-114

Sequence number: 3

Author:

Subject: Comment on Text

Date: 7/7/2010 4:07:59 PM

T This is not an effective alternative when areas of the site do not have adequate and continuous subsurface conditions that can allow this to happen. Further with the passage of time, subsurface conditions may change altering ability of naturally occurring degradation. As stated above, DTSC recognizes the variable nature of subsurface geological. Therefore, this is not a reasonable alternative.

I2-115

Sequence number: 4

Author:

Subject: Underline

Date: 7/7/2010 4:20:42 PM

T

Sequence number: 5

Author:

Subject: Comment on Text

Date: 7/7/2010 4:20:29 PM

T Where will this land use restriction extend to? Will restrictions be placed on wells in Arizona that may wish to pump a higher levels or rates directly adjacent to the Colorado River and deep in the aquifer? Will restrictions be placed on pumping rates? Will I be able to pump 1,000 gallons per minute at Topock Marina? or at a house someone builds adjacent to the Colorado River? Will Park Moabi be limited an the amount of water that they can pump?

I2-116

Sequence number: 6

Author:

Subject: Comment on Text

Date: 7/7/2010 4:08:07 PM

T Will dredging of all portions of the Colorado River be allowed? the Topock Marina ?

Will fishing be restricted in the Colorado River adjacent to the site? Will recreational activities be limited in the Colorado River?

Will native plants be allowed to be collected by Tribal members in the area of the contamination?

I2-117

monitored natural attenuation with recommendations for improvement. The report examines such questions as: Are the media cleanup objectives and remedy performance standards being achieved? How well are things working? Are contaminant concentrations levels trending downward? What improvements are necessary and how will they be implemented?

Financial Assurance for The Remedy

Financial Assurance is required for monitoring, construction, operation and maintenance of any selected remedy. PG&E will be required to comply with the financial responsibility requirements pursuant to California Health and Safety Code Section 25245 to assure that the required remediation work will be completed now and into the future. PG&E must satisfy the financial responsibility requirement within a reasonable period of time as determined by DTSC after selection of the Preferred Alternative. The initial funding level shall be based on the conceptual cost estimate for the alternative as set forth in the CMS/FS. The funding level for financial assurance mechanism will be adjusted to reflect the costs estimate to be revised as part of the final remedy design and updated annually.

Based on the information currently available, DTSC believes the Preferred Alternative (Alternative E with the addition of monitored natural attenuation) meets the threshold criteria and best addresses the balancing criteria/ remedy selection decision factors. DTSC has also identified several mitigation measures during the preparation of the draft EIR pursuant to CEQA requirements. These mitigation measures are considered a part of the action required for the implementation of the Preferred Alternative (see the draft EIR for the listing of the mitigation measures). DTSC expects the groundwater Preferred Alternative as defined above to satisfy all requirements of a final groundwater remedy as required under the RCRA Corrective Action program and will satisfy the requirements in accordance with the 1996 Corrective Action Consent Agreement with PG&E.

COMMUNITY PARTICIPATION

DTSC, in conjunction with DOI, is providing information regarding the cleanup of the PG&E Topock Site to the public through open house/public hearings sessions, the Administrative Record file in the public information repositories for the Site, and announcements published in several local community area newspapers prior to the start of the Public Comment Period. (Listed on page 17) DTSC and DOI encourage the public to gain a more comprehensive understanding of the Site and the investigation and cleanup activities that have been and will be conducted at the Site. DTSC, in consultation with DOI, may modify the Preferred Alternative or select another remedial alternative presented in this draft Statement of Basis upon evaluation of new information and/or comments received during the public comment period. Therefore, the public is encouraged to review and comment on all alternatives presented in this draft Statement of Basis and its associated draft EIR.

The dates for the public comment period and the location, dates and time of the open houses and hearing sessions are provided on the front page of this draft Statement of Basis. The locations of the public repositories for the Administrative Record file can be found on the last page of this document.

For further information on the PG&E Topock cleanup and to submit written comments during the public comment period, please contact:

Mr. Aaron Yue
Project Manager
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630
Email: ayue@dtsc.ca.gov
Fax: 714.484.5439

Sequence number: 1

Author:

Subject: Comment on Text

Date: 7/7/2010 4:10:27 PM

TPG&E has demonstrated through previous filing for bankruptcy that they are not capable of providing a reliable and consistent mechanism of financial assurance for any remedy solution. When did PG&E previously file for bankruptcy? Further PG&E has more recently demonstrated that they can not be trusted to completely pay all outstanding invoices that were approved by the CRIT Tribal Counsel and sent to PG&E for payment for work that was both appropriate and reasonably conducted by CRIT environmental consultants (Envirometrix Corporation) working on behalf of CRIT. This is direct evidence how PG&E failed to honor their financial responsibilities when it is not convenient for PG&E as they would rather use what means are available to limit, reduce, and marginalize participation and actions in order to manipulate and control the process and outcome for their direct benefit. This documented evidence demonstrates PG&E lack of financial commitment, responsibility, honor, and fair play. Further PG&E has been responsible for extreme slow payments (delays of more that one year) and purposeful delays, disregard, and responsibility to pay all portions of invoices approved by CRIT Tribal council for appropriate work activities conducted by environmental consultants on behalf of the Tribes for this project. Therefore, in order to protect the people of the State of California and Arizona in addition to all Tribal entities, the full and complete amount of any remediation must be secured and required to be placed into a restricted escrow fund and an appropriate fund balance be maintained at all times. It is also request that DTSC create and appoint a citizen advisory oversight committee for oversight of these funds and to ensure that PG&E maintains an adequate fund balance for all proposed work activities. Based on historical practices PG&E can not be allowed to simply state through a written financial statement that they will have the funds to complete the work. In addition, prior to approving any remedy, DTSC and DOI must require that PG&E place these funds in an escrow account before any approval is provided.

I2-118

Sequence number: 2

Author:

Subject: Comment on Text

Date: 7/7/2010 4:08:46 PM

TThis is a non working fax number. We have been attempting to fax requests to this number regarding request for interpreters to be present at the public meetings. However, attempts to do so were initially. Further the fax number for the public participation office obtained from the DTSC Web site is also a non-working fax when attempting to fax after hours. Due to these facts, DTSC has restricted and limited our ability submit requests and provide comments and feedback. Therefore, the public comment period must be re-noticed with the correct information that identifies the correct fax numbers to allow communication and allow the requested interpreters to be present at the requested meetings. This is a significant defect in the process and should be remedied as not to exclude participation at the meetings.

I1-119

DOI ANNOUNCES PROPOSED PLAN

INTRODUCTION

This Proposed Plan is being issued by the United States Department of the Interior ("DOI") on behalf of itself and DOI's Bureau of Land Management ("BLM"), U.S. Fish and Wildlife Service ("FWS"), and Bureau of Reclamation ("Reclamation"). This Proposed Plan identifies the Preferred Alternative among the remedial action alternatives evaluated for cleaning up groundwater contaminated by past waste disposal practices at the Pacific Gas and Electric Company ("PG&E") Topock Compressor Station ("the Site") located near Needles, California.

This Proposed Plan is being issued by DOI as the lead agency responsible for activities conducted under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") addressing areas contaminated by the release of hazardous substances at the Site. DOI is coordinating the selection of a final remedial action alternative with the California Department of Toxic Substances Control ("DTSC"). DTSC will be selecting corrective action to address groundwater contamination pursuant to authority under State Hazardous Waste authorities and the Resource Conservation and Recovery Act ("RCRA").

DOI is issuing this Proposed Plan as part of its public participation responsibilities under Section 117 of CERCLA and Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP").

DOI, in consultation with DTSC, may modify the Preferred Alternative or select another remedial alternative presented in the Proposed Plan based on new information or public comments. Therefore, the public is encouraged

to review and comment on all alternatives presented in this Proposed Plan.

PUBLIC COMMENT PERIOD:

June 4, 2010 to July 19, 2010

DOI will accept written comments on the Proposed Plan during the public comment period. You may submit your comments to:

Pamela S. Innis
Topock Project Manager
U.S. Department of Interior - OEPC
P.O. Box 25007 (D-108)
Denver, CO 80225-0007
E-mail: Pamela_Innis@ios.doi.gov

You are invited to meetings to hear about the Proposed Plan for cleaning up groundwater at the PG&E Topock Site. Written and oral comments will also be accepted at these meetings. The meetings will be held at:

PUBLIC MEETINGS/PUBLIC HEARINGS

June 22, 2010	Parker, AZ
June 23, 2010	Lake Havasu, CA
June 29, 2010	Needles, CA
June 30, 2010	Golden Shores, AZ

For more information, see the Administrative Record at the following location:

Bureau of Land Management
Lake Havasu Field Office
2610 Sweetwater Avenue
Lake Havasu City, AZ
(928) 505-1200
Hours: Monday – Friday
8 a.m. to 4:30 p.m.

Or you may access the DTSC Website at:
<http://www.dtsc-topock.com>
Look under "Document Library".

**Letter
I2
Response**

Michael Tsosie
July 21, 2010

- I2-1 The commenter requests a 30-day extension of the DEIR comment period. According to the California Code of Regulations (CCR) Section 15105(a), (the CEQA Guidelines) the public review period for a DEIR should be not be less than 30 days or no longer than 60 days except in unusual circumstances. The Topock DEIR and draft Statement of Basis were circulated for a 45-day review period from June 4 to July 19, 2010. The commenter did not, in this comment, provide justification for the extension request. DTSC, therefore, did not find sufficient justification to warrant additional time for public review and comment on the proposed remedy or the DEIR. Without specific and justifiable cause, the commenter's request for an extension of an additional thirty days is denied. DTSC also received a 30 days extension request from the Mohave Elders at the CRIT during the comment period on the grounds of inadequate opportunities for involvement by the elders and absence of a Mohave interpreter at the public hearings. DTSC did not find sufficient cause for an extension after reviewing the rationale provided. DTSC responded to the Mohave Elders in a letter on July 19, 2010.
- I2-2 The attached formal comments and questions on the draft Statement of Basis, the groundwater Proposed Plan, and the DEIR the commenter refers to are duplicates of the I1 comment letter attachments.
- I2-3 Please see the response to comment I1-62.
- I2-4 through I2-62 Please see the responses to comments I1-4 through I1-62.
- I2-63 DTSC did receive a request from Ms. Maryetta Patch on June 9, 2010, for a Mojave interpreter for the Open House and Public Hearings scheduled on June 22 and June 23 at Parker and Lake Havasu City, respectively. In response, DTSC actively sought an interpreter speaking the local native language and offered compensation for such services through both the CRIT Office of the Attorney General and the project manager for the FMIT. Unfortunately neither tribe was successful in assisting DTSC with providing an interpreter.
- Beyond the traditional notification of the general public via advertisement in the local newspaper, radio and cable television broadcast, distribution of fact sheets, internal postings, the www.dtsc-topock.com website; and placement of posters and flyers at various locations around the community. DTSC, in a letter dated March 26, 2010, to Mr. Eric Shepard and copied to Chairman Eldred Enas and several other members of the CRIT council, offered to provide a verbal advance preview of the proposed cleanup plan during the period of April 12–16, 2010. DTSC also provided an advanced review of the proposed Statement of Basis and DEIR during the period of April 27, 2010, to June 3, 2010, with invitation for a briefing to the CRIT during this period. DTSC did not receive any request in response to its offer. DTSC does not agree that any particular interested group was deliberately excluded from this process. This was explained in a letter to Ms. Daphne Hill-Poolaw, Chairperson to Mojave Elders Committee dated July 19, 2010.
- I2-64 through I2-119 Please see the responses to comments I1-64 through I1-119.

NAME Angie Alvarado
ADDRESS 2600 Neelge Dr
CITY/STATE/ZIP/COUNTRY Mohave Valley, AZ 86440
EMAIL angiealvarado@attrogave.com
☐ Please add me to the mailing list



NO POSTAGE
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IN THE
UNITED STATES

Letter
I3



ATTN AARON YUE
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
5796 CORPORATE AVE
CYPRESS CA 90630-9938



TOPOCK COMPRESSOR STATION GROUNDWATER REMEDIATION PROJECT
Draft Statement of Basis, Draft Environmental Impact
Report (EIR) and Proposed Plan

The California Department of Toxic Substances Control (DTSC) and the Department of Interior (DOI) are gathering input on the draft Statement of Basis, draft EIR, and Proposed Plan. Please use this card to submit comments on these draft documents during the 45-day comment period from June 4 to July 19, 2010. This card can be directly mailed to DTSC. Send additional comments on the draft documents, with the subject line "Topock EIR Comment(s)," postmarked/dated no later than July 19, 2010, to: Aaron Yue, Project Manager, DTSC, 5796 Corporate Avenue, Cypress, CA 90630; email: Ayue@dtsc.ca.gov; Fax: 714-484-5411

COMMENTS

STOP what you are doing and let Mother Nature take its course. PG&E has already
destroyed and is continuing to destroy what is sacred to our Mojave Tribe and our
family of other Tribes. This whole area is meaningful and sacred to our people and will
be forever until we are no more. It has been told to higher levels of government
officials and agencies over and over again. Why is more construction being built in
this area like the Naked Beach when you're tellin us this and that needs to be done.
Is it to protect their assets and forget about the Tribes values. The natural resources
of the whole area include landforms, geology, biology, and the inprints of AHAMAKAV
who interacted with the environment.

I3-1

I3-1

The commenter would like the construction in the project area to stop and asserts that the land is sacred to the FMIT. This comment is acknowledged and DTSC has determined that the Topock Cultural Area is an historical resource under CEQA (see Section 4.4.3.1, "Analysis Methodology" of the DEIR) that would be affected by the proposed project and other projects in the vicinity (see Sections 4.4.3.3 [Impact CUL-1] and 6.4.4 of the DEIR). Natural attenuation has been considered as an alternative in the EIR; however, due to the length of time it would require to attain the remedial action objectives, Monitored Natural Attenuation was rejected as the stand alone technology for remediation of the groundwater plume. DTSC, however, sees the merit of the technology as a component of the remedy and did include it to supplement the remedial alternative described by PG&E. As such, the comment does not otherwise address the environmental analysis provided in the DEIR; therefore, no further response is necessary.

Letter
14

NAME Diane L. Montoya
ADDRESS 1409 Smokestack Dr
CITY/STATE/ZIP CODE Needles, CA, 92363
EMAIL _____
☒ Please add me to the mailing list

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO 2384 CYPRESS CA
POSTAGE WILL BE PAID BY ADDRESSEE

ATTN AARON YUE
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
5796 CORPORATE AVE
CYPRESS CA 90630-9938

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IF MAILED
IN THE
UNITED STATES

Dictated
to court
reporter

Draft Statement of Basis, Draft Environmental Impact Report (EIR) and Proposed Plan

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COMMENTS

My name is Diane Montoya, of the Ft. Mojave Tribe. I am of the strong opinion that the best option is Natural Attenuation, as this is in the best interest of all land & life in the Topock area. Natural Attenuation is the least destructive remedy, ~~giving over~~ affording our sacred home lands and all living things in the area the opportunity to heal. There has already been considerable disruption, destruction and man-made abuses incurred. Let us respect our Mother Earth, by not causing further desecration.

14-1

**Letter
I4
Response**

Diane Montoya
June 29, 2010

- I4-1 Please see the response to comment I3-1 above. The commenter favors Natural Attenuation as the preferred remedy. DTSC has considered Alternative B (Monitored Natural Attenuation) in this DEIR and has included natural attenuation as a component of the remedy (see I3-1). The comment does not raise any issues with the environmental analysis provided in the DEIR. No further response is necessary.

NAME Marla Jenkins
ADDRESS 1700 Barrackman
CITY/STATE/ZIP CODE Needles Ca 92363
EMAIL Marla.Jenkins@ymail.com
☐ Please add me to the mailing list

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BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 2384 CYPRESS, CA
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ATTN: AARON YUE
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
5796 CORPORATE AVE
CYPRESS CA 90630-9938

TOPOCK COMPRESSOR STATION GROUNDWATER REMEDIATION PROJECT
Draft Statement of Basis, Draft Environmental Impact
Report (EIR) and Proposed Plan

The California Department of Toxic Substances Control (DTSC) and the Department of Interior (DOI) are gathering input on the draft Statement of Basis, draft EIR, and Proposed Plan. Please use this card to submit comments on these draft documents during the 45-day comment period from June 4 to July 19, 2010. This card can be directly mailed to DTSC. Send additional comments on the draft documents, with the subject line "Topock EIR Comment(s)," postmarked/dated no later than July 19, 2010, to Aaron Yee, Project Manager, DTSC, 5796 Corporate Avenue, Cypress, CA 90630; email: Ayee@dtsc.ca.gov; Fax: 714-484-5411

COMMENTS

DTSC + DOI
 Topock EIR- why can't you just let
 Mother Nature take it course to take care
 of plume where areas are contaminated and once
 you start a project seems like all the government
 likes to do is ease there way by being secret
 and dishonesty to say over the years we want
 be hurt by the actions you do to the land & water
 to us Native Americans it's "Sacred" land & water is
 our we we have knowledge of who we are today
 because of our ancestors, sooo yrs ago leave the
 land & water alone you have no respect for it it will
 not respect you you will see. Anna Macay
 DTSC member

IS-1

**Letter
I5
Response**

Marla Jenkins
June 29, 2010

- I5-1 The commenter addresses the fact that the land and water in the project area are sacred to Native Americans. Please see the responses to comments I3-1 and I4-1.

Letter
I6

NAME PAUL JACKSON JR.
ADDRESS 1900 RACE ST.
CITY/STATE/ZIP CODE NEEDLES, CA, 92363
EMAIL MOONIE@TMOJAVE.COM
☒ Please add me to the mailing list

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO 2384 CYPRESS CA
POSTAGE WILL BE PAID BY ADDRESSEE

ATTN AARON YUE
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
5796 CORPORATE AVE
CYPRESS CA 90630-9938

Report (EIR) and Proposed Plan

The California Department of Toxic Substances Control (DTSC) and the Department of Interior (DOI) are gathering input on the draft Statement of Basis, draft EIR, and Proposed Plan. Please use this card to submit comments on these draft documents during the 45-day comment period from June 4 to July 19, 2010. This card can be directly mailed to DTSC. Send additional comments on the draft documents, with the subject line: "Topock EIR Comment(s)," postmarked/dated no later than July 19, 2010, to: Aaron Yue, Project Manager, DTSC, 5796 Corporate Avenue, Cypress, CA 90630; email: Ayue@dtsc.ca.gov; Fax: 714-484-5411

COMMENTS

IN TIMES PAST WE ALWAYS HAD PLENTY, OUR CHILDREN NEVER CRIED FROM HUNGER, NEITHER WERE OUR PEOPLE IN WANT. THE RAPIDS OF THE COLORADO RIVER FURNISHED US WITH ABUNDANCE OF EXCELLENT FISH, AND THE LAND BEING FERTILE, NEVER FAILED TO PRODUCE GOOD CROPS OF CORN, MESQUITE BEANS, PUMPKINS, MELONS AND SQUASHES. OUR VILLAGES WERE BUILT AND REBUILT IN THE VALLEY FOR THOUSANDS OF YEARS, DURING ALL OF WHICH TIME WE WERE THE UNDISPUTED POSSESSORS OF THE MOJAVE VALLEY. NOW ALL HAS CHANGED, TO US OUR CREMATION GROUNDS ARE SACRED THE ASHES OF OUR ANCESTORS ARE SACRED AND THEIR RESTING PLACE IS HAUNTED GROUND. IF A PROPHET HAD COME TO OUR VILLAGES IN THOSE DAYS AND TOLD US THAT THE THINGS WERE TO TAKE PLACE LIKE THE BUILDING OF RAILROADS, HIGHWAYS AND HUNDREDS OF WELLS WHICH HAVE SINCE COME TO PASS, NONE OF OUR PEOPLE WOULD HAVE BELIEVED HIM.

16-1

**Letter
I6
Response**

Paul Jackson
June 29, 2010

- I6-1 The commenter's description of times past and cultural beliefs are noted and have been considered by DTSC. Please see the responses to comments I3-1 and I4-1.

PUBLIC HEARING TESTIMONY

June 29, 2010

Mr. Aaron Yue
DTSC Project Manager
5796 Corporate Avenue
Cypress, CA 90630

RE: Topock EIR Comments
Topock Compressor Station Groundwater Remediation Project

Dear Mr. Yue:

I am writing to comment on the Draft Statement of Basis and the Draft EIR and Proposed Plan currently open for public comment.

I am a member of the Fort Mojave Indian Tribe and reside on the Fort Mojave Indian Reservation located in Needles, California and/or Mohave Valley, Arizona. I have been made aware of the ongoing actions at the Topock Compressor Station through various Community Meetings held in conjunction with this project and have been diligently following DTSC/DOI actions relative to this remediation action proposed within our Sacred Site homelands and landscape area we know as Topock.

17-1

I have been part of the Tribal Community team who has offered comments at meetings with DTSC/DOI/BLM and PG&E, attended scoping meetings where I offered testimony to DTSC/PG&E personnel on the Cultural and practice of the Fort Mojave Indian Tribe religious beliefs and the impacts that have occurred past, current and now into the future as proposed within the draft SOB, draft EIR and Proposed plan which will continue to impose on my practice of my religion and continue the desecration of our Sacred lands located within the APE where this proposed alternative E will occur.

I cannot begin to tell you of the devastation I feel when I contemplate such actions as those that are being proposed to this sacred area. My only response is the heart felt hurt, pain and anguish I feel to my spirit as I know how this applies to my religious beliefs and what that area represents to me when I leave this earthly existence. My knowing of what happens to the deceased when they pass from this world to the next is my greatest pain, knowing if they will safely and without any impediments make it to the other side, is my greatest worry for my people, that my actions listed as the alternatives means more impacts/adverse effects of the past, current and future PG&E projects in the way of pipelines, compressor stations, pollution, 170 new wells in addition to the 150 that are currently in the ground and remediation i.e., IM-1, IM-2, IM-3, Arizona Well, AOC-4, East Ravine, the list goes on and on and we haven't even addressed the Soils yet. Those mitigation issues will also need to be addressed when they occur.

17-2

17-3

The Cumulative "added together" effects of those remediation and operations along with other past projects in the area, National Trails Highway, Route 66, I-40 Freeway, Bridges, Railroad, gas transmission lines, electric lines, utility corridors and current projects unmanaged recreation, ORV, Park Moabi, Naked Pirate Beach/Grill just add to the impacts on our culture and practice of the Fort Mojave Tribe.


17-4

I Feel as a member of the FMIT who is first hand suffering and will continue to suffer the impacts/adverse effects on our cultural environment that PC&E and DTSC must do something more than what's in the draft EIR, recommending the standard mitigation measures as outlined is unacceptable and does not address our specific cultural concerns. We therefore ask that specific mitigation measures be addressed and negotiated with the Fort Mojave Indian Tribe as a means to ensure a better future for the culture and practice of the Fort Mojave Indian Tribe as part of its Draft EIR and project approval.

17-5

The Fort Mojave Indian Community (1200 tribal members) will not accept anything less than that in exchange for accepting and having to live with the revised Alternative E, and alternative that will cause additional adverse effects and irreversible damage for over 30-100 years to our Native American Community who is the closest and most impacted individuals effected by this man-made disaster. This gross oversight/alack of proper Cultural mitigation in essence is an Environmental Justice issue that needs to be looked into as part of this DEIR process if not properly addressed and mitigated.

Sincerely,


Charlotte Knox
Full Blood Aha Macav

**Letter
17
Response**

Charlotte Knox
July 29, 2010

- I7-1 DTSC recognizes and appreciates the commenter's input in the public participation process. DTSC thanks the commenter for confirming that the process did allow her to follow this project and provide input during community meetings. The comment does not raise any issues with the environmental analysis provided in the DEIR. No further response is necessary.
- I7-2 The commenter addresses the fact that the land and water in the project area are sacred to Native Americans. Please see the responses to comments I3-1 and I4-1.
- I7-3 Please see the response to comment I1-21.
- I7-4 Please see Chapter 6, "Cumulative Impacts," of the DEIR, which discloses the potential for cumulative impacts associated with the groundwater remediation project. No further response is necessary.
- I7-5 Additional outreach and communication has taken place with the tribes in response to this and other similar comments. Additional mitigation measures that are more culturally appropriate and fairly address tribal cultural concerns have been added. These additions can be found beginning in Section 4.4.3.3 in Volume 2 of the FEIR.

NAME De Shazer
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CITY/STATE/ZIP CODE Topock AZ 86436
EMAIL kkdeshazer@yahoo.com
☐ Please add me to the mailing list

NO POSTAGE
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IF MAILED
IN THE
UNITED STATES

Letter
18



ATTN AARON YUE
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
5796 CORPORATE AVE
CYPRESS CA 90630-9938



TOPOCK COMPRESSOR STATION GROUNDWATER REMEDIATION PROJECT
Draft Statement of Basis, Draft Environmental Impact
Report (EIR) and Proposed Plan

The California Department of Toxic Substances Control (DTSC) and the Department of Interior (DOI) are gathering input on the draft Statement of Basis, draft EIR, and Proposed Plan. Please use this card to submit comments on these draft documents during the 45-day comment period from June 4 to July 19, 2010. This card can be directly mailed to DTSC. Send additional comments on the draft documents, with the subject line "Topock EIR Comment(s)," postmarked/dated no later than July 19, 2010, to: Aaron Yue, Project Manager, DTSC, 5796 Corporate Avenue, Cypress, CA 90630; email: Ayue@dtsc.ca.gov; Fax: 714-484-5411

COMMENTS

Potential 500 gal./of water per minute to recycle the plume should not come from freshwater wells in Arizona. These private wells could go dry. Other wells even further away but on the same aquifer could have their water tables diminished. How will these private citizens be compensated for their loss of water + irrigation potential? Who will compensate them when they can no longer live on their land?

18-1

I8-1

The DEIR evaluation of water supply in Section 4.12 is based on estimated consumptive use of water associated with construction and operation of the proposed project, the existing water supply available, and actions needed to provide water supply that potentially lead to physical environment effects (see introductory text to Section 4.12 of the DEIR). The DEIR water supply evaluation is based on PG&E technical data and groundwater modeling conducted for the Final CMS/FS. The groundwater modeling conducted for the Final CMS/FS was at a conceptual-design level for the purpose of comparing CMS alternatives. As such, the modeling was based on approximate locations for extraction and injection wells and assumed screened intervals based on average hydrogeologic information.

Table 3-2 presents Arizona wells in the general vicinity of the proposed location for the Alternative E extraction wells, near existing freshwater wells Topock-2A and Topock-3. The modeled drawdown for each of these wells is provided, along with distance from the extraction wells and modeled aquifer thickness at each well. For El Paso Natural Gas (EPNG) wells, the aquifer thickness is considered a rough estimate based on regional geology. Well logs for the EPNG wells do not provide sufficient detail to determine whether or not bedrock was encountered. To be conservative, the EPNG wells were assumed to be screened in low-permeability material, which causes the modeled drawdown to be larger than if the wells were screened in a moderate or higher permeability material. As shown in Table 3-2, the modeled drawdown is well below the estimated aquifer thickness in all cases and would not, with mitigation, result in a substantial depletion of groundwater supplies such that a net deficit in aquifer volume or a lowering of the groundwater table level would occur; thereby ensuring that the production rate of preexisting nearby wells would not drop to a level that would not support existing land uses or planned uses for which permits have been granted. These results, which predict that the existing wells are not adversely affected by the freshwater extraction component of Alternative E, are consistent with the requirements of Mitigation Measure WATER-1. Additional modeling would be performed during the design phase as described below.

Table 3-2 Modeled Drawdown for Alternative E Extraction in Wells Topock-2A and Topock-3			
Well	Distance from Nearest Arizona Extraction Well (Topock-2A or Topock-3) (feet)	Drawdown Caused by Alternative E Extraction (feet)	Modeled Thickness of alluvial Aquifer (feet) at Well Location
Sanders	2,175	2.92	104
Smith	2,966	0.38	18
EPNG-5	1,567	6.36	51
EPNG-4	1,825	5.93	34
GSRV-2	8,892	0.94	1,368
Note: Alternative E calls for 500 gallons per minute (gpm) extraction in Topock-2A and -3 in addition to approximately the average gpm already extracted by these wells, for a total of 273 gpm each.			

The current model predicts that pumping in any location would not substantially deplete the alluvial aquifer. For the wells with unknown screen intervals, it is possible (though not likely) that the groundwater level may drop below the screen interval, requiring extending the well to a deeper level. Further study or testing may be required during the final design phase, when well locations are determined, to provide more accurate estimates of drawdown in neighboring wells. Furthermore, it should be noted that the selected alternative would undergo a much more detailed analysis during the final project design phase to evaluate the proposed pumping rates, the potential cone of depression, and the extraction effect on any nearby existing wells (see Section 4.12.3.3 of the DEIR [Mitigation Measure WATER-1]). This additional analysis, conducted under Mitigation Measure WATER-1 of the DEIR, would allow pumping and injection rates to be adjusted to appropriate levels consistent with local aquifer properties so that the extraction does not substantially adversely affect the production rates of nearby existing wells.

July 19, 2010

Mr. Aaron Yue, Project Manager
State of California
Department of Toxic Substance Control
5796 Corporate Avenue
Cypress, CA 90630

Dear Mr. Yue:

As a Mohave tribal member at CRIT, I am submitting formal comments on the following documents relating to the proposed remediation of the PG&E Topock Compressor Station chromium contamination. I have highlighted certain sections and made additional comments on certain topics which are attached in whole for your review and consideration.

19-1

1. Draft Statement of Basis
2. Groundwater Proposed Plan
3. Draft Environmental Impact Report

At a recent meeting I heard many issues presented regarding Topock that cause me great concern. Some of the best minds at CRIT have been working on this issue and the attached comments and questions are ones that I believe need to be addressed in full before any final decision is made. I also want to request a 30 day extension being made by the Mohave Tribal Elders at CRIT. I concur with this request. I was very surprised that very little information has gone out to the membership here and at Fort Mohave. As a younger tribal member away at school I was never provided any information regarding your final efforts to make a decision on this project. One thing is clear, there are so many unanswered questions and I am also greatly concerned that PG&E has had an obscenely large role in affecting the ability of the Mohave tribes to comment and fully participate in this process. Specifically I am greatly concerned that there may have been undue influence exerted on the internal decision making process by paid tribal council members and staff who have an inherent conflict of interest in receiving payment from PG&E while representing our tribal interest in this process. It is a fact that the cultural information you need is not anywhere being fully considered as it needs to be. I believe additional study, consultation, and more full community discussion are needed before any final remedy is put in place. I understand that much has changed in the process and none of it to the benefit of me or my tribe. Especially when the chromium contamination will not be removed and instead a gradual release of the chromium will be allowed in the river and surrounding area. If you need to contact me, you may reach me at 623-242-4426.

19-2

19-3

Jayde Johnson
co Santa Clara University,
Santa Clara California

- I9-1 The attached formal comments and questions on the draft Statement of Basis, the groundwater Proposed Plan, and the DEIR the commenter refers to are duplicates of the I1 and I2 comment letter attachments. Please see the responses to comments I2-4 through I2-119.
- I9-2 Input from cultural resource representatives for CRIT have been included in the DEIR. This information has been considered throughout the analysis of direct, indirect, and cumulative impacts. Please see Section 4.4.1.3 of the DEIR.
- Please see the response to comment I2-1. The commenter's request for an additional 30 days was denied.
- I9-3 The Topock DEIR was circulated for a 45-day review period from June 4 to July 19, 2010. All comments received during the comment period, both written and oral, are incorporated and responded to in this FEIR. Information about the project has been repeatedly provided to CRIT and FMIT during regularly scheduled Consultative Working Group meetings (typically occurring four times a year); individual meetings between PG&E, DTSC, DOI, and tribal leadership that have occurred regularly during the process. In addition DTSC has held periodic meetings with tribal members throughout the process. Please refer to the Tribal Communication Summary (Appendix TRI). Additionally, information about the project has been presented at public forums throughout the region. (See Section 2.4.2 of the DEIR for a reference to the public outreach summary.) Finally, all project-related documents have been made available to the public through the official project website: www.dtsc-topock.com.
- The decision-making process, which is internal to DTSC and does not include the individual tribes, has not been compromised by tribal council members or staff. All tribal staff with whom DTSC or their consultants have spoken was identified by each tribe's respective tribal leadership. Concerning the request for additional cultural study and consultation, additional outreach and communication has taken place with the tribes in response to this and other similar comments. Please see the response to comment I7-1.
- The purpose of the final remedy is to prevent the release of Cr(VI) into the river and the surrounding area. A release of Cr(VI) into the river is not part of the proposed project and is antithetical to the stated purpose of the project. Please see the response to comment I1-1 with respect to citation of 11 µg/l in surface water as remedial action goal, and I1-100 regarding conversion of Cr(VI) to Cr(III).

Letter
PH1

Topock Compressor Station
Groundwater Remediation Project
Open House/Public Hearing

Taken on Tuesday, June 22, 2010
at Parker Community/Senior Center
Parker, Arizona

at 6:31 p.m.

MR. TSOSIE: Yes. Good evening. My name is Michael Tsosie, T-s-o-s-i-e. And I'm a tribal member here on the Colorado River Indian Reservation. I'm an enrolled member here. I grew up here in this community, and I live here.

PH1-1

This is something that has been an ongoing issue for many years that, not just myself, but many other people here share a great deal of concern regarding this process; and the outcome of it is of tremendous concern to our community.

In particular, some of the proposals and the information that's been collected and are now being considered to some extent seem unclear or incomplete to our understanding in the sense that we know and have information that may affect some of your deliberations regarding the appropriate remedy; but the mechanisms in which these things may have been collected or made available have not necessarily always been operational or in a manner in which things would have flowed too easily.

PH1-2

Part of this issue is that there's a
disconnect. Most of the interactions that the agencies

have had have been specific to the Tribal Government.
And the Tribal Government at this point in time in this
community, and the people of this community, there is a
disconnect in terms of communication and knowledge of
things that are going on.

Part of the evidence of what I'm trying to
explain to you is here; that the limited community
participation that's available here this evening is
representative of what I'm telling you.

In addition, there has been, to a certain
extent, an attitude of limiting the community input into
this matter.

When this project started out historically, we
weren't -- I'm not sure what happened, but Fort Mojave
was taking the lead on this project and, unfortunately,
Fort Mojave's concern regarding this project are minimal
in the sense that they are upstream from the
contamination.

The Chemehuevi Tribe in Lake Havasu is directly
below the contamination and, of course, we are right

PH1-2
con't

PH1-3

after them.

Our economy here on the reservation -- our way of life on the reservation is wholly dependent on water; and the surface water of the Colorado River is the primary resource that we have here.

PH1-3
cont.

One of our sources of wealth, but also, enormous component of our culture deals with this resource of water. It always has been.

And so when looking over the EIR, and now we have been assured for many years that there's no contamination in the river; and yet we see acceptable levels at 11 -- at 11.

So I guess the question is: When was that changed; and if there's a known detection in the river, why is it at 11? Why isn't it at zero, if there's no detection in the water? The same with the groundwater as well.

PH1-4

These are concerns and questions that, you know, the community has; and again, I want to stress the great importance of the water as a resource to us, that anything affecting that potentially ends our entire way of life here.

PH1-5

We have lived here from the beginning of time.
We have been here from day one. We've never moved.
We've never been elsewhere. We have occupied these
valleys along the river.

Our name means People by the River. What that
translates is those in the desert who live by the water
are the most powerful. You control the resource.

And that's still true to this day. This tribe

has the most significant water allocation of the Colorado
River and of any water I think in the entire country.

So the proposed remedy touches on many of those
factors; and part of the difficulty with things here is
that, unfortunately, our present government does not
comprehend the seriousness of anything to do with the
surface water as it comes down this way.

Our government has many individuals that are
not well educated. They are people that are not well
versed in these matters.

Unfortunately, the former Chairman that we had
was an expert in water, and there's no one presently on
the Council that has that level of expertise.

And so as the information has been flowing into

PH1-5
con't

the government here, it has largely gone by unnoticed. And so that is a huge concern for us as tribal members in terms of how our interest may be reflected in responses back to you.

PH1-5
con't.

One of the other issues that has come about in recent -- recently is there's been somewhat of an effective strategy to limit the ability of the tribe to respond to issues coming from this process, and in particular, initially several years ago, the tribe had a number of professionals that were able to respond to the comment -- I mean to the requirements of the project.

PH1-6

We had competent legal representation. We had special engineers and environmental consultants working with the tribe; and again, cultural professionals that were handling this.

What has occurred is a series of maneuvers so that at the present time, today, you have an unlicensed law clerk who's failed the bar exam three times. You have cultural experts with hardly a GED. And you have other people working on the project that have no qualifications whatsoever.

There has been a restaffing of monitors to go

from qualified individuals to convicted felons; so one begins to wonder what is the operational process going on internally that's affecting this type of an outcome.

PH1-6
con't.

One of the things that's been noted and is represented in the administrative record of the tribe, in particular, the minutes of the Administrative Committee and the minutes of the Tribal Council is that proponents of PG&E from Fort Mojave have been working quite assiduously with individuals in our government and, to a certain extent, these individuals have betrayed their trust with us in terms of looking at Fort Mojave interests over the interests of the people here on the Colorado River Indian Reservation.

This is a tremendous concern to us because the

PH1-7

loyalty of people here is to here; and as mentioned earlier, our concern is that we are below the contamination, whereas people at Fort Mojave have a different set of issues because they're above the contamination.

But these are the types of things that have been ongoing as well that I believe need to be mentioned because they are affecting the ability of our community

to represent our interest to you but also to be able to communicate the concerns that have been ongoing.

So as people review the record or the written record or the participation, hopefully to some extent this will explain some of the limitations that have been ongoing and continue now and that may affect some of your deliberations with that -- with that input.

With the cultural issues relevant to the project, one of the concerns that I will expect is that with the interim measures phase, there was a Memorandum of Understanding that was signed with the different parties.

However, since the signature went on that IM3, Memorandum of Understanding, almost none of the Memorandum of Understanding has come into play.

The things that were promised, the things that were supposed to be done, didn't get done.

PH1-7
con't

PH1-8

One of the things that we're well aware of too is with the agencies, the oversight agencies, that -- especially with the State, State seems to have limited ability to fund its employees and fund its mandates or its responsibilities, and so that is also a concern.

PH1-9

What is the guarantee that people here will have -- that the State will oversee things as they should in the future?

You know, with the recent oil spill in the Gulf, the federal government has insisted that a trust fund be set up to handle claims and to handle other issues in case the corporation goes bankrupt, in case something happens.

And yet with this serious situation, we have not seen anything like that as well; and one begins to have those concerns, especially in light of some of the things that were signed and agreed to and supposed to be carried out.

But one of the issues that we see is that there's a lack of institutional memory; that many of the issues handled with this project are related to individual tenure within the different agencies; and if those employees no longer are there or something changes -- there's a restaffing, there's a reorganization -- those memories get pushed to the side;

and it's, you know, the next crisis management that comes up.

PH1-9
con't.

PH1-10

So this is one of the issues that hopefully will be addressed is what are the long-term management strategies to handle this project now and in the future, because what we've seen so far is that it's very much this -- this situation where it's hit or miss, and especially if you're talking about the proposed remedies that will be going on for years and they're supposed to be monitoring, they're supposed to do this.

What will happen? We don't know. And certainly, that is a major component of what should be listed in any remedy that is stated.

The other concern -- and this question, I think, had been asked some time ago -- how did this land come to be used by PG&E? And it's stated in the EIR, I believe, that State of California leased it to PG&E.

And that raises another concern that as a responsible party, then how do you handle this conflict of interest then as a regulating agency if you're a responsible party?

But those are things that I'm sure that your attorneys will be able to respond to to some extent or should.

But I guess I raise that issue because the long

PH1-10
con't

PH1-11

history of American Indian Affairs of the United States is that, you know, with government agencies and government bureaucrats, it's always C.Y.A.

So we don't know, as a community, if that's part of what's going on, part of what's built into the remedy; it's just kind of covering up some of the things that are not too good to look at now.

But we certainly have -- The Tribe here by resolution has passed its -- made known its wishes that, you know, health and human safety is primary in our concern.

And I know a major component of what has been discussed by some of the other tribes; notably, Fort Mojave is that, you know, they have cultural concerns.

But their cultural concerns seem to be at the expense of our lives down here. And that's something that I hope that the agencies will consider is that our lives are more important.

We can't continue our cultural traditions. We can't live our traditions if we're dead. We can't risk birth defects.

We have a number of issues already affecting our population. Health issues. Serious issues. Diabetes. Contaminations with the water from other chemicals that are causing cancer and other types of diseases here.

PH1-11
cont.

PH1-12

So adding chromium to the mix is not a good thing for us.

So again, I am -- myself am concerned that any level of chromium that's allowed coming down has potential to just exacerbate already difficult problems that we have.

And as I mentioned earlier, there was a no-detect stated over and over again; and yet, as we look at the document here, it's 11 parts per million or 11 parts that are gonna be allowed. So that is an enormous concern.

The other issue, when we look at the remedy as well, is that you see, you know, other considerations. Well, for me it's always interesting to hear of other considerations because, you know, for us here, we want to live. We want to have a good life. We had a good quality of life.

Now something's happened which will affect that. And it's easy for people that don't have to drink the water; that don't have to bathe in it; that don't have to live in it. They don't have to live off the farm products or the fish or anything that comes from the water.

PH1-12
con't

PH1-13

PH1-14

Talk about these other mitigating issues. For us, what we understood here was that the contamination

was going to be removed.

That's not what's being proposed now. We're supposed to be living with the contamination. We're supposed to believe that this model of things -- and the way that I understand it, quite frankly, is more of a mental reassurance model than it is of an actual cleanup. An extraction of the contamination, taking it to some place else and letting that being treated. That it's just something that looks like it's working, but we won't actually know it. But theoretically, in a lab, it should work.

Well, for me, as a person here, that's a big risk. That's a big if.

And, again, you'll have to pardon me for invoking the long history of Indian/white relations in the United States. I just don't buy it. Because it just hasn't happened in the past.

Again, it comes to mind many promises and many things made in the 19th and 20th Century; and we were always at the short end of the stick.

PH1-14
con't.

PH1-15

And so here, when I hear this today, it gives me cause for great concern.

But despite these things, meaning perhaps a more scientific way, I will submit additional comments regarding the more specific issues related here.

PH1-15

But what I'm trying to convey to you tonight is that you're dealing with real people, real lives. We're people just like you. We have wives and husbands. We have children. We have grandchildren. We have generations that are not even born yet.

These are the people that we are thinking about. These are the things that we are concerned about. It's not right here right now just today. That's part of it. But we are like you. We are human beings. We want to enjoy life. We want to live a long time. We want to live in the way that we can live.

We were put here for a purpose. We live in a beautiful area. Maybe it looks not too beautiful to you, but for us, it's beautiful. It's our home.

Many of us, we've gone away to school. We had to work elsewhere; and, you know, it's almost a privilege that we get to come home because we're here.

PH1-16

We can be with our families and all that; and that's something that is worth fighting for. That's something that motivates us because that's what this is all about.

But when you're a bureaucrat sitting behind a desk, you got a checklist of things to do, you have pressures. You're being pressured to do this, to do that; and, you know, for -- for myself personally,

growing up, we were always reminded do the right thing. Don't worry about anything else. Do the right thing.

Even if you know or you think no one's looking at you, God knows what you do. You know what you do. You know the decisions that you make, and you have to live with yourself.

And one day you'll answer to somebody or something. Even if you're an atheist, it will come back to you some way.

But these are things that we hope people remember; that we hope people will think about because what you do is gonna determine what happens to us. Whether we live or die. Whether we continue or we end.

And we have the responsibility. We never

PH1-16
con't

thought that we would be living at the end of time. We think we are going to be going on forever.

But if something happens, that's it. Where we gonna go? What are we gonna do?

We have no place else to go. This is it. This is the end of the line for us.

We're lucky we're not like the other tribes that had to move thousands of miles, hundreds of miles or whatever. We've always been here. So we don't know where we'd go. Because this has always been our home.

But these are things that we would like you to

remember and to think about because many times, it does come down to well, it's gonna cost this much and well, you know, my boss is up my back about this and that.

But just remember that there are people here just like yourself. How would you feel if someone was doing something because it was convenient; if someone was doing something because well, that suits them but was not right for you? How would you feel? What would you think?

But remember people here, please. Remember this is all that we have. As poor as it is, this is all

PH1-16
con't.

that we have, and it means something to us.

PH1-16
con't

People at Fort Mojave are Mojave as well, but some of the things that have been coming forward to you are not in the way that is commonly understood.

And I'm going to make this comment that the understanding that has been portrayed to the various agencies at times is not the entire truth, and this also is a concern that there has been a lack of an ethnographic study that has -- that should or needs to be part of this process.

Because, in that sense, you would have full disclosure of the information that you need in order to make the appropriate decision.

The people that have been representing things

PH1-17

to you are a minority in the Tribe. They're a very small people of the Fort Mojave. It is not the commonly-held belief.

As someone trained in anthropology, I will tell you that it is noticeable and unmistakable that the people that are descendents from Topock have never been consulted by Fort Mojave regarding this project.

That here at CRIT -- And remember, Fort Mojave

and CRIT, we're almost one and the same, except legally, they have their reservation; we have our reservation.

They have their government; we have our government.

But we're all Mojaves. We intermarry. My family's from there. My great-grandfather was a Chairman at Fort Mojave, but I'm enrolled here. But we're all Mojaves.

And we go back and forth, intermarry back and forth, back and forth. But the people that have been telling you certain things, it is not necessarily so, and there's a greater understanding of these issues that you have to take into consideration that you just don't know yet.

But you would have this disclosed in an ethnographic study; and that is something that has been missing from the process, and so as I read the EIR and see that cultural considerations are coming into play,

you only have part of the picture and not the complete picture.

And again, as I mentioned, that people from the Topock area -- and they are known and they do identify it as being from Topock -- they can tell you what you need

PH1-17
con't

to know.

They're there. They're living. They're alive.

They'll share with you what you need to know.

But they have been definitively excluded from this process and from participation and from sharing what they know with you here so that it would have some relevance and may affect your deliberations.

The other issue, as I mentioned, is that, you know, with Mojave populations -- and again, there's sort of a disconnect -- is that for each of our reservations, only half the population is on reservation.

The majority of our population is off reservation. Those people have not had the ability to participate because there's a disconnect in terms of letting them know what's going on within that group.

Again, a large number of people from the Topock area are in that population that have yet to hear anything about this; that may have knowledge, that may be able to tell you something.

But these are things that I guess have been

portrayed; and it's common that people talk about Indians as faction; that, Oh, well, that group doesn't like that

PH1-17
con't

group; and it's -- it all comes out as rather petty.
This is not pettiness. This is -- What I'm telling you
is just how it is.

Some people may feel petty. But the one thing
that Mojaves do do is that they're truthful. They're
honest. You ask them a straight question, you're going
to get a straight answer. Not like other tribes where
they may, you know, gate keep a little bit, but they'll
tell you. But the trick is, ask the people that know.

And right now, it hasn't been a lot of asking
of the people that are knowledgeable about that
particular area. And so what's been represented to the
agencies is not fully disclosed. It's not complete.

And so when we see that within the EIR, it is
somewhat troubling and of concern as well.

So that's it. That's another issue.

I just want to thank you again and thank you
for coming to the community and making this information
available; and again, please remember that we are just
like you. We are human beings. We have the same
feelings. We have similar concerns, and that what you
do, we are going to have to live with. You won't, 'cause
you don't live here, but we will.

PH1-17
cont.

PH1-18

MR. SHOPAY: My name is Norman Shopay,
S-h-o-p-a-y. I'm here as a private citizen. I also --
as a land owner in the area.

One of the things that I noticed in going
through the public repositories was there's a lack of
some information that's available; so what I am asking is
a request to re-notice the public comment period; and at
such a time that all the documents are determined to be
readily available in the repository.

And I'll give one example from the draft
Statement of Basis on page 4. It references a document.
It says, "Detailed information concerning groundwater
contamination at the Site can be found in the 2009
Volume 2 RCRA" -- that's R-C-R-A -- "Facility

PH1-19

Investigation/Remedial Investigation, RFI/RI, Report, and the 2009 Volume 2 Addendum."

It states a few sentences down, that these and other documents are contained in the Administrative Record file in the public repositories for the Site, and it lists the locations on the -- on the -- on the last page of the document.

On Monday, I went to Lake Havasu library; I looked for these documents. That document I was not able to find.

Monday afternoon, I drove down to the Parker library; again, looked in the Parker library. The document wasn't there.

I then went to the CRIT library after that and still was not -- unable to find the document.

So the request is again that the public comment period be re-noticed so that all the documents are there and available for people to review.

It's also very difficult when you go to the library. There's a lot of CDs. There's not hard copies of all the information.

So for someone to go in there is very, very overwhelming to know what to review, when to review it,

PH1-19
con't.

PH1-20

or what's important and what isn't.

What would be helpful is that at each of the

repositories there was some type of meeting that you could walk people through looking at the documents and to kind of educate them, Here's the document. This is -- If you're looking for a particular document, here it is.

Because I've asked the librarians -- At first, I asked the librarian where these documents were. They had no idea. They said that they're over on a shelf someplace, and you would just go over and help yourself and look for the documents on the shelf.

So I do think it's important that documents are available during this process for review.

And I did not go through the full list in the reference section of the EIR. I would also hope that all those documents are there also, but I kind of got frustrated at going through this process that the documents weren't available, so I really wasn't able to do my review.

So, again, I'm requesting that the public comment period be re-noticed and given a sufficient amount of time for people to review documents.

PH1-20
con't.

PH1-21

- PH1-1 The comment notes the tribal affiliation of the speaker, but does not raise any issues with the environmental analysis provided in the DEIR. No further response is necessary.
- PH1-2 The commenter expresses a concern that there was a breakdown in communication between agencies, the Tribal Government, and members of the community. As noted in Section 2.3.4 of the DEIR, ample opportunities were provided for input on the proposed project and the environmental analysis during development of the DEIR by interested parties through the Notice of Preparation, scoping meetings, and meetings with tribal members in conjunction with the Native American Communication Program (NACP) noted in Section 4.4.1.3 of the DEIR. In addition, this session and the other three public hearings, as well as the 45-day public review and comment period have allowed further opportunities to participate in the process. The comment does not raise any specific concerns with the environmental analysis provided in the DEIR. No further response is necessary.
- PH1-3 The comment discusses the involvement of other tribes in the project area and the important role that the water of the Colorado River plays in the economy and culture of the Colorado River Indian Reservation. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH1-4 The comment references the remedial action level of 11 µg/l of Cr(VI) for the Colorado River at the project site. One of the main objectives of the proposed project is to prevent or minimize migration of Cr(T) and Cr(VI) in groundwater to ensure concentrations in surface waters do not exceed water quality standards that support the designated beneficial uses of the Colorado River (11 ppm; see Section 3.4 of the DEIR). Please also see Section 4.7, "Hydrology and Water Quality," of the DEIR for an analysis of hydrology and water quality, including groundwater. The impact assessment for hydrology and water quality is in Section 4.7.3.3. Impacts on hydrology and water quality were evaluated qualitatively by assessing proposed construction, operation and maintenance, and decommissioning activities for the project.
- PH1-5 The commenter stresses the long history of CRIT in the area and reiterates the importance of Colorado River water as a resource to this way of life. This comment is acknowledged by DTSC; however, it does not raise any issues with the environmental analysis provided in the DEIR. No further response is necessary.
- PH1-6 The commenter identifies challenges in the ability of CRIT to effectively provide input to the process relative to a prior period when the representation of CRIT's interests included lawyers, engineers, environmental consultants, and cultural professionals. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH1-7 The commenter is concerned that representatives from FMIT have placed their interests above interests of CRIT. The commenter's desire to have this observation taken into account during deliberations concerning the project is noted. DTSC has received and considered input from all interested parties, including other public agencies, tribal governments, members of the Native American community, and other members of the public. This information was provided in the

DEIR or is reflected in this FEIR as it relates to the environmental analysis conducted in compliance with CEQA and the CEQA Guidelines.

- PH1-8 It is the commenter's opinion that stipulations set forth in the IM-3 memorandum of understanding (MOU) have not come to fruition. The commenter's opinion is noted, but is not concurred with by DTSC. The comment does not raise any issues with the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH1-9 The commenter expresses concern with the ability of the California oversight agencies to fund and handle the implementation of its mandates. The commenter's concern is noted, but the State remains obligated to comply with applicable laws, rules and regulations, including those relevant to the proposed project. The comment does not raise any issues with the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH1-10 The commenter believes that there is a lack of institutional memory due to changes in staffing or reorganization in agencies that should be managing and monitoring implementation of the remediation process. The concern for monitoring of the long-term remediation process is mentioned specifically. The comment does not raise any issues with the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH1-11 Please see the response to comment I1-4.
- PH1-12 The commenter is apprehensive about the existing health and safety concerns of the CRIT coupled with possible exposure to chromium. This comment is noted. As explained in Sections 3.2 and 3.3 of the DEIR, DTSC has considered the human health and wellbeing of all people when selecting Alternative E as the most feasible and protective remediation approach.
- PH1-13 Please refer to the response to comment PH1-4.
- PH1-14 The commenter expresses concern with the effectiveness of the proposed remedy relative to health risks for those using the Colorado River. The purpose of the EIR is to evaluate a proposed project and its alternatives to ensure the environmentally superior alternative is selected. DTSC endeavors to protect human health and the environment without discrimination through our actions and Alternative E is considered the most feasible and protective remediation approach.
- PH1-15 The commenter feels Native Americans have not seen promises kept in the past and that this relationship may be continuing. Input from cultural resource representatives for the CRIT has been included in Section 4.4 of the DEIR. This information has been considered objectively throughout the analysis of direct, indirect, and cumulative impacts. Please see Section 4.4.1.3 of the DEIR.
- PH1-16 The comment about the importance of the situation to those who have long lived in the vicinity of the project is noted, but does not address the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH1-17 The commenter notes the inter-relationship between members of the CRIT and the FMIT, and that many Mojave peoples do not live on either reservation. The commenter also suggests that an ethnographic study would help clarify this situation. Ethnographic information on the FMIT and CRIT is presented in Section 4.4.1.1 of the DEIR, which notes the FMIT membership of both tribes. Please see the response to comment I1-32 regarding the ethnographic study.

- PH1-18 The comment is noted and acknowledged, but does not address the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH1-19 The commenter requests renoticing the public comment period to ensure all documents are available in the repository. The comment identifies Volume 2 of the 2009 RFI/RI and the 2009 Volume 2 addendum as not being available at the Lake Havasu library, Parker library, and CRIT library just before the public hearing. Volume 2 of the 2009 RFI/RI and the addendum were confirmed by DTSC to have been available at the following repositories on January 8, 2009, and October 29, 2009: Colorado River Indian Tribes Library, Golden Shores/Topock Station Library, Lake Havasu City Library, Parker Library, Chemehuevi Indian Reservation, Department of Toxic Substances Control, and Needles Library. In addition, the documents, along with the DTSC Draft Statement of Basis, were confirmed to have been available at the Parker Library, CRIT Library, and the Lake Havasu Library repositories on June 22 and 23, 2010. The commenter's request for renoticing is therefore denied.
- PH1-20 It is unfortunate that the commenter felt overwhelmed by the amount of information available on the CDs that contained the project documentation. The 45-day time period provided for public review of the DEIR (June 4, 2010 through July 19, 2010), which complies with CEQA Guidelines Section 15105(a). In addition, project information has been available to the public for several years in seven public repositories (refer to the previous comment), the Topock website, and project fact sheets.
- PH1-21 The commenter reiterates the request that the public comment period be renoticed. All of the public DEIR references were available at the following information repositories beginning on June 4, 2010: Colorado River Indian Tribes Library, Golden Shores/Topock Station Library, Lake Havasu City Library, Parker Library, Chemehuevi Indian Reservation, Department of Toxic Substances Control, and Needles Library. The Topock DEIR was circulated for a 45-day review period from June 4 to July 19, 2010. The commenter's request for an extension was therefore denied.

TOPOCK LAKE HAVASU 062310_Revised

Letter
PH2

Topock Compressor Station
Groundwater Remediation Project
Open House/Public Hearing

Taken on Wednesday, June 23, 2010
at Lake Havasu City Aquatic Center
Relics and Rods Hall
Lake Havasu City, Arizona

at 7:10 p.m.

Reported by: Sharon E. Bradley, CCR, RMR, CRR
Arizona CCR #50040/California CCR #4003/Nevada CCR #101

928-855-1366

TRI-STATE REPORTING, 2126 McCULLOCH BLVD., LAKE HAVASU, AZ

MS. PATCH: Thank you. My name is Marietta Patch. Last name is spelled P-a-t-c-h.

I'm an elder. I'm also an enrolled member of the Fort Mojave Indian Tribe.

This is my first opportunity to actually attend this public hearing or to attend any meeting concerning this important subject.

For some reason, we have not been -- As members of that tribe and elders we have not been privy to this

PH2-1

PH2-2

information. So whatever you're sending out I guess goes to the Tribal Administration, and that's where it ends.

So anyway, through the grapevine I kind of heard a little bit about this, so I did a little

PH2-2
con't.

research, and then I found out these public hearings were being conducted, so I traveled here for this particular hearing.

I do live off reservation, as do approximately half of the members of my tribe; and we do so for employment reasons.

And because we live off reservation, we don't really get a lot of information as to what's going on with the tribe.

I have heard a great deal about the -- this particular project that -- referred to as the Topock project.

But the Topock project -- Topock is really the Mojave word Tupac; and it comes from the days when they were putting in the railroad. And the workers that were used were Mojave men, and they would take their -- the instruments they use to -- to put the pipes down to lay the rails, so that's where the word comes from.

The others today know it as Topock, but it's Tupac.

I had asked for a translator today because there's some areas of this project that I'm not really

PH2-3

understanding. And I'm of particular interest in the project because ancestrally, my family comes from the Topock area. This is where they're from.

PH2-3
cont.

And so to see that this kind of contamination has been going on there all these years and to see how it's been affected now, you know, is kind of a sad thing to see. It really is.

I'm not sure you know, looking at what's being proposed here. For instance, you know, doing this, the State of California -- or PG&E doing certain things like in certain period of time, to me, it's too long.

Who's to say they're going to be around. They've already filed for bankruptcy once before. Who's to say they're going to be around in two years?

The State of California itself, you know, is also hard-pressed for cash. So are they really going to monitor this project? And to see something in perpetuity going on for 2,000 years, I don't see it myself.

PH2-4

I would like to see some definite period of time where whatever you start, you stop it at a certain time. Reasonable time.

And also, that the cleanup monies, that is actually put aside in some kind of a trust so we know it's there; that it will happen.

Otherwise, we'll be like this oil spill in the Gulf. You know. That's -- That's an example of some of

the things we see happening with contamination. It never is cleaned up.

PH2-4
con't

And for other people, it's not just the Fort Mojave Tribe, but it's also people who live south of there. Their water source stands to be contaminated.

I don't care what you say. It does happen. I've spent most of my life in public service; working with the federal government, state government, Tribal Government, and county government, you know.

I've been a County Supervisor in the adjoining county, La Paz County.

So I'm well aware of some of the issues that go on in the area; and, you know, water is a very, very limited resource. I don't care how you want to look at it. It's limited.

PH2-5

And the way buildings are being constructed and the way desert areas are being populated, there's no consideration for it.

And you talk about the possibility of this water being contaminated. It will happen. And to me, it's a real priority.

And I don't think what's being proposed here is actually realistic. I think it's a gloss. I think that whatever has been presented as whether it's been considered for cultural preservation for the Fort Mojave Tribe in that particular area, I'm not sure what is being

PH2-6

presented is really a true picture.

Because the two individuals there, Nora Garcia and Linda Lutero (phonetic), they represent the Tribes, but they're paid by PG&E. To me that's a big conflict of interest. That doesn't represent the Tribe.

Certainly didn't represent my interest when I was contacted as a member of that tribe and an elder that, Hey, we have this Tupac project. We want your input as an elder. We know your family is from that area. You have a history there.

And I can say this because I am a full-blooded Mojave. English is my second language. I understand the language. I speak the language. I live the culture. That is who I am.

And I'm not seeing this in anything that's being proposed as to how this is going to protect the Mojave people. It's just not there.

They're being referred to in all of this culturally, to preserve their culture; but it's like saying we're going to preserve the culture of Lake Havasu City.

It's like very westernized. So I'm not seeing where the distinction is. So for me, I have a lot of unanswered questions.

I am going to prepare a comprehensive document -- written document -- that will be submitted to

PH2-6
cont.

you prior to the deadline.

Thank you.

MS. BONTTY: Thank you, Miss Patch, for your comments.

The next speaker card that I have, Miss Barbara Thompson.

Miss Thompson, if you can please approach the microphone.

MS. THOMPSON: Hi. My name is Barbara Thompson. That's T-h-o-m-p-s-o-n.

And I really want to say that I see that there's been a lot of hard work and a lot of consideration being -- you know, that is put into these proposals.

Technically, I see no problem with it. It's a simple chemical process of remediation. You're turning something that's really bad to something that is, relatively speaking, manageable.

The chemistry of the process seems simple enough, and the implementation seems feasible; and I simply am here to applaud your efforts, and let's get it done.

PH2-6
cont.

PH2-7

- PH2-1 The commenter notes her affiliation with the FMIT. This comment is noted and acknowledged, but does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH2-2 The commenter believes information about the public hearing was not readily available to the members of the FMIT. As noted in Section 2.3.4 of the DEIR, public notices and outreach was conducted in association with the CEQA scoping process in 2008. More recently, a notice of completion for the DEIR was filed with the State Clearinghouse on May 12, 2010, and a notice of availability (NOA), including locations and times of public hearings on the proposed project, was made available to the public June 4, 2010, in accordance with CEQA Guidelines Sections 15085 and 15087. Copies of the NOA were provided and posted at the Colorado River Indian Tribes Library, Golden Shores/Topock Station Library, Lake Havasu City Library, Parker Library, Chemehuevi Indian Reservation, Department of Toxic Substances Control, and Needles Library. The NOA also appeared in the following publications: *Topock Topics*, *Needles Desert Star*, *Parker Pioneer*, *Mohave Daily News*, *San Bernardino County Sun*, *Kingman Daily Miner*, and *Today's News Herald*. Information regarding the public meetings was also provided in the June 2010 Fact Sheet; in a radio announcement on KTOX that ran twice daily between June 8, 2010, and June 29, 2010; and in a public service announcement run by CableVision between June 8, 2010, and June 22, 2010.
- PH2-3 The commenter provides a brief history of the word "Topock" and notes the ancestral connection to the project area. Please see the response to comment I1-63 for an explanation about request for a Mojave interpreter. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH2-4 The commenter expresses concern about the stability and financial viability of PG&E and the State over the time frame of the proposed project. Please see Section 3.5.3, "Operation and Maintenance of the Proposed Project," of the DEIR for a discussion on the timeframe and long-term monitoring of the project by PG&E and DTSC. The comment notes concern about contamination such as that occurring in the Gulf of Mexico, but does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH2-5 The commenter discusses the importance of water in the area and expresses the possibility it could be contaminated. The comment is noted, but does not raise specific issues on the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH2-6 The commenter expresses concern that the proposed project is not realistic and will not protect the culture of the Mojave people. The commenter also states that she will submit written comments prior to the end of the public review period. Ample opportunities have been provided for input into the proposed project by interested parties through the public hearings, meetings with tribal members, and during public review and comment on the DEIR (see Section 2.3.4 of the DEIR). Please also see the response to comment I9-3. DTSC endeavors to protect human health and the environment without discrimination through our actions while respecting all peoples' beliefs.

PH2-7 DTSC recognizes and appreciates the commenter's support for the proposed project. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.

Topock Compressor Station
Groundwater Remediation Project
Open House/Public Hearing

Taken on Tuesday, June 29, 2010
at Needles High School, Auditorium
1600 Washington Street
Needles, California

at 6:26 p.m.

MS. GARCIA: Hello. My name is Colleen
Garcia. C-o-l-l-e-e-n G-a-r-c-i-a.

Today, I would like to comment on the draft
Statement of Basis and the draft EIR and Proposed Plan
currently open for public comment.

I am a member of Fort Mojave Indian Tribe. I
am Aha macave, People of the River. I reside on the Fort
Mojave Reservation, as did my ancestors.

Our creation story tells us we were placed here
to take care of the water. We've lived here since time
of memorial, and I have lived on this reservation all my
life.

PH3-1

I have been made aware of the ongoing actions at the Topock Compressor Station through various community meetings held in conjunction with this project, and have been diligently following DTSC, DOI actions relative to this remediation action proposed within our sacred site landscape area we know as Topock.

I have been made part -- I have been part of

the Tribal community team who has offered comments at meetings with DTSC, DOI, BLM, and PG&E, attended scoping meetings where testimony was given to DTSC, PG&E personnel on the cultural and practice of the Fort Mojave Indian Tribe religious beliefs and the impact that have occurred past, current, and now into the future as proposed within the draft SOB, draft EIR, and Proposed Plan, which will continue to impose on my practice of my religion and continue the desecration of our sacred lands located within the A.P.E. where this proposed Alternative E will occur.

I cannot begin to tell you of the devastation I feel when I contemplate such actions as those that are being proposed to the sacred area.

My only response is the heartfelt hurt pain and

PH3-1
con't.

PH3-2

anguish I feel to my spirit as I know how this implies to my religious beliefs and what that area represents to me when I leave this earthly existence.

My knowing of what happens to the deceased when they pass from this world to the next is my greatest pain knowing that if they will, safely and without action -- I'm sorry -- knowing if they will safely and without any impediment, make it to the other side.

It is my greatest worry for my people that any actions listed as the alternatives means more impacts,

adverse affects of the past, current, and future PG&E projects in the way of pipelines, compressor stations, pollution.

A hundred and seventy new wells in addition to the hundred and fifty that are currently in the ground and remediation that is the IM-1, IM-2, IM-3, Arizona well, the AOC dash 4, the East Ravine. The list goes on and on; and we -- we haven't even addressed the soils yet.

Those mitigation issues will also need to be addressed when they occur.

The cumulative added-together effects of those

PH3-2
cont.

PH3-3

remediation and operations along with other past projects in the area, National Trails Highway, Route 66, I-40 freeway, bridges, railroad, gas transmission lines, electric lines, utility corridors, and current projects, unmanaged recreation; O.R.V., Park Moabi, Naked Pirate Beach Grill just add to the impact on a culture and practice of the Fort Mojave Indian Tribe.

I feel as a member of the Tribe, who is firsthand suffering and will continue to suffer the impacts, adverse effects on our cultural environment that PG&E and DTSC must do something more than what's in the draft EIR. Recommending the standard mitigation measures as outlined is unacceptable and does not address our

PH3-3
con't.

specific cultural concerns.

We, therefore, ask that specific mitigation measures be addressed and negotiated with the Fort Mojave Indian Tribe as a means to ensure a better future for the culture and practice of the Fort Mojave Indian Tribe as part of its draft EIR and project approval.

The Fort Mojave Indian community, 1200 Tribal members or more, will not accept anything less than -- than in exchange for accepting and having to live with

this revised Alternative E, an alternative that will cause additional adverse affects and irreversible damage for over 3 -- 30 to a hundred years to our Native American community, who is the closest and most impacted individuals affected by this man-made disaster.

PH3-3
con't.

This gross oversight, lack of proper cultural mitigation, in essence, is an environmental justice issue that needs to be looked into as part of the dEIR process if not properly addressed and mitigated.

MR. RUSCH: Yep. Phil Rusch, R-u-s-c-h. I'm out of Mohave Valley, Arizona.

I've actually got two -- two questions, please.

On your presentation, you said that water would be -- possibly be extracted from Park Moabi for infusion; and what is going to be the impact on Park Moabi, the

PH3-4

recreation facilities that are there? Are you going to be building pumping stations there that are going to detract and interrupt the facilities at Park Moabi?

PH3-4
con't

Number two would be infusion -- water infusion into the -- to help clean it up.

What is going to prevent this infusion from expanding the contaminated area rather than cleaning up or also cleaning up with the expansion of the contaminated area?

PH3-5

MS. MCDOWELL-ANTONE: My name is Nora McDowell-Antone. Last name M-c-D-o-w-e-l-l, hyphen, A-n-t-o-n-e.

I'm here today just to offer some comments on my personal behalf. Having worked on this project and been involved in the past as a former chairwoman of the

PH3-6

Tribe and working with DTSC and DOI and others that have -- had these different actions -- proposed actions -- that were later brought to the attention of

the Tribe back in 2004.

PH3-6
con't.

And under that, the concern we had was relative to the lack of consultation that occurred prior to any of the prior earlier IM actions that were taken -- IM-1, 2, and 3 -- and other actions that have occurred subsequently after that.

Initially an emergency action was the reason why this was given as the excuse for not consulting with the Tribe; and I just want that on the record to reflect the lack of consultation that did occur until 2004 and earlier on when other discussions were taking place between the Department of Interior and through the Lake Havasu field office that the Tribes were never informed of the actions that occurred on the land prior to that.

PH3-7

So we were very concerned about incorporating and making sure that the actions that are reflected do go back and take into account those cumulative impacts that have occurred on the property and that continue to occur under the name of time-critical removal actions and other things that have gone out there even though the AOC 4 was the only one that I do believe that we had had consultation on after Pam and others finally took into

account that concern.

PH3-7
con't.

And even though those are there -- those cumulative impacts have occurred and continue to occur and will, the other thing is that regardless of how you want to paint it as a cleanup remedy, here is an action that purports to take into consideration the cultural concerns.

If that was true, then I think Alternative B would have been the chosen remedy, which we know is currently keeping it from entering the river because of the diagram you showed earlier. There is a natural occurring cleanup that's being taking place by the earth itself and the land below it.

PH3-8

And the only reason why this other alternative is being chosen is because the -- everybody else wants it cleaned up real quick and, you know, get it out of there.

And that's why you're having the intrusion of having more wells. They have a hundred fifty out there now. They're going to be proposing more, as Colleen had mentioned earlier.

But regardless of how you paint it, the desecration is continuing to occur to that land; and not only that, but it's not going to go away even after they do commission -- decommission the stuff after the cleanup occurs.

Those things are still gonna be in the ground.
It will be more intrusive to take them out, so there are going to be impacts that will be there long-term that will be in the ground that you can't see once they cap them and take them out. They're still going to be there.

So those are impacts that will never go away that are gonna be there naturally rotting away, underneath hopefully.

I don't know about the water that we have iron -- high iron and manganese in the river; and within the lands that we all live with here, we know what it does to our pipes and everything else there. It corrodes them, and there's a lot of stuff left there.

And we just know that regardless of, like I said, how you paint it, that that desecration will continue and it won't go away.

So I think those mitigation impacts are important, that they need to be considered and negotiated and discussed with the affected Tribes, not only our tribe, but the other tribes that have been participating in this process, which there are eight other tribes, including the Fort Mojave, that have reverence for the area, the sacred area, where we go after we leave this earthly existence.

PH3-8
con't.

PH3-9

That's the entryway for us there and that's our

PH3-9
cont.

belief and our religion and it is -- and will continue to
be impacted for however long it takes.

The other thing I wanted to point out too, that
these are just all conceptual. Once they get the detail
worked out and that, it's done, then we'll see what
really is gonna happen out there.

And there's other things that will occur
throughout that period; rehabs, and other things where if
they can't replace the existing well, they'll have to
take it out and do another one right next to it or
somewhere there; so it can't be taken out, so it will
still be there in the ground; and it will be like a piece
of Swiss cheese is what's it's really going to look like
when we're all done.

PH3-10

Somebody once told me to, you know, imagine,
you know, what it would look like; and all I could
picture was -- For some reason, the thing that came into
my mind was looking at a oil refinery with all the
different pipes and things sticking out of the ground,
you know. It's just a mess.

And that's what that -- our sacred place is

gonna resemble and look like.

And so those things need to be mitigated and
taken into account.

PH3-10
con't.

MR. DESHAZER: Hello. My name is Charles
Deshazer. Last name spelled D-e-s-h-a-z-e-r.

And I really just have a question. I know you
guys can't answer it right now, but has this process that
you're planning on using been used successfully some
place else?

And if not, what kind of protection do you have
for the groundwater and the river and the soil around if
something does fail because accidents do occur?

I guess that's something that I think needs to
be looked at.

PH3-11

Next speaker card, Ronald VanFleet.

MR. VANFLEET: Good evening. Ronald VanFleet, Sr. Fort Mojave Tribal member.

MS. BONTTY: Spell --

MR. VANFLEET: Spell that? R-o-n-a-l-d, capital V-a-n, capital F-l-e-e-t, S-r.

I'm a tribal member of Fort Mojave Tribe and

been active in the cleaning of the river, guardian of the river. That's me. And I was involved with anti Ward Valley coordinating committee president. We stopped the nuclear power plant from coming -- contaminating. You could say hey, that's 21 miles away. You guys are like hundred fifty feet away from the river, and we oppose any more action. Stop. Talk to us. We've been talking to you. You haven't listened.

You know, it's like you talk over our heads. We're right here. Thank you for today. We're here today to talk to you.

I was talking to some young people this afternoon at our senior site. The children come there, probably about 45 to 50 children.

And I was telling them tales of the Mojave

PH3-12

myths; and in that I was telling them, Hey, you need to protect the river. You need to keep the river clean.

You know, that's part of your job as being a Mojave.

I don't really -- You come, and you're here with money. You know, the only reason you're here is because you have money. You get paid. We don't get paid. This is our life. This is what we do. This is what we live. This is what we breathe.

You know, water's sacred. Without water, there's no life. You don't live.

PH3-12
con't.

You know, I don't know how you can take that culturally out of your program. But that's -- That's who we are. I -- You know, you just -- Once you open the earth, and it's gonna come out.

You know, I know that you put chemicals in there. You said that two to ten years or whatever is it, you don't have to bother it. That's what we heard the last meeting, the meetings down, you know, we're not gonna bother it.

But now we come back and say, well, we got to open it up. We got to clean it out. We got to flush this water out.

PH3-13

And, you know, and I know treaty of migration of nuclear waste. They drilled, I read, the EPA and it was a hundred feet down from 1950. You know, the stream -- I'm 58 years old. That plant has been a year older than me. That's 59 years old. Where's that poison?

You didn't talk nothing about the dump site where they openly dump that out in the open. It's airborne. Where else is it? It's just not at that place.

You know, have -- the birds have landed there. What else have they taken? It's like the EDC, the rocket fuel that blew up over here. It's all down here. We got

PH3-13
con't

fish down here with male and female testicles, in Lake Havasu.

You know, we need to clean the water.

You know, the whole nation needs to have clean water. Not only us. But everyone. We need to think about cleaning all our waters.

And -- But we're not gonna clean it by opening it up and recycling poison. You know. That's not the answer.

We -- I believe we will find the answer if we sit down and talk. You know, that's -- It's not -- This is not the answer. I'm sorry.

PH3-13
con't.

MS. KNOX: Hi. My name Charlotte Knox,
C-h-a-r-l-o-t-t-e K-n-o-x.

I'm just here to make a comment on this PG&E chromium, whatever is going on here.

PH3-14

There's a lot of information that's not being brought forward. There's not a lot of information. No communication with the tribe.

We need -- From your company, we need that communication. You're only here; you're just passing on down the word. Take it back.

Maybe we should take it back. We should take it to the president. We should make him come down here and do the same job as he is doing over in the Gulf with that oil, 'cause it is the same disaster, man-made.

And I think that is gonna be our next step. This should stop. I just saw the news report from Arizona. The Saguaro cactus. They were stealing those.

That cactus has more protection than we do. They took those seeds, and they are putting them in jail. They're assigning them a fee.

They say they grow a hundred years. With those hundred years, there's a lot of history in them. We as Fort Mojave Aha macave people have history here. This is our land. Everyone else are illegal immigrants.

This is the hispanic land. This is once part of Mexico. Everyone else, you guys are illegals. This is our land. It's sacred to us. We need to protect it. That water is our life, is our God; and those homelands is where we're gonna be moving on to a better world.

And I'm -- I'm sure you guys don't understand that; but if you are within your own religion, you should know how we feel.

PH3-14
cont.

And you guys are smaller groups. Please take this up to the larger groups. If not, then I think we, as Fort Mojave citizens of Aha macave, of our United States, should take it to the president.

Thank you.

PH3-14
con't.

MS. BONTTY: No. Sorry.

MS. OTERO: My name is Linda Otero,
spelled L-i-n-d-a O-t-e-r-o.

I'm a member of the Fort Mojave Indian Tribe.
I'm also -- In the status of my role and responsibility
on behalf of the Tribe, I'm the Director of the
Aha macave Cultural Society. I'm also a Tribal
Councilmember representing the Fort Mojave Tribal
Government.

I want to read a statement on behalf of the
Tribal Government this evening. Get my glasses.

Some of the information you'll hear has been
said earlier as well, but to emphasize it, the importance
is that we repeat it over and over and over so that you
hear it from all of us.

As I said, I serve on the Tribal Council; and
we at Fort Mojave Indian Tribe, California, Arizona, and
Nevada have lands spread out throughout this territory;
was once our nation and it still is in our eyes and our
belief and in our hearts, that this area is important to
us and so is this place that we refer to as Tupac.
Topock for others who know that.

And it has not just a history, but it's laid
out for us that we believe this area being of a holiness;

PH3-15

PH3-16

and maybe words and the reading of a statement cannot ever come to the level in which we understand it through our heart, and it has been given to us by the creator who put us here on earth, who put these elements of nature and organized way, and this is what this place represents. It's not there by happenstance.

What I heard earlier today before I read the statement -- But what I heard earlier today was my feelings of what nature versus science. You know, nature is who we are. Our religion, our -- Our beliefs are based on nature. Who we are as human beings and animals and the planets and all the things that are above -- below the ground. That's who we are.

And nature has its answers. It also has its ways of resolving issues and problems. We just have to listen intently. But today, we listen to what science and every other data information provides, so to -- I felt like what is going through some of the documents and, again, part of our effort and role on behalf of the Tribe has to be reviewing many of these documents throughout the length of this project.

And I can tell you since 2004, the Aha macave Cultural Society being involved in this manner. You know, it's been hours, days, and as well as years

PH3-16
con't.

PH3-17

spending time addressing this because it's the people who

we have the concern for, people of the past and today and what that future brings.

So let me just -- I know I'm going to go over my five minutes here.

The Fort Mojave Indian Tribe as enrolled 12,000 members reside on the Fort Mojave Reservation. The Fort Mojave Reservation is situated along the banks of the Colorado River, and this whole valley from the Hoover Dam to below Blythe, California is our traditional homeland.

Since time and memorial, we have inhabited this area. We were created and placed along the Colorado River to live and care for all of mankind.

For millennium we have lived and enjoyed the natural city, the river, our name. Aha macave means People of the River. The mountains we revere as the place of creation known as Avi kwame, spirit mountain. Where all things were created; the air, the sky, things above and below.

These named places in Mojave are the cornerstone of our existence and demark the footprints of our ancestors upon this birth place of the Mojave people.

PH3-17
con't.

Today we continue to oversee the vast lands of this valley, even though the -- through time the lands were taken from our ownership and we were minimized to the 48,000 acres that presently encompass our reservation

lands.

By that past action of the federal government, taking of our traditional homelands, we continue to be deeply concerned at what takes place on these lands which are private, state, and federally held in ownership.

These lands hold a birth places living -- living areas of 18 clans upon the mountains ridges and along the natural river corridor.

Cremation areas, cultural sites, earth figures, petroglyphs. Cultural environment and home sites of our people; past, present, and future.

We, as people, continue to be connected to these places by religious and cultural affiliation. The value, the traditional landscape of this valley as far as the eye can see; east, west, north and south, are our ties to this area and our reference points from our beginning to our end from birth to death.

They are what bound us with all that we are and

PH3-17
con't.

make us Aha macave. We consider all lands within this valley to be sacred, including, especially, the area where this proposed Alternative E will be implemented because of the traditional Mojave belief that this area contains the passageway to our ancestors into the next life.

PH3-17
con't

Some of what I am going to say may be difficult

for some to hear, but it must be said. It is not being told to -- to hurt feelings but, rather, to ensure that the state regulators understand the serious nature of the impacts to our people and that the Tribal Council and the Mojave people are behind our tribe's deep involvement of this project.

We as the Tribal Government have actively been involved in the ongoing actions of the tribe Topock Compressor Station since we were first notified of the Chromium 6 contamination and its potential to reach the Colorado River back in 2004.

PH3-18

At that time, we were asked to become a part of the proposed and asked -- become a part of process, excuse me, and asked for a 30-day period to become familiar with what was happening to the sacred site area.

We wanted to be able to access the -- assess the actions of the federal government and the State Department Toxic Substance Control who were the regulators overseeing the proposed actions.

Our appeal to DTSC through its Project Manager back then, Norman Shopay, fell on deaf ears. They would not pause to do what was required of them to consult with indigenous people who value this area.

Because of the actions being contemplated by the regulators building an industrial plant in the middle

of our sacred place, we had no choice but to file a lawsuit to get our issues addressed by the state of -- the state government.

A settlement agreement was reached between DTSC, PG&E, and Metropolitan Water District in 2007. This agreement brought part of our sacred site back to us and laid out some ground rules for further interaction, but our sacred place remained at risk of damage or destruction if the remediation project was not carried out with great care.

From that point on, we have continued to struggle to have our concerns heard and to see them given

PH3-18
con't.

proper weight in the decisions that affect our sacred land, water, and our religions and our spiritual beliefs.

We have diligently been following DTSC and DOI actions relative to this remediation action proposed within our sacred site landscape area, the area we know as Tupac, and trying hard with great care to make people understand our point of view.

This has required many tribal resources, resources that could be used by us elsewhere; but because of the value of this area to the Mojave people, we continue to persevere in this process.

We have attended many meetings -- many, many meetings -- with DTSC, DOI, BLM, and PG&E, as well as

PH3-18
con't.

with the tribes and many others and offered extensive testimony on the cultural and spiritual practices of the Fort Mojave people on our religious beliefs and on the impacts that they have -- that have occurred in the past and are currently occurring and will occur in the future if things go on as they have.

We must understand -- What must be understood is that disrespectful and damaging use of the land, the water, the plants, and the animals of the river and

PH3-19

mountains, including what is proposed within the draft Statement of Basis, draft EIR, and the Proposed Plan for Remediation, will continue to impose on our practice of our religion and continue with the desecration of our sacred lands.

This is the dilemma that we, Fort Mojave Indian people, have found ourselves over within the last six years. We want to support a cleanup, but not at the price of cultural extinction of our people.

We support PG&E correcting the great damage that it has caused by allowing pollutants to enter the groundwater of our ancestral land, but we want to be sure that correcting the damage is not itself doing more damage.

We want to be sure that the generalist means a remediation, the most -- the one that's most respectful

PH3-19
con't.

of the earth and the river is selected.

That alternative, unfortunately, has not been selected by the regulators as the preferred alternative; so we have a situation where an engineered alternative, one that could introduce many more wells, more facilities, and people into this sacred area. And so

PH3-20

Alternative E has been selected.

PH3-20
con't.

I cannot begin to tell you of the devastation I feel when I contemplate such actions as those that are being proposed in the sacred area. My only response is the hurt -- heartfelt hurt, pain, and anguish our people feel to their spirits as we know how this applies to our beliefs and what that area represents to us when we leave this earthly existence.

PH3-21

Our fear about what happens to the deceased when they, our family, our elders, our sick, eventually leave, when we pass from this world to the next, what that pain may feel like.

We do not know whether all the actions that are proposed in this area will safely pass to the other side without impediments. This is our greatest worry for my people.

The actions contemplated in the draft EIR means to us more impacts, more adverse affects, a continuation of the desecration caused by past, current, and now

PH3-22

future PG&E projects, pipelines, compressor stations, pollution, disturbances. The list goes on and on, as heard earlier, and this list includes the IM1, IM2, IM3,

Arizona Wells, AOC 4, East Ravine.

Alternative E would put, in worst case scenario, a hundred and seventy more new wells, in addition to the hundred fifty that are currently in the ground, to say nothing of the damage done by the remediation to date.

That list of past actions undertaken were approved by the state as well as the federal. The Tribe has been engaged intensely with those and yet even throughout those times, our voices weren't considered in the decision-making as well it should have.

The cumulative added-together effects of those remediations and on top of past projects in the area on the Natural Trails Highway, Route 66, I-40 freeway, bridges, railroad, gas transmission lines, electric lines, utility line corridors, unmanaged recreation areas, off-road vehicle usage, Park Moabi, the Naked Bar, Pirate Beach Grill; all these and now the Alternative E remediation just add to the impacts of our cultural area and the impacts to the practice in which our people rely.

We feel as members of the Fort Mojave Indian Tribe who are firsthand suffering and will continue to

PH3-22
con't.

PH3-23

suffer the impacts adverse effects on our cultural environment, that PG&E and DTSC must do something more than what's in the draft EIR.

Recommending standard mitigation measures as set forth in the EIR is unacceptable and does not address our specific concerns.

On behalf of my people, we therefore ask that specific mitigation measures be negotiated with the Fort Mojave Indian Tribe as a means to ensure respect for our cultural landscape, the safe passage of our deceased to the next world, and to secure future for the cultural practice of the Fort Mojave Indian Tribe.

Such mitigation measures must be included in the EIR and made conditions of the project approval.

Our Tribe must not be left to pay for this fear and harm caused by others.

Fort Mojave Indian Community Tribal members will not accept anything less than that in exchange for accepting and having to live with this revised Alternative E, an alternative that will cause additional adverse effects and irreversible damage for over 30 to a hundred years to our Native American community.

We are the closest tribe and most impacted, affected every day by this man-made disaster. This gross lack of respect for our cultural landscape, our belief,

PH3-23
cont.

PH3-24

and our spiritual values is an environmental justice issue that needs to be looked into as part of this draft EIR process.

PH3-24
con't.

These issues must be properly addressed here and now and the impacts of the project must be properly mitigated by those who are responsible for causing this damage and this -- in this -- in the first place, especially since we have been explicitly told by DTSC, DOI, and PG&E that our cultural issues would be dealt with in the draft EIR process.

We are now -- Here we are now in that process, and we feel as though our concerns, impacts, and mitigation have not been adequately dealt with.

PH3-25

We sincerely hope that DTSC will use the opportunity that is the public comment period, tied with specific tribal consultation, to strengthen the EIR for groundwater impact so that it cannot be -- so it can be a document that we can all support and be -- to be a touchstone for our continued efforts to work together to responsibly meet all of our obligations to the area and to each other.

I just want to say something on a personal note. I'm sorry for the over five minutes, but...

PH3-26

I cannot help but feel a strong emotion to

where we have arrived today in this process in a world

which we've only had our input, and it just seems so bad
it's just been reduced to this process.

It is the people, part of who I am, part of
others who are here -- This is our home. This is the
nation in which our people spoke about. We're still a
part of this, and no one has that right to take that
feeling from us in our heart.

Creator gave this for us. It's our teaching.
It's our belief. Old people talked about it that way.
Teachers talk about it that way. They -- They put it in
our hearts as young ones, and you see the young ones
sitting here. That's our tradition to pass on.

That tradition is out there in that landscape.
That tradition is that river. That tradition is that
holiness that area presents. No one has that right to
take that feeling away.

Till the time I leave this earth, I'll always
speak of this that takes it to this level, and as
strength of Charlotte as well expressed to have to go
higher, and we have.

If it has to go that high and has to be exposed

PH3-26
con't.

in that way, we will, because this is the worst disaster in our life. It's a history-making that's not recorded in this way, and we're having to live with this.

I think many times when sitting and discussing

with Norman and the rest of the people a flashback of those things that are -- was shared and expressed -- and I'm never alone -- but yet they put us here on behalf of the people to let others know that this is us.

Nowhere else he put but us here; that place that you want to clean up and put -- Well, where you made it first a contaminated site, it was first that place; and you have to speak of it in that manner hearing this right now.

All of it was about science and its technology. That's fine, but this place is beyond that. And so make sure our comments reflect that in these documents and people know and that it goes on the record that way.

Because otherwise, it's an injustice that the federal and the state government will carry for the rest of their lives as well. It's on you.

MS. BONTTY: Thank you, Miss Otero, for your comments.

PH3-26
con't.

PH3-27

MS. WOOD-BRICKER: My name is Sandra
Wood-Bricker. Felton Bricker, Sr. is my spouse.
B-r-i-c-k-e-r, Woods, W-o-o-d-s. F-e-l-t-o-n Bricker.
He's a Tribal member. I'm his spouse.

PH3-28

I have a prepared letter, but after hearing
both the presentation from the agencies and the comments
during this, I want to make additions to it, and so I
will send it in.

- PH3-1 The commenter notes her affiliation with the FMIT, the history of her family in the project area, and her past involvement with the proposed project. The commenter expresses concern that Topock project officials are not considering the sacred lands of the FMIT when selecting an alternative for the remediation process. DTSC recognizes and appreciates the commenter's input in the public participation process. DTSC endeavors to protect human health and the environment without discrimination through our actions while respecting all peoples' beliefs.
- PH3-2 The commenter expresses the pain and anguish she feels when considering the impacts of the proposed project on this sacred place. DTSC acknowledges this comment and strives to protect the wellbeing of all people and their environment without bias through our actions while respecting all peoples' beliefs. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH3-3 The commenter discusses the degree of impacts associated with the proposed project in conjunction with past activities such as pipelines. Chapter 6 of the DEIR addresses the past, present, and reasonably foreseeable impacts to cultural and other resources. Additional outreach and communication has taken place with the tribes in response to this and other similar comments concerning mitigation. Revised mitigation measures that help address these tribal cultural concerns have been incorporated in this FEIR. These additions can be found in Section 4.4.3.3 of Volume 2 of the FEIR.
- PH3-4 Please see the responses to comments T1-168 and T1-202 for a discussion of groundwater pumping and potential effects on Park Moabi and future Park Moabi water needs.
- PH3-5 As described in Chapter 3, "Project Description," of the DEIR, the freshwater injection would be located beyond the limits of the current groundwater plume. The freshwater injection is intended to "push" the plume toward the in situ reactive zone (IRZ), with the IRZ serving to help remediate the Cr(VI) impacts. The extraction wells located within the floodplain provide an additional hydraulic control to prevent migration. Monitoring of the groundwater plume and system optimization would occur during the course of the remediation program, as described in Chapter 3 of the DEIR
- Please also see the response to comment T1-202. Even though none of the freshwater injection well locations in the conceptual design of Alternative E were chosen specifically to mitigate hypothetical future Park Moabi pumping, the hydraulic influence of those wells could be employed as a hydraulic barrier to mitigate any effects of pumping from the Park Moabi area.
- PH3-6 The commenter notes her former role as a chairwoman with FMIT and past involvement with the project in that capacity. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH3-7 The commenter expresses a concern that previous communication with interim measures at the compressor station was not adequate and is interested in seeing action that take into account these past impacts. Chapter 6, "Cumulative Impacts," of the DEIR provides a detailed discussion of projects near the compressor station that have some relation to the setting conditions of the

project and that are completed, currently under construction or implementation or beginning construction or implementation, proposed and under environmental review, or reasonably foreseeable. Please refer to Section 6.3.2.1 of the DEIR for a discussion of activities that have occurred at the PG&E Topock Compressor Station. See also Chapter 7 of the DEIR, which addresses impacts specific to implementation of IM-3 relative to cultural and biological resources.

- PH3-8 The commenter favors Alternative B because it would have the least impact on cultural resources but understands that Alternative E was chosen because it is quicker. Alternative B does not meet the project objectives as is discussed in Section 8.4.1, “Alternative B—Monitored Natural Attenuation,” of the DEIR.
- PH3-9 Please refer to Section 4.1.3.3 of the DEIR for details regarding mitigation of impacts on visual resources.
- PH3-10 Please see Section 4.4.3.3 of Volume 2 of the FEIR for updated cultural resource mitigation measures.
- PH3-11 The commenter requests examples of where the proposed process has been used successfully. Although there are many successful application of this technology recorded by various groups throughout the country (e.g., Regenesis, CH2M Hill, Massachusetts Institute of Technology [MIT]) that can be easily located on the internet, it must be noted that every site is unique in the geologic setting and chemistry. DTSC believes that the pilot studies that were conducted on site for this PG&E project provide valuable site specific information. The two pilot tests of the technology were implemented for the floodplain and upland area in 2005 and 2007 respectively. The pilot tests and related monitoring reports can be found in the DTSC-Topock document library, under “CMS/FS, In-situ Pilot Studies.” The pilot tests demonstrate good success in reducing the concentration of Cr(VI) in the subsurface groundwater at the project area. Although these pilot tests provided promising results, DTSC recognizes that a large scale reductant delivery system remains untested for this site. Therefore, DTSC will require PG&E to include a robust monitoring system to evaluate the effectiveness of the remedy and to optimize operations. In addition, PG&E will include a full contingency plan for the system during remedial design. Finally, the mitigation measures for reducing impacts from releases and spills, and adherence to the applicable regulations all provide additional protection.
- PH3-12 In addition to the scoping and public meetings that were conducted to solicit input from the public numerous meetings have been held with the tribes throughout the life of this project. Please refer to the Tribal Communication Summary (Appendix TRI). Please also see the response to comment PH2-6.
- PH3-13 The commenter expresses concerns about a variety of environmental issues including water quality (Section 4.7 of the DEIR), air quality (Section 4.2 of the DEIR), and biological resources (Section 4.3 of the DEIR) and is directed to the corresponding sections of the DEIR.
- PH3-14 The commenter is concerned about the availability of information on the proposed project. Please see the response to comment PH2-6.
- PH3-15 The commenter notes her affiliation with the FMIT and her role with the Aha macave Cultural Society. This comment is noted and acknowledged by DTSC, but does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.

- PH3-16 The commenter reiterates the Topock area’s importance and significance to the FMIT. DTSC endeavors to protect human health and the environment without discrimination through our actions while respecting all peoples’ beliefs. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH3-17 This comment is acknowledged. DTSC has determined that the Topock Cultural Area is a historical resource under CEQA (see Section 4.4.3.1, “Analysis Methodology,” of the DEIR). DTSC further acknowledges that this resource would be affected by the proposed project and other nearby projects (see Impact CUL-1a in Section 4.4.3.3 of Volume 2 of the FEIR and Section 6.4.4 of the DEIR).
- PH3-18 The commenter provides a brief history of the FMIT’s involvement in the Topock project beginning in 2004. DTSC recognizes and appreciates the FMIT’s input in the public participation process over the years. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH3-19 The commenter raises concerns about the cultural beliefs and practices of her people. DTSC endeavors to protect human health and the environment without discrimination through our actions while respecting all peoples’ beliefs. Please also see the response to comment PH3-17.
- PH3-20 Please see the response to comment PH3-8 for a discussion on the analysis of Alternative B in the DEIR.
- PH3-21 The commenter is most anxious about the afterlife for her people if the proposed project occurs in their sacred area. Please see the response to comment PH3-19.
- PH3-22 Please see the response to comment PH3-7 for a discussion of cumulative impacts in the area.
- PH3-23 The commenter states that the cultural mitigation set forth in the DEIR is not acceptable or adequate. Additional mitigation measures that are more culturally appropriate and fairly address tribal cultural concerns have been added. These additions can be found beginning in Section 4.4.3.3 of Volume 2 of the Final EIR.
- PH3-24 Environmental justice issues are analyzed in Chapter 9, “Other Informational Analysis,” of the DEIR.
- PH3-25 It is the commenter’s opinion that the concerns about impacts of the project and corresponding mitigation have not been adequately dealt with. Ample opportunities have been provided for input into the proposed project by interested parties through the public hearings, meetings with tribal members and during public review and comment on the DEIR (see Section 2.3.4 of the DEIR). See the response to comment PH3-23.
- PH3-26 The commenter explains how the tradition of the FMIT includes the landscape of the area, including the river and is sad about the need for the proposed project. DTSC endeavors to protect human health and the environment without discrimination through our actions while respecting all peoples’ beliefs. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH3-27 In accordance with CEQA Guidelines Section 15088, all comments submitted on the public DEIR between June 4, 2010, and July 19, 2010, will be included and responded to in the FEIR.

PH3-28 The commenter states that they will submit written comments. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.

Letter
PH4

Topock Compressor Station
Groundwater Remediation Project
Open House/Public Hearing

Taken on Wednesday, June 30, 2010
at Topock Elementary School, Auditorium
5083 East Tule Drive
Topock, Arizona

at 6:38 p.m.

MR. RIGDON: My name is Eddie Rigdon, and the spelling is E-d-d-i-e, and the last name R-i-g-d-o-n. Thank you.

The Colorado River is a precious, precious resource, to say the least. It's almost immeasurable in the impact that it has had, not only to its people, its environment; and the resource, again, is immeasurable.

The Colorado River is a water supply for many, many people throughout the upper and lower basin. The Colorado River supply also is a supply which is one of three to Southern California, and that water supply, again, goes to a region of about 5,000 square miles -- 5200 hundred square miles, and about 18 to 20 million people. The other two supplies also are important.

The concern that Metropolitan has and has had is really protecting the water supply as far as the issues associated with the region; and the impacts to that culturally is always a concern, but it would be a greater concern not to support and move forward with the

cleanup.

PH4-1

It's critical that this takes place. We understand by all the history and the documentation and the EIR that the threat is not imminent based upon what's already been explained.

However, given the potential -- and I say potential -- of seismic activity within the region and the area and the impact to the river and the life that it touches throughout its travels, it's there.

And as a result of that, Metropolitan would, in fact, support moving forward with the recommended cleanup; and that recommended cleanup seems to be the best of all of the alternatives for the reasons that's been stated.

And it has been a process that has been openly discussed with opportunity to give input.

And appreciate this time now for the input that's being given, and there will be a document submitted for the record in writing as well on Metropolitan's position.

PH4-1
con't.

PH4-2

MS. MCDOWELL-ANTON: Good evening, hearing panel, those that are here gathered today, and the two individuals from the Topock area.

My name is Nora McDowell-Anton, and I'm the Project Manager for the Fort Mohave Indian Tribe overseeing the cleanup over at the Topock Compressor Station.

This area where we're at also is named Tupac and, actually, that is a Mojave name, and it was given for the area -- for down in the area where we enter into our sacred area and the place that we leave this earthly life from.

And the area -- We have land that's just down the street here as well that holds a number of petroglyphs, artwork; and it's pretty much in its pristine state in one area that has been protected by fencing it off.

It is an area that we have, and we have another piece that's a little down the road here. It's off of -- it's called Five-Mile Landing, where we also have land holdings here that is next to the Wildlife Refuge.

The Fort Mojave Tribe is a tribe of 1200 Tribal members located in three states; California, Arizona, and

PH4-3

Nevada.

The Tribe also has significant water rights that have been adjudicated in Arizona versus California that the tribes all up and down the river control over a million acre feet of water.

Our main concern also is the river. Cleaning up the river has never been an issue for any of the tribes, or our tribe in particular, given the fact that we are named after the river.

Our namesake -- Our name means -- Aha macave means the People of the River. And our creation stories start from Avi kwame, which is called the -- in the Anglo terms, they call it Newberry mountains, the black mountains. All the different ranges that surround this particular valley have been the historic home of the Mojave people.

For us water is everything. It is all of who we are and what we endure and what we try to impose upon the lands and our own people to preserve and protect it for all people.

And we know it is a significant water source for millions of people down in the Southern California

PH4-3
cont.

PH4-4

area and the Phoenix area who rely upon it as well.

PH4-4
con't.

We also sit on a Colorado River Water Board
that oversees all the water on the river and we work with

the Bureau of Reclamation how we manage our water and
resources on our reservation as well.

So we are very concerned about how that quality
of water impacts those downstream, upstream. We also get
impacts from many things that come down the Colorado
River, the uranium mining and Moab, other things that are
being proposed, other explosions that they're currently
doing on the Colorado River, all the pharmaceuticals that
come down the river, percorates (phonetic) that come
down from Las Vegas.

PH4-5

You know, there's no distinction, I believe,
whether you're upstream or downstream. One way or
another, man-made effects always are at the forefront of
mass cleanups that we have to do.

And unfortunately, this one occurred where it
did within the sacred area within our tribal traditional
homelands that we used to have, but it is a very sacred
place to our people.

Our tribal leaders yesterday offered testimony

PH4-6

at the Needles hearing, and I will for the record just state that we will be providing that information. We will be sending it in as well, and I don't want to belabor and have you listen to it again.

But I think for the people that live here that enjoy the area that we've called home for millennia, you

know, that is a very sacred place to us, and there are historical and prehistoric sites. There are earth figures. There are sites that still hold the remnants of the lithic scatters of our people, where potteries were at.

Our home sites were all up and down the river corridor here. If you look upstream from here, you'll see the areas where all of the river banks; in the summertime, we'd be at the river because that's the coolest place and, obviously, the water was a source of maintaining control of our temperatures and everything else that we associated within our fishing, our food, our habitats, you know. That's where we lived.

And in the wintertime is when the water would come back up. Then we would move to the highlands. So there are a lot of artifacts into the things that are out

PH4-6
con't

there where each of the 18 different clans of our tribe lived up and down this river from the other side of Hoover Dam all the way down on the other side of Blythe, California.

But primarily in this area is where the southernmost people resided and lived within this area here. And so this is the area where we come from. Gavath it's called. Gavath. And that means the southern area, the land of plenty, is the area that we call down

in Tupac.

And that area is an area that a lot of people weren't allowed to go to; only certain people could go there and be part of the things that took place there; the cleansing and the purifications and the rituals that they did before they came back into the area.

And they didn't want to bring any bad spirits or bad feelings or things that took place on the other side of the mountain back to our area, so that area was a cleansing area that they went through and came through.

And on our way when we leave this earthly world, all our possessions are cremated. They're burned. And so our spirit goes back into a smoke, and that smoke

PH4-6
con't.

carries; and it's a process that takes four days for us -- for us to transition through this area when we leave this departure from this area, and that's where the Topock area, where the project is going to be taking place will -- That's where it manifests from, and that's where we go through that area.

And so it is a concern to us. And when I sit here and I hear, you know, that there will be impacts, significant or unavoidable, it's very hard for us to -- to accept that.

But we know the cleanup has to occur; but yet, on the other hand, we want it done in the most respectful

manner. We want it done in a least harmful way that will at least give us a sense of, not total comfort, but that we would be able to at least be able to live with what we're going to allow to occur there.

So there are many things that should be taken into consideration given the fact that it will continue to be desecrated regardless of how hard we have worked as a group with the stakeholders, Mr. Rigdon, PG&E, and others that have been part of the consultative board group.

PH4-6
con't

PH4-7

It's unavoidable. The physical will happen.
And so to say that there is no impact or there is no adverse effects, you know, is something that's unacceptable to us because there are impacts that will occur continually to -- will occur to our people, to our spiritual belief.

So we ask, you know, that if it's going to be done, that there be proper mitigations done to address the cultural concerns and issues that will affect our people, that continue to affect our people day in, day out.

Especially the times when we lose a member of our Tribe. That's the most difficult. Because we know what happens. We know what occurs.

And if that's not an impact, then I don't know

PH4-7
con't.

what is to a people.

And it can't be avoided, and it has to be taken into account, and it has to be mitigated.

And it's such a awful thing to have to think to want to do or to consider doing because you would think that, hopefully, there would be other measures that could help avoid having to do what we have to do.

It's naturally occurring, the cleanup itself,
but for some people, that's too long; but it took all
these years for it to get to where it is.

And Mother Nature has been taking care of it.
It didn't get into the river and hasn't gotten into the
river because -- we believe that's because of the
spiritual area of what it is and what it represents. If
not, it would have been in there a long time ago.

I wish there was some other means or another
way of addressing it where you didn't have to put in a
hundred and seventy more wells in addition to the hundred
fifty that are already out there and the other maximum
number of intrusions that will occur through pipelines,
water lines, debris in the water from those areas that
were mentioned earlier.

PH4-8

And when I look at that map you had up there, I
didn't see anything addressing visual. Is that covered
in the aesthetic portion?

MS. FARRELL: (Nods head.)

MS. MCDOWELL-ANTON: It is? Okay.
Because that truly would be a visual impact of very
significant concern to our tribe.

As I mentioned the other day, I had -- Someone had asked me to close my eyes and imagine, you know, what it would look like.

PH4-8
cont.

And compared to what's out there now, just visually even thinking about all the maximum amount of roads, pipelines, above ground, underground, wells -- hundred seventy more wells, and other things that we don't know that will occur with the soils, that will be something that will need to be addressed as well actually when they do occur and the final soils report is complete. Those are the mitigations that we'll have to address.

PH4-9

But as being part of the process, we didn't have an opportunity in the beginning to have a say-so or to be at the table; but now that we are, we intend to be a full consulting party and we expect for the tribe, you know, to be involved from here on out in all of the design work that will go -- moving forward. We want to be a part of that.

PH4-10

It's very critical and important to us how this is going to occur, where they place those pipes.

And the one graphic I saw up there, it showed

PH4-11

the -- where you're talking about the water sources.
Then you showed the area that -- probably the 779 acres
that -- that they said would be the only area to be
impacted.

But to us, even if it is a smaller footprint,
it still is an intrusion and an impact to our spiritual
recognition of that homeland. The whole landscape, not
just that -- that smaller footprint that you showed
there. The whole APE, the whole thing. All things are
connected out there.

And that's what we talk about when we address
these things and try to delicately and reasonably and
understandably try to explain, you know, what that area
represents to the people. Our people.

And I know it's difficult and hard for those
that are -- that view it purely from a technical
standpoint; and I know it's been hard for us at times to
adequately and thoroughly explain those intrusions that
you don't understand.

But from that perspective and on behalf of the
tribe, we ask that these be considered on behalf of our
community. We ask that these things be looked into, that
they be addressed and given the highest regard and
respect as it affects our culture and religious beliefs

PH4-11
con't.

and it impacts all of our community members.

PH4-11
cont.

If that doesn't address that, then we really feel that it is an environmental justice issue that needs to be looked at as well.

We just want what's rightly and properly taken into consideration by the regulators and the people that will finally make that decision as to what will happen on the land.

PH4-12

And that's all I want to offer for the record.

Thank you.

MR. RIGDON: Thank you, Mona.

I just wanted to clarify my association. I am a consultant to Metropolitan, independent contractor, and former employee of Metropolitan.

PH4-13

- PH4-1 The commenter discusses the immeasurable impact the Colorado River has on the region, including water supply and cultural impacts. It is the commenter's opinion that, though there are environmental issues, it is critical that the cleanup move forward. The support expressed for the proposed cleanup remedy is appreciated and acknowledged. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH4-2 It is the commenter's opinion that the cleanup process has been openly discussed with the public. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH4-3 The commenter describes FMIT's holdings and sacred places in the Topock area. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH4-4 The commenter notes the importance of the Colorado River and surrounding area to the FMIT. Protection of the beneficial uses associated with the river is one of the major reasons for DTSC to undertake the proposed cleanup action (see Sections 3.2 and 3.3 of the DEIR). The background and environmental setting discussions of the DEIR explain the importance of the river for drinking water, recreational, and cultural uses (see Sections 4.7.1., 4.4.1, and 4.1.1.3 of the DEIR).
- PH4-5 The commenter is concerned about the contamination of the Colorado River and the fact that this occurs in their sacred area. Please see Section 4.7.3 of the DEIR for a detailed analysis of water quality impacts.
- PH4-6 The commenter expresses concern that the cleanup process be done in the least harmful manner possible, because the project area is of great significance to the cultural heritage of the FMIT. One of the reasons for preparing an EIR is to ensure that all feasible alternatives are reviewed and measures to mitigate damages are developed and implemented. This comment does not specifically address details about the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- PH4-7 Please see Section 4.4.3.3 of Volume 2 of the FEIR for a detailed discussion of the cultural impact analysis and updated associated mitigation measures.
- PH4-8 Please see Section 4.1.3 of the DEIR for an analysis of impacts on visual resources.
- PH4-9 Please see the responses to comments I1-21 and I1-22 for a discussion on the analysis of the future soils remediation project.
- PH4-10 It is the commenter's opinion that they have not had opportunities to take part in the public involvement process. Input from the public has been sought since early in the CEQA process. A notice of preparation was issued on May 2, 2008, and scoping meetings were held on May 27, 2008; May 28, 2008; May 29, 2008; June 2, 2008; and June 5, 2008, in accordance with CEQA Guidelines Sections 15082(a) and 15082(c). An NOA was issued on June 4, 2010, and public

hearings were conducted on June 22, 2010; June 23, 2010; June 29, 2010; and June 30, 2010, in accordance with CEQA Guidelines Sections 15087(a) and 15087(i). This project has followed all CEQA requirements and additional meetings with the tribes were also conducted to solicit input.

- PH4-11 The commenter states that the proposed project is an intrusion into their spiritual homeland. They believe this and other similar cultural issues were not evaluated in the DEIR. Please see Section 4.4.3.3 of the DEIR for a detailed discussion of the cultural impact analysis.
- PH4-12 Please see Section 9.1 of the DEIR for an analysis of environmental justice and socioeconomic issues as they pertain to the Topock project area.
- PH4-13 The commenter wants to confirm his association as a consultant to Metropolitan. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.

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4 TRIBAL COMMENTS AND RESPONSES

4 TRIBAL COMMENTS AND RESPONSES

This chapter contains the tribal comment letters received on the Topock Compressor Station Final Remedy DEIR and DTSC's individual responses to significant environmental issues raised in those comments. Each letter, as well as each individual comment within the letter, has been given an assigned letter and number for cross-referencing. Responses are sequenced to reflect the order of comments within each letter. Table 4-1 lists all tribal governments who submitted comments on the Topock Compressor Station Final Remedy DEIR during the public review period. Comments from individual members of the Native American community are included in Chapter 3, "Individual Comments and Responses."

Table 4-1
List of Tribal Government Commenters

Letter #	Commenter	Date of Comment	Page Number
T1	Fort Mohave Indian Tribe Christopher J. Martin, Esq. for Courtney Ann Coyle, Attorney at Law	July 19, 2010	4-2
T2	Fort Mohave Indian Tribe Nora McDowell-Antone	April 16, 2010	4-170
T3	Hualapai Indian Tribe	May 28, 2010	4-185
T4	Colorado River Indian Tribe Eldred Enas	July 19, 2010	4-191
T5	Colorado River Indian Tribe Daphne Hill-Poolaw	July 14, 2010	4-200
T6	Colorado River Indian Tribe Daphne Hill-Poolaw	July 16, 2010	4-202
T7	Hualapai Tribe Wilfred Whatoname	July 16, 2010	4-204
T8	Hualapai Tribe Wilfred Whatoname	July 16, 2010	4-218

Letter
T1

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California Department of Toxic Substance Control
Attention: Aaron Yue, Topock Project Manager
5796 Corporate Avenue
Cypress, CA 90630-9938
AYue@dtsc.ca.gov

By Email
July 19, 2010

Re: Topock Compressor Station Groundwater Remediation Project
Fort Mojave Indian Tribe Comments on DEIR dated April 2010
SCH No. 2008051003

Dear Mr. Yue:

This comment letter on the Draft Environmental Impact Report ("DEIR") for the proposed Topock Compressor Station Groundwater Remediation Project (the "Project") is timely submitted on behalf of our client, the Fort Mojave Indian Tribe ("FMIT" or "Tribe"), a federally recognized tribal sovereign government.

Introduction

Attached to this comment letter are three expert reports, one photo, relevant letters and mitigation precedents, to wit: 1) Report from Thomas F. King, Ph.D, dated July 17, 2010, 2) Report from Dr. Leo Leonhart, dated July 18, 2010, 3) Report from Nora McDowell-Antone, Topock Remediation Project Manager, dated July 19, 2010, 4) Photo showing the compressor station facilities in their physical context, 5) Letter from DTSC Counsel to the Tribe, 6) Letter from the National Park Service to the author of this letter, 7) list of mitigation precedents, 8) list of PG&E's historic activities in the Topock area and 9) Letter from Pamela Innis to Dr. Leo Leonhart. The Tribe expects and respectfully requests that DTSC respond specifically to the comments made in these attachments as well as to those in this letter.

Based on the information presented in this letter and its attachments, the Tribe strongly believes that its interests have not been adequately or fully addressed in the DEIR, and that impacts on aspects of the environment that are of great concern to the Tribe have been ignored. Moreover, many of the issues outlined in the Tribe's Notice of

T1-1

T1-2

Preparation (“NOP”) comment letter, dated July 1, 2008, have not been addressed in the DEIR. Accordingly, the Tribe reaffirms its comments in its NOP scoping letter.

T1-2
con’t.

For this, and other reasons as discussed below, the DEIR in its present form, does not comply with the California Environmental Quality Act (“CEQA”) and other pertinent laws and guidance. It is our sincere hope that the Department of Toxic Substances Control (“DTSC”) will work with the Tribe to address the Tribe's concerns so that the environmental document that is ultimately approved by DTSC will be one that the Tribe can support.

T1-3

Process Issues

The Tribe has tried for many years to work cooperatively on all aspects of this proposed Project with State and Federal Agencies, Pacific Gas & Electric (“PG&E”) and other stakeholders. This included commenting on draft work plans, attending public hearings including those for the NOP, regularly attending the Consultative Working Group (“CWG”), Technical Working Group (“TWG”), Clearinghouse Task Force (“CTF”) and Topock Leadership Partnership (“TLP”) meetings where aspects of the Project and its DEIR were discussed, organizing and attending site visits and providing qualified tribal monitors for projects and providing cultural sensitivity training for PG&E and their contract representatives. We believe that this effort has been successful in influencing the investigations to date, the remedy selected and reduced impacts in the field.

However, up to this point, the RFI/RI, CMS/FS and various work plans did NOT include a detailed evaluation of impacts to cultural resources of concern to the Tribe, despite repeated requests by the Tribe that these documents include such analysis. It is the Tribe’s view that avoiding or otherwise managing impacts on these important resources, therefore, was NOT full considered in the conceptual design of the alternative remedies presented in the DEIR and elsewhere. (For example, see Alternative D (Sequential In Situ Treatment), that proposes a remedy that would put wells in the Maze complex, an area that all parties agree should be avoided). During the RFI/RI and CMS/FS processes, the Tribe was repeatedly assured that those were not the proper times to address “non-technical” constraint, but that all of its cultural concerns would be adequately considered in the DEIR and that the DEIR was the appropriate place for this analysis; this has not happened. The Tribe remains deeply concerned that consideration of tribal cultural resources again is largely deferred to some other time, perhaps during final remedy design and implementation or future work plans, which may further frustrate CEQA and result in a failure to truly analyze and provide effective mitigation for certain types of impacts (regional, cumulative and indirect) at the most opportune time.

T1-4

During the drafting of the DEIR, there were meetings between DTSC contracted staff and the Tribe. (See, attached comment letter from Nora McDowell-Antone). The Tribe tried on many occasions to review draft portions of the DEIR relative to the Tribe's cultural concerns, to assure itself that DTSC and its contractors understood the concerns

T1-5

being expressed to them by the Tribe. DTSC refused to provide the Tribe with relevant sections of the DEIR, except for a small portion of the cultural resources section relating to the Tribe. The Tribe provided comments on that section around April 16, 2010, but was told that the comments were too late to be incorporated into the DEIR, but would be considered as comments on the DEIR.

T1-5
con't.

The Tribe's revisions, as previously submitted to DTSC, are attached to Ms. McDowell-Antone's comment letter and relate to concerns that: 1) the Project area was never completely surveyed and was not surveyed with the input of representatives, 2) the Tribe was not fully consulted, 3) that landscape level context needed to be considered, not just discrete sites recorded by archaeologists, 4) that indirect and cumulative effects needed special consideration and 5) that the religious and traditional beliefs of the Mojave People would be uniquely affected. Indeed, these areas are ones that are weakly, analyzed, if they are analyzed at all, in the DEIR.

T1-6

Prior to the finalization of the DEIR, the Tribe also offered to sit down and discuss mitigation strategies with DTSC and its contractors. We felt that these conversations were appropriate under CEQA as well as allowable given the terms of the settlement agreement between the Tribe and DTSC in *Fort Mojave Indian Tribe v. Department of Toxic Substance Control, et al*, Sacramento Superior Court Case No. 05CS00437. We also felt that addressing these issues upfront - before release of the DEIR - would be most efficient and result in less risk of contributing to Project delay, something the Tribe does not want. We have found that writing a DEIR through public comment is often an inefficient progress as it may result in the need for recirculation of the environmental documents. It also puts unacceptable burden on the Tribe which has far fewer resources than the applicant. In any case, those offers were not accepted by DTSC, leaving the Tribe with no choice but to voice these serious concerns during the public review process for the DEIR.

T1-7

The Tribe and DTSC have had two sit-down meetings since the DEIR was released for public review, in which the Tribe has conveyed many of its concerns about the adequacy and completeness of the DEIR.¹ Because the Tribe continues to have deep concerns about: 1) the impacts of this project to its traditional cultural properties and lifeways and 2) the adequacy of this Draft EIR to disclose, analyze and mitigate impacts to resources of concern to the Tribe and its people, we respectfully submit this comment letter and its attachments to supplement and more fully describe those concerns.²

T1-8

¹ Some concerns expressed in the May 27, 2010, meeting were summarized in DTSC Outside Counsel Andrea Leisy's June 24, 2010, letter to Chairman Williams. (See attached letter). While this letter is generally accurate in capturing some of the items discussed, it is incomplete. Nonetheless, to reduce duplication, the issues summarized in that letter also should be considered part of the Tribe's written comments on the DEIR for which it expects written responses to comment.

T1-9

² If other than revised Alternative E is going to be approved by either DTSC or BLM/DOI based on information received during the public comment period or for any other reason, the Tribe requests to be immediately consulted and afforded an opportunity to put additional information regarding impacts and mitigation into the Project record.

T1-10

Cultural Resource Analysis is Flawed, Therefore the DEIR is Inadequate and Must Be Revised

Identification: The DEIR fails to adequately identify the full extent of tribal cultural resources that would be affected by the Project

The DEIR does not reflect the Tribe's cultural views. (See, attached expert reports from Nora McDowell-Antone, Thomas F. King, Ph.D, and Dr. Leo Leonhart). The DEIR fails to explain why prior submissions from the Tribe, including its NOP comment letter, were not adequately reflected in the DEIR text. The DEIR does not achieve the level of analysis required to fully assess the significance of Project impacts nor the adequacy of mitigation for impacts to tribal cultural resources. The Tribe believes these resources are not just important to the Tribe's history, but to the history of the people of the State of California.

T1-11

T1-12

T1-13

- The DEIR acknowledges a "Topock Cultural Area" which is considered a historical resource because of its historic (and continuing) importance to representatives of the FMIT and certain other Yuman-speaking tribes. First, as explained to DTSC by Linda Otero at the May 27, 2010 meeting, tribal members who have been working with DTSC do not sit alone at these meetings, but rather, sit on behalf of their nation; this area is of importance to the Mojave People not just to representatives of FMIT. Second, why is there no analysis in the DEIR of the larger Colorado River Cultural Landscape, stretching from Hoover Dam to below Blythe, down to Pilot Knob, which is the larger traditional cultural property ("TCP") within which the smaller TCP (the DEIR's "Topock Cultural Area") is a part?
- The entire project area has NOT been surveyed by archaeologists. In correspondence from Pamela Innis, Project Manager DOI, dated May 3, 2010, and attached to this comment letter, the Tribe was informed that: 1) areas within the Compressor Station fence line have NOT been surveyed, and 2) areas outside the expanded APE that may be part of the final remedy have NOT been the subject of a true 2010 cultural survey as alluded to in the DEIR, but rather, were the subject of a preliminary or "windshield" examination only. The DEIR must be revised to correctly reflect this information.
- Will the Project area ever be subject to a Tribal survey? The Tribe believes that its team could locate additional sites, given its knowledge and training and especially since the area is a religious property. The Tribe also requests to: 1) be part of the crew on all cultural surveys that are related to the Project and 2) that all such reports be provided to the Tribe in draft form for its review and comment prior to finalization.

T1-14

T1-15

T1-16

T1-17

T1-18

<ul style="list-style-type: none"> Based on the two bullets above, and that the entire area is a religious and sacred property to the Tribe, one cannot automatically assume that placing uses in so-called "disturbed" areas is acceptable to the Tribe or would cause no adverse effects. 	T1-19
<ul style="list-style-type: none"> The DEIR repeatedly refers to October 2005 David Earle report, <i>National Register of Historic Places Supplement for the Topock Maze</i>. While the report may have some value relative to the history of the area, it is of questionable or no value when it comes to tribal cultural values because: 1) no Tribal informants were consulted, 2) it is merely a draft, and not a final report, 3) IT does not discuss TCPs, spiritual values or National Register Criterion A (26 CFR 60.4), 4) it focuses only on the three Maze loci as defined archaeologically, and 5) it is unclear about the boundary for the revised nomination and whether related places (intaglios, trails) are included. These limitations of the report must be acknowledged in the DEIR.³ 	T1-20
<ul style="list-style-type: none"> How are additional cultural finds being handled presently? We understand that archaeologists have made finds of previously unrecorded archaeological sites including at the East Ravine Groundwater Investigation Area (Site K Alternate - lithic scatter) and tribal monitors have also made similar finds at the monitoring area site adjacent to the Maze area, Loci A, southeast area (over 150 pieces). How will such finds during remedy implementation influence Project siting?⁴ 	T1-21
<ul style="list-style-type: none"> The DEIR does not reflect the Tribe's view of water: that it includes rain, groundwater, the river, and the Mojave People as they are all part of the same natural cycle. That the groundwater was there for thousands of years, in a pure form, and now it polluted, and being handled, being moved, forced - a violation of that sacredness. 	T1-22
<ul style="list-style-type: none"> The pollution itself, the introduction of reductant, as well as the Compressor Station, the old and new evaporation ponds, pipelines and the monitoring well in the Maze complex, and the associated activities and disturbances (monitoring, testing and operation and maintenance) are all cumulative impacts - impacts that have largely avoided mitigation measures for their cultural impacts in the past and continue to have adverse effects now. The DEIR must consider and mitigate these cumulative impacts. 	T1-23
<p>³ Furthermore, the Tribe must be consulted on any proposed amendment to the National Register listing consistent with the letter from the National Park Service, dated November 23, 2009, and attached to this comment letter.</p>	T1-24
<p>⁴ The Tribe believes that it, and not an archaeologist, should determine the proper treatment for any archaeological discoveries in the TCP. As stated previously, in general, the Tribe believes such finds should be avoided.</p>	T1-25

Impact Assessment: The DEIR Fails to Adequately Assess the Full Extent of Tribal Cultural Resources that Would be Affected by the Project

The Tribe is concerned about the full range of potential impacts to the Tribe and resources of concern to it.

The DEIR lacks an adequate direct or indirect impact analysis for tribal cultural resources. Visual changes, noise, lighting, and vibration are simply listed as potential sources of disturbance, but there is little analysis of how and to what extent each type of disturbance may impact the Project area, its surroundings and tribal practitioners. (DEIR, pages 4.9-4 and 4.9-5). The Tribe is seriously concerned about the Project's impacts adversely affecting the Tribe's relationship to and perception of its cultural areas. For example, the DEIR provides no analysis or consideration of the following concerns:	T1-26
	T1-27
	T1-28
<ul style="list-style-type: none"> The DEIR admits that the introduction of nighttime lighting for site security would introduce a "noticeable change" to the existing visual setting. (DEIR, page 4.1-50). Yet no mitigation is proposed. What level and type of lighting will occur? Will the project cause a "glow" around the area at night? (Please provide a visual simulation of maximum nighttime light and skyglow impacts.) Is there a lighting plan for the Project? If not, why not? The Tribe would like to be consulted on that Plan to assure the minimization of lighting and protection of dark night skies. 	T1-29
	T1-30
	T1-31
	T1-32
<ul style="list-style-type: none"> Will the remediation system construction and operational activities cause rock or slope deterioration, movement, dislodgment or change drainages? 	T1-33
<ul style="list-style-type: none"> How were the Tribal access considerations determined? The Tribe does not understand why PG&E may exclude the Compressor Station and "related facilities" from the areas for which tribal use may be provided, especially where the property has not been subject to a cultural survey. (DEIR, page 4.4-57). Moreover, it is unclear what is meant by the "Compressor Station" and "related facilities." The Tribe's view is that the DEIR should not place any unnecessary and unjustified restrictions on tribal access to its religious properties. 	T1-34
	T1-35
<ul style="list-style-type: none"> According to the settlement agreement between the Tribe and PG&E in the case styled <i>Fort Mojave Indian Tribe v. Department of Toxic Substance Control, et al</i>, Sacramento Superior Court Case No. 05CS00437, the IM3 Wastewater Treatment Facility is to be removed as soon as practicable because of its unacceptable impacts to the Tribe. The Tribe, therefore, was surprised to see in DEIR, Key View Number 6, that new structures were shown at the IM3 facility. If the Plant was deemed an unacceptable intrusion, so would any expanded or new structures at this location. The impact to visual resources must also be shown as significant, not less than significant as currently stated in the DEIR. Alternative locations, off IM3, must be found for such structures. 	T1-36
	T1-37
	T1-38

<ul style="list-style-type: none"> What does in situ reactive zone of extraction/injection wells "along" portion of National Trails Highway mean? Does this mean within the right of way (assuming one exists)? Within a certain number of feet? Directly within the road? (See, for example, key view 4, DEIR, page 4.1-35). The Tribe, in general, feels that it is preferable to put new wells <i>in</i> existing roads instead of into unpaved areas. If there are competing types of historical resources, the Tribe believes that religious tribal cultural properties must take precedence over other kinds of historic properties (such as recreational) which are not entitled to strict scrutiny under the United States and California Constitutions. 	T1-39
	T1-40
The DEIR also makes no effort to show compliance with regulations and policies of the California Native American Heritage Commission (Public Resources Code 5097.9 et. seq.). Portions of this Project would occur on public lands in California, as noted in the Tribe's NOP comment letter. Human remains, sacred shrines and ceremonial places encountered on public land in California are entitled to an enhanced degree of consideration.	T1-41
Regarding human remains discovered during project construction, the DEIR asserts that if human remains are discovered all work would stop near the find. The DEIR text is unclear whether a qualified archaeologist and Native monitors would be present during <u>all</u> earth moving and construction activities and whether the monitoring team would include someone qualified as a bone expert to assist in making field identifications. Further, the number of observers must be sufficient in number given the large geographical scale of the Project.	T1-42
	T1-43
Without such provisions being clearly stated, it is unlikely that any inadvertently discovered human remains will be adequately protected during such activities as the other workers (usually untrained or unable from their physical location to see such remains) would likely be unable to recognize these remains and stop work before unnecessary desecration occurs, even with cultural sensitivity training.	T1-44
Moreover, the DEIR's impact thresholds and analysis do not reflect the traditional tribal cultural value ascribed to the area. It is not just appropriate, but required under CEQA, for the EIR to address the physical conditions which exist within an area affected by a proposed project including ambient noise and objects of historical or aesthetic significance. (CEQA Guidelines section 15360).	T1-45
Environmental settings, such as the sensitive cultural and natural setting at Topock, can trigger significant adverse effects. It is well established in CEQA that significance of an activity can vary with its setting. <i>Oro Fino Gold Mining Corp. v. County of El Dorado</i> , 225 Cal.App.3d 872, 882 (1990) (an activity which may not be significant in an urban area may be significant in a rural area).	T1-46
Public perceptions, economic and social effects may also affect the significance adverse effects. (Guidelines section 15131(b)). The concerns of traditional Mojave People, stated across many meetings and public hearings, are one of the types of public	T1-47

perceptions and social effects that must be factored into the DEIR's significance standards. Of primary importance to the Tribe, are efforts to avoid and minimize impacts to tribal cultural resources.⁵ It also should be noted that tribes are legally recognized as having special expertise regarding properties that have religious significance to them. (NHPA Section 800.4(c)(1)).

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con't.
T1-48
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Thus, the trigger for impact thresholds is not necessarily a simple percentage of a given area would be directly affected by a Project, as alluded to in the DEIR. The DEIR adds further confusion to the issue by stating that the total project area in which potential remediation and monitoring facilities could be located is approximately 779.2 acres (DEIR, page 1-2, Exhibit 3-2 "Project Vicinity"). This exhibit has been a source of confusion, as PG&E was trying to use it to argue for a reduced Area of Potential Effect ("APE") under the National Historic Preservation Act ("NHPA") with BLM. We understand from our meeting with DTSC on July 6, 2010, that this graphic was never intended to be used in the NHPA Section 106 process or for an APE. In fact the DEIR itself acknowledges that some impacts, such as air quality or transportation (and we would add cultural, visual and other impacts) could have effects outside of this area. (DEIR, page 1-2). Further, Tribal members told DTSC at the meeting between DTSC and the Tribe on May 27, 2010, that the impact area is far greater than depicted here. DTSC should clarify this issue to avoid further confusion.

T1-50

T1-51

Direct impacts are typically the easiest for agencies to understand and address in a DEIR. Pursuant to CEQA, each type of impact can be local or regional in scope. There are also other categories of impacts that must be adequately analyzed and mitigated:

Indirect impacts, which may be later in time or farther removed in distance, are of particular interest to the Tribe given the potential long timeframes for the Project (thirty to 100 plus years) and the potential distance of related resources to those that will be physically affected by the Project (related cultural resources along the Colorado River and visual impacts across the valley).

T1-52

Cumulative impacts, which are the effects of the Project "taken together" with past, current and future projects that pose "similar impacts." These are also of particular concern to the Tribe given prior effects to the cultural area in and around Topock (including bridges, highways, recreational facilities, utilities, off road vehicle use, etc.) and other closely related cultural resources for the Tribe (including intaglios, trails, sacred places) that have been impacted in the past and may be impacted further in the future (including industrial solar, geothermal, wind facilities and pipelines and transmission lines).⁶ The DEIR should also address the cumulative impacts associated with PG&E's historic operations and previous and ongoing cleanup activities to date. See

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T1-54

⁵ The Tribe incorporates by reference all the letters its technical consultants, legal counsel and Tribal staff and management have submitted to DTSC and received from DTSC since 2004 which support, detail or address the Tribe's views towards protecting resources in the area and minimizing impacts.

T1-55

⁶ The Tribe does not understand the rationale for using "projects in vicinity" of the Project as the cumulative impact standard. Please explain and provide the legal basis.

T1-56

attached document entitled "List of Topock Project Documents" for a list of activities that have not fully mitigated impacts to tribal cultural resources. T1-57

The Tribe believes the DEIR fails to address impacts to tribal cultural resources and when it does analyze an impact, uses incorrect standards which in turn underestimate the impacts. In all cases, the impacts the Tribe describes relate to physical changes in the environment, as is required by CEQA. T1-58

As shown here and in the attached expert reports this includes impacts to:

- Air quality: The DEIR fails to analyze whether the Project's dust will impact properties of concern to the Tribe. The DEIR should examine whether portable, non-ground disturbing barriers can be used adjacent to site work locations to redirect dirt and dust away from particular tribal cultural sites or areas. T1-59

- Biological Resources: The DEIR fails to analyze the possibility that impacts to biological resources may cause cultural impacts to the Tribe. For example, impacts to ceremonial and resource plants such as mesquite and arrowweed put stress on the Tribe as these plants are used for medicine or for cremation ceremonies. There are ceremonies on how to properly treat the plants, and even their ashes; the DEIR does not address these impacts. T1-60

- Landform Alteration: The Tribe is also concerned about the filling of wetlands and landform alteration which may in turn cause additional visual and erosion impacts. (See, for example, Key View 13, DEIR, page 4-1.45). T1-61

- Visual Resources: Instead of grouping tribal practitioners with recreational and pedestrian viewers, the DEIR should have acknowledged that Tribal religious and cultural practitioners deserve their own grouping and mitigation for the loss of visual quality both from and towards the Topock area, as requested in the Tribe's NOP scoping letter. The mitigation measures proposed in the DEIR may be appropriate for other users (earth-tone concrete, use of a landscape architect) but the Tribe should have been consulted on what mitigation measures may assist in preserving their experience of the area. For example, views to the Topock area from I-40 and I-95 show the clear impact of the compressor station upon that area with the roof shining in the sun, before the Needles Peaks, and intruding upon the valley's intersection with the mountains, is unmistakable and a constant reminder of the intrusion there of the facilities and the pollution. (See attached photo taken from I-95). The Tribe believes that impacts on the visual quality of area should be categorized as potentially significant and unmitigable and that additional mitigation steps be taken, in consultation with the Tribe. T1-62

- Noise: Instead of using a worship standard that reflects worship within an enclosed building, the DEIR should have adopted a standard that better accommodates the actual practices of the religious users of this area, the Mojave People, who do NOT traditionally worship within a building but in the open T1-63

landscape, without walls, to attenuate the noise experienced. The Tribe should have been consulted on what mitigating measures could preserve or even improve their experience of the area. While the impact conclusion might remain potentially significant and unmitigable, surely additional mitigation steps could be taken to help alleviate current (including boat engines, trains, compressor station phone/PA system, helicopters, Park Moabi music) and project-related noise (including construction, operation, maintenance and decommissioning activities) and understand area conditions, such as prevailing winds as requested in the Tribe's NOP comment letter, to help restore some of the aural quality of this area. Moreover, while some cumulative analysis is in the DEIR for noise, only direct and no cumulative mitigation appears proposed.	T1-64
• Aesthetics: These impacts are more than just a matter of visual concern to the Tribe: Will the Project introduce visual, atmospheric or audible elements that could diminish integrity? Does the Project diminish integrity of location, design, setting, materials, workmanship, feeling or association? What level of air quality and dust impacts will be experienced in these cultural areas? Will they affect traditional Tribal practitioners or how they experience the area? As explained by Linda Otero to DTSC at the May 27, 2010 meeting, "It's like turning a dagger in our heart, disheartening, what to expect as the landscape changes."	T1-65
	T1-66
	T1-67
• Utilities: The location and extent of utility connections, both onsite and offsite, is not adequately addressed in the DEIR, which may also cause unstudied impacts to tribal cultural resources.	T1-68
• Hazardous Materials: From time to time during the interim measures, spills have occurred. Do clean up plans call for the protection of archaeological sites and sacred soils? How is this adequately considered in an "emergency" situation? Are the Project's hazardous materials handling, spills, storage and contingency plans available for review?	T1-69
• Water Use Impacts: The Tribe is concerned that the Project could alter water flows and drainages such that biological resources with cultural value, such as plant and animal species within the natural landscape, may lose their environmental support system and no longer occur or be reduced in number. It could also adversely affect species that play an important role within the tribal cultural TCP. The DEIR fails to discuss these potential impacts to resources that currently support flora and fauna and contribute to the tribal TCP.	T1-70
• Water Supply Impacts: The DEIR does not disclose the extent of potential water use by the preferred project or alternatives. Being a priority holder of water rights in this area, the Tribe needs an assurance that its water rights would not be adversely affected by the Project.	T1-71

- Working with Tribal Governments: The Project should also conform to recent guidance adopted and issued by CalEPA regarding working with tribal governments.⁷

T1-72

Mitigation Measures: Inadequate and Culturally Inappropriate

The proposed mitigation measures for cultural and other resources are both inadequate and culturally-inappropriate. In general, the mitigation is inadequate as it is largely nonsubstantive, does not fairly address tribal cultural concerns and tends to parrot boilerplate cultural resource sections of environmental documents typical of much smaller projects, with fewer impacts, over a much shorter time frame, as detailed below. Also, in many instances, the mitigation proposed is culturally-inappropriate as it does not respect or reflect Tribal views and lacks an understanding of the value of Tribal input. Moreover, many of the measures are vague, in that there is no deliverable, no identification of who is responsible for implementation of the mitigation, and/or no timeframe for completion or benchmarks.

T1-73

The following are some examples of specific mitigation measures listed in Table 1-2 that are of particular concern to the Tribe:

- Some measures state that they "shall be" implemented in a manner consistent with mitigation required through the federal CERCLA process (see, for example, CUL-1a, fourth bullet); yet others, state that "to the extent feasible," the measures shall be implemented in a manner consistent with the mitigation required through CERCLA (see, for example, CUL-1b and 1c, first paragraph). This inconsistent application must be explained or else all references should be made consistent.
- The measures provide for PG&E to retain a "qualified cultural resources consultant" to prepare a "cultural resources study" to assess the potential for significant impacts on "identified cultural resources" and "unique archaeological resources" (DEIR, pages 1-31, 1-33). The purpose and scope of this study is unclear to the Tribe, such as whether this applies to only sites that are already recorded or to newly recorded sites, or both. What are the qualifications that would be appropriate to each study? The Tribe also believes that enough is already known, especially at a programmatic level, to have mitigation measures developed now, and not deferred until some future time when there may be less ability to address certain types of impacts, such as those at the landscape level, as we know the Project will be located in this general area and that will not change with any site design changes or additional surveys. Finally, why is there no parallel requirement for a survey of "tribal cultural resources," once Project design and location determined?

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T1-75

T1-76

T1-77

⁷ Cal/EPA Policy Memorandum, *Cal/EPA Policy for Working with California Indian Tribes*, issued 10/19/09, <http://www.calepa.ca.gov/tribal/Documents/CIT01Policy.pdf>.

- The measures state the Native American Tribal Monitors ("Native Monitors") shall be "invited" to conduct yearly inspections or to observe ground-disturbing activities. (DEIR, pages 1-32 and 1-34). While additional specificity may be located in the DEIR text, the Tribe is deeply concerned about the term "invite." It is the Tribe's view that PG&E must be required to request qualified Native Monitors for any and all ground-disturbing Project activities and that they must be compensated for their work, as professionals, by PG&E. If a tribe chooses to not have a monitor present, that is their choice but the request for their presence must be made and be made with sufficient advance notice and for an adequate number of monitors to be present for the nature of the activity (i.e., at least one monitor for each piece of earth moving equipment and for each archaeological screening activity).
- The measures state that paleontological monitors "shall be empowered to halt construction activity" in the immediate vicinity of a paleontological find to allow for the recovery of unearthed fossil remains. (DEIR, page 1-35). It is unacceptable to the Tribe that qualified Native Monitors are being given less professional discretion in the field; instead, Native Monitors are being asked to follow a chain of command in the field that may not on its face, enable them to halt construction work in the field to protect tribal cultural resources or human remains. It is the Tribe's opinion that all three field professionals: the paleontological, archaeological and tribal monitors should be given the same professional deference in the field; to do otherwise is discriminatory and an affront to environmental justice. You are asking for the Native Monitor's professional judgment, why would you not follow it? Moreover, the same pragmatic issues of scientific discovery govern: if the Native Monitor is allowed to halt work and inspect, there is actually less opportunity for delay as negative identifications will not need to go through the cumbersome notification process currently proposed.⁸

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T1-79

Mitigation Measures: Additional, Feasible Mitigation Measures Are Available

DTSC has assured the Tribe in the two recent face-to-face meetings that it realizes additional Tribal-specific mitigation is warranted; similarly, in meetings held in June 2010 between the Tribe and BLM/DOI and the Tribe and PG&E, they appeared to agree.

We understand that this is PG&E's largest remediation project. Its cost range within the CMS/FS is listed as \$92 million to \$198 million for Alternative E (CMS/FS, Table D-6, page D-14). We understand that this range includes a -30 percent to + 50 percent contingency because of the uncertainty in materials costs (e.g. fuels) that could affect the estimate between the planning stage through project design and

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⁸ DTSC may need to direct PG&E to incorporate provisions for Native Monitors into their contractual agreements to ensure compliance.

T1-81

implementation.⁹ We also understand, however, that this range does NOT include what might be termed "soft" costs or reimbursement of federal and state entities for their oversight. Thus, mitigation for the significant and unmitigable impacts to cultural resources should be at a scale in proportion to the substantial Project itself and be meaningful to the people who have been and continue to be impacted.¹⁰

T1-82

The Project may have different impacts on each participating tribe. Therefore, each tribe could identify and support mitigation measures to lessen the impacts on it, as has been done on other projects. Because of its omission in the DEIR, the Tribe has suggested, out of necessity, a mitigation framework both at the BLM Programmatic Agreement ("PA") meetings and in meetings on the DEIR with DTSC and PG&E. The measures proposed by the Tribe are consistent with CEQA in that they: 1) are reasonably related to and have a nexus to the Project's impacts and 2) the scope of the mitigation measures is roughly proportional to the impacts.

T1-83

The Tribe's mitigation framework reflects that the project, in its current form, has a disproportionately high impact on FMIT. The Tribe: 1) is the closest to the Project (members of the FMIT have to live in the Project's shadow every day; they see their sacred Avi Kwa Ame and Topock Needles every day, as they live their lives within their sacred places (unlike many religious practitioners who look only to faraway lands, they are reminded daily of their culture and history), 2) is the only tribal landowner within the Project's footprint (this carries a special burden and necessity to monitor the Project for the life of the Project), and 3) is obligated to protect the area that is sacred to it (members of the FMIT have survived forced eviction from their valley, for hundreds of years, and request that the destruction of their culture not be accelerated by the Project).

T1-84

While some impacts can, be subjective, such as those related to cultural, visual, social, indirect and cumulative impacts, the Tribe has submitted substantial evidence in the record, through letters, testimony and reports, to support the nature and foundation of their views. Based on this evidence, there is no question that environmental harms have been, are presently, and will occur in the future to the FMIT and its people. In fact, both PG&E's and DTSC's upper management admitted this in their respective 2005 formal written apologies to the Tribe. There is no need to wait for the final design phase to begin to mitigate the Project's environmental effects.

T1-85

The Tribe's suggested categories for additional mitigation measures include: 1) restoring the land and its life-forms, improving tribal access and reducing incompatible uses, 2) strengthening traditional Mojave spiritual, cultural and funerary traditions, and 3) assisting the Tribe in relating to the remediation project. Additional support for these categories is also found in the precedent set on other projects, which have incorporated

T1-86

⁹ The CMS/FS Appendix D (page D-48) also appears to include a cost for "cultural surveys" of \$ 50,000 over each of 29 years. The Tribe requests clarification of what "cultural surveys" entails to better assess the adequacy of this projection. It is unclear if this includes project monitoring, surveys, oversight, etc.

T1-87

¹⁰ The DEIR also should be clear regarding financial assurances for the Project and its mitigation measures. What kind of financial assurances will be required by DTSC and will these be sufficient to cover the Project through the post-remediation monitoring phase and through all restoration activities?

T1-88

these forms of mitigation into their Programmatic Agreements or Memoranda of Agreement. (See attached document, entitled "List of PA Mitigation Measures"). The Tribe remains willing and able to further discuss each of these categories, mitigation measures, projects and the anticipated cost ranges for measures within each of these broader categories. Any measure which is not listed as a specific mitigation measure should be incorporated as a condition of project approval.

T1-86
con't.

Even with additional mitigation, however, the Tribe strongly believes the Project's impacts on its tribal cultural resources is still significant and unmitigable. To the extent feasible mitigation measures do not mitigate significant impacts to insignificance, DTSC will have to prepare a Statement of Overriding Considerations to approve the Project, which must be supported by substantial evidence in the record. However, if feasible mitigation is proposed that would reduce the severity of an impact, the Lead Agency must nonetheless adopt it.

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T1-90

Additional, culturally-appropriate mitigations exist for impacts to tribal cultural resources of concern to the Tribe. However, these measures are absent from the DEIR, in part, because the Tribe was not consulted by DTSC on such measures during the development of the DEIR.

T1-91

Our sacred lands are all that remain keeping us connected to our place on Mother Earth, to our spirituality, our heritage and our lands; what's left of them. If they take it all away, what will remain except a vague memory of a past so forgotten?" excerpt from One Nation, One Land , One People by Tamra Brennan, 2006.

Mitigation Measures: Mitigation Measures of Shared Value

There are also additional mitigation measures that would help mitigate concerns shared by the Tribe and other stakeholders. These include: 1) funding one or more rangers (BLM and/or Tribal) to patrol the Topock area, 2) funding the ACEC management plan and 3) addressing cumulative impacts associated with developments and activities incompatible with the ACEC and National Wildlife Refuge values.

T1-92

Additional patrol personnel are already warranted under current conditions given the increasing incursions and damages to the area, including to the earth drawings and Maze areas. Based on Tribal experience, these impacts are not limited to any particular time of the year; incursions are a year-round problem (when the weather is warm, the impacts may be associated with the recreational users of the river; when the weather is cooler, the impacts may be associated with the off highway vehicle users). It is expected that these effects will only worsen with the introduction of additional remediation activities in the area, which in turn, the Tribe has observed attracts more of the public to the area. BLM has stated to the Tribe both in the past and recently, that it lacks sufficient personnel to do the patrols.

T1-93

Similarly, the DEIR analysis is hampered due to the lack of a Management Plan for the ACEC. (See, for example, DEIR, page 4.3-35). The Tribe disagrees that because remediation is "not a prohibited activity" that there are no conflicts between the remediation and cultural elements of the ACEC. This ACEC was established several years ago, but still does not have a governing ACEC management plan. BLM has told the Tribe that this is because of a lack of BLM staff and funding. An additional mitigation measure for the Project would be for it to fund or contribute to the funding of a Management Plan for this ACEC, to be completed within a set timeline. The Tribe, who actively participated in the designation of the ACEC, requests to be consulted and involved in any such effort to develop the much-needed Plan.

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Finally, additional projects are being proposed for the Topock area which will likely pose additional effects and uses incompatible with the sacred area and protected environmental values. These include a private hotel development on the Arizona side and further expansion of the Park Moabi facility to include a 250 space RV park. Such projects would further exacerbate cumulative impacts to visual, noise, cultural and biological impacts, among others. The last expansion of Park Moabi, and the proliferation of websites regarding resources at Topock, have already caused harmful exploitation of resources important to the Tribe.

T1-96

Role of Programmatic DEIR

The instant DEIR is supposed to be Programmatic and related to groundwater. (DEIR, page 4.4-1). We understand from DTSC that the Project elements (up to 170 new wells total, up to 6,000 linear feet new roads, up to 50,000 linear feet of new utility connections, etc.) were requested by DTSC to reflect the maximum amount of facilities. Because the DEIR could authorize that amount of development on a programmatic level, the Tribe requests that mitigation match that amount of worst case development.

T1-97

Generally, under CEQA, subsequent environmental reviews for future actions will rely on the Programmatic EIR and only look at new, unstudied or worsened potential environmental effects. Yet, the DEIR does not provide a framework for how DTSC intends to examine these future actions and whether or how it intends to involve the tribes in this decision making. This is an important issue, particularly for impacts related to replacement wells, etc., when a like well in the same location is not possible.

T1-98

A somewhat related concern exists relative to any aspects of the Project that might propose a long term permit, lease or right of way. Lengthy terms, especially those without a review trigger, may pose additional unacceptable risks to the Tribe and visitors. A shorter term, such as no more than 5 years, with renewals contingent on meeting mitigation, monitoring and approval conditions accompanied by public review would be more appropriate.

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Finally, how will DTSC provide a framework for checking in periodically and determining: 1) if the impacts are consistent with what was studied in the DEIR (and if they are not, what is the plan for addressing these issues) and 2) that the mitigation

T1-100

measures are working as predicted in field (and if they are not, what is the plan for addressing these issues).

T1-100
con't.

Restoration Plans Inadequately Addressed in DEIR

The Project's impacts to cultural resources are permanent and irreversible.¹¹ The restoration concepts, such as they are, cannot and do not restore the landscape or the tribal cultural values to even close to what they historically have been and even are today. Nonetheless, restoration plans must be developed and implemented in consultation with the Tribe. The Plans should include performance standards until the restoration is complete, just as DTSC has for health and safety, environmental protection, etc.; this should also include an analysis of not just trying to restore to conditions of the recent past, but looking deeper into history, for example to conditions that may have been present historically, such as forests near the River. It should also include visual simulations of the relevant Project areas during restoration phases and activities.

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Existing obligations for PG&E to restore aspects of the Topock area should NOT be included as mitigation measures for the Project, as that would allow PG&E to "double dip" and take double credit for mitigation. Restoration that is NOT mitigation for the current Project, but for past activities, includes restoration of any existing evaporation ponds and restoration of IM3 and its component parts, as there are pre-existing commitments to perform this restoration, unrelated to the final remedy. While the Tribe may support those activities, the Tribe wants to ensure that they are not credited against the mitigation required for the Project's additional impacts to tribal cultural resources. Finally, will restoration plans be separately reviewed pursuant to CEQA?

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T1-104

Project's Federal Nexus

The DEIR text is unclear regarding how the state and federal regulatory processes and framework for the Project intersect and what to do when the intersections are NOT seamless, such as designation of the No Action/No Project Alternative.¹² This has been an issue of concern to the Tribe that has been raised for several years with state and

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T1-106

¹¹ From the Tribal viewpoint, data recovery is NOT the only form of irreversible effect to tribal cultural resources.

T1-107

¹² The so-called "No Project Alternative" (referred to in the Statement of Basis and by DOI as Alternative I) is neither a "no project alternative" nor does it comply with the Settlement Agreement, as discussed in DEIR Section 7. The IM3 facility was cited under an emergency authorization, and there is no authority for an indefinite continuation of that interim remedy: An alternative final remedy must be selected. Also, the DEIR states in Section 8.7.4 that CEQA Guidelines state that "the No Project Alternative should consider the existing conditions at the time of the notice of preparation (NOP) is published." While the CEQA Guidelines provide that guidance, that guidance does allow for some agency discretion and was expressly superseded by the Settlement Agreement which *requires* that a January 2004 environmental baseline be used for "retaining any equipment or installation on the IM-3 Site." Thus, a Final EIR that was used as a basis for selecting the No Project Alternative would be fatally defective. However, should Alternative E, as revised, be selected (and all feasible mitigation measures using the January 2004 environmental baseline be adopted for that alternative), the failure to use the proper environmental baseline for the No Project Alternative could be harmless error.

T1-108

federal agencies and never received a satisfactory response; the only response has been, in essence, not to worry as DTSC and DOI are working together closely.

T1-106
con't.

A similar area of concern has been the treatment of tribal concerns as ARARS. As the Tribe has repeated pointed out, the impact of a remedy is a required "threshold criterion" for remedy selection, not just a "modifying criterion" of "community acceptance." See, for example, Letter from Hargis + Associates to DTSC and DOI, dated February 26, 2009, regarding FMIT comments on Draft CMS/FS, incorporated herein by this reference. In the DTSC's PowerPoint presentation on the DEIR for the Tribe's May 27, 2010, meeting with it, slide 12 was confused regarding whether tribal concerns were a performance standard or a balancing criterion. The Tribe's concern all along has been that its concerns be treated seriously and as early as possible in Project planning. The impacts on the Tribe's cultural and spiritual interests, arising directly or indirectly from the Project or alternatives, must be considered as a "threshold creation" by both DTSC and DOI in remedy selection, and such impacts (which have been determined to be unavoidable and not capable of mitigation below a level of significance) must be mitigated to the maximum extent feasible.

T1-109

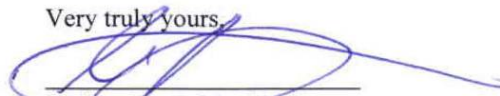
Conclusion

In closing, we respectfully request: 1) that my office be provided with any future public notices or environmental review documents related to the proposal, 2) to be provided with copies of all DEIR comment letters within ten days of the close of the public comment period and 3) to have 30 days to review the FEIR prior to approval by the agency in order to consult, if necessary, on its conclusions relative to Tribal concerns.

T1-110

We appreciate the extended review period given to tribal governments and other stakeholders and remain open to dialogue with DTSC and PG&E with the goal of revising the DEIR and conditions of project approval so that the Tribe may support the document.

Very truly yours,



Christopher J. Martin, Esq.
for
Courtney Ann Coyle
Attorney at Law

Attchs.:

Expert Report 1: Thomas F. King, Ph.D, Technical Consultant, dated July 17, 2010
Expert Report 2: Dr. Leo Leonhart, Technical Consultant, dated July 18, 2010
Expert Report 3: Nora McDowell-Antone, Topock Remediation Project Manager, dated July 19, 2010
Photograph taken from I-95

FMIT Comment Letter
Topock DEIR

Letter from DTSC Counsel Leisy to Chairman Williams, dated June 24, 2010
Letter from National Park Service to Courtney Ann Coyle, dated November 23, 2009
List of PA Mitigation Precedents, dated July 5, 2010
List of Topock Project Documents
Letter from Pamela Innis to Dr. Leo Leonhard, dated May 3, 2010

CCs:

Hon. Timothy Williams, Chairman, Fort Mojave Indian Tribe
Each Tribal Council Member, Fort Mojave Indian Tribe
Nora McDowell-Antone, Topock Remediation Project Manager
Pam Innis, DOI Project Manager
Nancy Brown, BLM Liaison, ACHP
Wayne Donaldson, California SHPO
James Garrison, Arizona SHPO
Larry Myers, Native American Heritage Commission
Scott Morgan, State Clearinghouse
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*Training, writing, consultation and dispute resolution
in cultural resource management*

July 17, 2010

Nora McDowell-Antone,
Project Manager Topock Remediation
Fort Mojave Indian Tribe
P.O. Box 5990
Mohave Valley, AZ 86440

RE: Comments on Draft Environmental Impact Report for PG&E Topock Groundwater Remediation Project

Dear Nora:

Per your request for technical consultant review and comment, I've reviewed the draft environmental impact report (DEIR) on the Topock Remediation Project (Project), and am writing to provide comments for you to consider and, at your discretion, share with the California Department of Toxic Substances Control (DTSC) and others. My comments focus on the Project's impacts on cultural resources that I understand to be of significance to the Fort Mojave Indian Tribe (FMIT) and other tribes. Notable among these resources, as I understand from conversations with you, Linda Otero, and others, is the landscape, broadly construed, within which the existing Topock treatment plant and compressor station exist and within which remediation of toxic substances in the groundwater is proposed. I will comment on sections of the DEIR that I think are deficient or otherwise give reason for concern.

My comments are based on my work over the last five years as your consultant on this Project, and my 40 years experience working with tribes, federal, state and local government agencies, Native Hawaiian organizations, non-governmental organizations and other interests interpreting the federal and related tribal, state, and local environmental, historic preservation, and "cultural resource" laws. A resumé of my qualifications is attached for reference.

Section 4.1: Aesthetics.

- A. *General Concern:* Aesthetics are, of course, very much in the eye and mind of the beholder, so it strikes me as odd that the authors of this section give no indication that they actually discussed aesthetics with anyone who regularly looks at the area. Similar analyses I have reviewed have been grounded on interview and polling data in which real viewers are asked to look at and respond to views with and without the proposed facilities under analysis. The

T1-111

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Topock aesthetic analysis appears to me to be flawed by its failure to outline any basis for its many conclusory statements. Who, for example, decided what the “key views” are, and how was this decided? In the absence of interview data with viewers, how is it possible for the analysts to even decide what the key views are, or how serious the impacts will be on a particular view? Surely the purpose of the DEIR is not to examine impacts only on the visual analysts themselves. The lack of grounding in the actual views and opinions of viewer groups strikes me as a fundamental methodological flaw, as does the failure even to specify a basis for many of the study’s statements.	T1-111 con’t.
B. <i>Subsection 4.1.1.2: Existing Visual Quality.</i> Related to the above general concern, without talking to the people who do the viewing, how are the analysts able to say that, for instance, “(v)iewers located in, or looking toward, the western edge of the Project area experience a low level of visual quality?” Visual quality is a highly subjective phenomenon, but these analysts seem to think that they can somehow objectify it without even considering the views of those who, in this case, experience it.	T1-112
C. <i>Subsection 4.1.1.3: Viewer Groups.</i> This subsection is especially deficient in its failure to identify members of the FMIT and other tribes as a group with special views, viewpoints, and values invested in the viewed landscape. Tribal members are lumped with “tourists” as people who engage in “traditional cultural practices” somehow related to what the analysts define as the “Topock Maze.” This maze appears to be the one defined by the Bureau of Land Management (BLM) and others based entirely on archaeological data and interpretations; it is of course only one small (though important) part of the landscape important to FMIT members. It is truly astounding that the analysts did not recognize that FMIT members, and members of other Mojave tribal groups, might have special concerns about the Project’s “aesthetic” impacts. Given this amazing misunderstanding, it is not surprising – but is nonetheless disappointing – that they failed to talk with the Tribe about what these concerns might be. I believe that the failure to identify the FMIT and other tribes as a viewer group or groups, and to try to determine their concerns – in essence to visualize the Project’s impacts through their eyes – utterly invalidates this portion of the DEIR.	T1-113
D. <i>Subsection 4.1.3. Environmental Impacts and Mitigation Measures.</i> Having adduced the quality of the visual environment both generally and from specific viewpoints without bothering to discuss the matter with those who will do the viewing, the analysts move blithely on to tell us what impacts the Project will have and how these can be mitigated. They report preparing simulations of the potentially altered views from their self-defined “Key View” points, but there is no indication that they showed these simulations to anyone who might actually be affected. Instead, it appears that they simply looked at them themselves and arrived at conclusions, possibly based on standardized guidelines. Particularly in a case like this one, where a key issue involves effects on tribal members whose views of the landscape are likely to be highly influenced by cultural factors not experienced by the analysts, I suggest that it is simply unacceptable for the analysts to use their own	T1-114

aesthetics as their sole basis for judgments about the severity of impact. Predictably, the analysts find that most impacts on the aesthetic environment are not significant, and that those that are “potentially” significant can be “mitigated” to an insignificant level. I can find no evidence that the FMIT or any other viewer group (except the analysts themselves) was consulted in reaching these “significance” assignments or in developing measures to mitigate impacts.	T1-114 con’t.
E. <i>No consideration of cumulative effects.</i> Section 4.1 is notable for the way it totally ignores the cumulative visual effects of development. In fact, it treats some of the accumulated effects of past actions (the highway, pipelines, railroad, etc.) as rationales for finding that the current Project’s effects will be insignificant or easily mitigated. This stands the concept of cumulative effects analysis on its head. The lack of cumulative effects analysis is a clear and obvious deficiency.	T1-115
F. <i>Summary Comment:</i> Section 4.1 may be an accurate description of the Project’s potential aesthetic impacts on the visual environment as experienced by the analysts, but the analysts are not the ones who will actually be affected, or who are now actually affected by the pattern of cumulative effects to which the proposed Project will contribute. Most particularly, the analysts are not the ones whose deceased relatives, in their belief, pass through the Topock visual environment en route to the next world. This section accomplishes nothing, because it analyzes only impacts on a population (the analysts) that will not be impacted in any event.	T1-116

Section 4.2: Air Quality.

A. <i>Subsection 4.2.1.8: Odors.</i> The DEIR summarily dismisses the possibility that there could be any offensive odors in the area, since there is “little human development.” It is interesting that to the analysts, apparently highways, railroads, pipelines and pumping plants do not constitute “human development.” Predictably, there is no evidence that they asked anyone – notably members of the FMIT – whether they like the way the place smells.	T1-117
B. <i>Subsection 4.2.2.3: Odors.</i> Here the DEIR seems, rather ambiguously, to recommend that odor impacts be determined qualitatively at some future time. Presumably this means that someone is supposed to ask people how the place smells once the Project is underway. This seems a strange way to analyze a Project’s <u>potential</u> effects.	T1-118
C. <i>Subsection 4.2.3: Impact Analysis.</i> Having acknowledged neither existing odors nor the potential for new ones, the DEIR has nothing to analyze in the way of odor impacts – even direct ones; as usual, cumulative effects are ignored.	T1-119

Section 4.3: Biological Resources.

You and other FMIT members have repeatedly explained to me, as well as to DTSC and others involved in the remediation Project, that plants and animals (“biological resources”) are integral	T1-120
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elements of the cultural landscape valued by members of the FMIT. Such “resources” are among the living things with which people share the landscape, and some (e.g. mesquite) are critically important in tribal culture. This section never addresses this aspect of the biological environment. As a result, it neither accurately characterizes the landscape’s existing condition nor addresses the Project’s potential effects (direct or indirect, or its contribution to cumulative effects) on the landscape’s “biological resources.”

T1-120
con’t.

Section 4.4: Cultural Resources (sic)¹

This section begins with a contradiction. Although titled “cultural resources,” it specifies in its first sentence that it addresses only “historical, archaeological, and paleontological resources.” The first two types of resources are certainly cultural, but they hardly exhaust the range of “resources” in the environment to which cultural significance may be attached. Spiritual, artistic, educational, and subsistence values are regularly ascribed by tribes and others to plants, animals, water, air, rocks, earth, and other aspects of the environment; these are certainly cultural resources that do not always fall easily within the rubrics “historical” and “archaeological.” On the other hand, it is something of a stretch (albeit one that is made routinely in CEQA practice²) to define paleontological resources as “cultural,” though such resources do have educational value and are regarded as ancestral beings by some tribal groups. Uncertainty about the subject of this section is exacerbated by its swift passage, in Subsection 4.4.1.1, into a lengthy discussion of “historical context” and “archaeological setting.” It appears that in the minds of the analysts, though contrary to plain English usage, “cultural resource” means “archaeological or historical site or place,” with “paleontological site” thrown in for good measure.

T1-121

This section goes on to discuss the various tribes of the area as aspects of its “ethnographic setting.” The perspective of the discussion is that of an outsider looking in, and the tribes are mostly described in the past tense. Toward the end of each tribal description there is brief acknowledgement of the tribes’ continued existence, but on the whole they are treated only as historical/ethnographic curiosities. As usual there is no indication that anyone in the tribes was asked for their thoughts about the environment or the Project’s impacts, and very little is said about the deep cultural attachment that the FMIT and some other tribes feel toward the landscape in which the Project is planned to be carried out.

T1-122

A. *Subsection 4.4.1.2: Archaeological and Historical Resources.* This subsection continues to reflect confusion about its subject. Titled “Archaeological and Historical Resources,” it repeatedly refers to “cultural resources” as though the two terms meant the same thing. If this is what the analysts think, they should explain to the reader why they have such a narrow view of culture, and somewhere the DEIR should address potential impacts on those aspects of the cultural environment that are neither “archaeological” nor “historical,” or that transcend these narrow categories.

T1-123

The subsection begins with a discussion of “methods and sources of information,” which focuses primarily on archaeological surveys conducted within an arbitrarily defined “area of potential effects” (APE). We are not told how this APE was established, but it clearly does not embrace all the areas in which effects – notably visual, auditory, and olfactory effects – may occur. It appears to be merely an area

T1-124

within which it is thought (by someone) that “archaeological sites” may be damaged by construction. Exactly what those conducting the archaeological surveys were looking for is not made clear; the authors refer vaguely to seeking “visible, potentially significant cultural resources.” In keeping with their overall practice, they do not tell us what they think “cultural resources” are; we are also not told to whom such resources may be “visible,” and we are not enlightened about who determines “potential significance” or how. The subsection ends with an “inventory” of “prehistoric and historic resources;” exactly how this terminology relates to the subsection’s references to “cultural,” “archaeological and historical,” and “paleontological” resources is not elucidated. I surmise that this “inventory” (outlined in a multi-page table) comprises a list of places revealed by the archaeological survey – that is, recognized by archaeologists – as places somehow associated with human activity either since the coming of non-Native Americans to the area (“history”) or before (“prehistory”).

T1-124
con’t.

T1-125

- B. *Subsection 4.4.1.3: Native American Heritage Resources.* Refreshingly, this subsection does attempt to relate to the values tribes ascribe to the environment, but its very existence is something of a puzzle. Are “Native American Heritage Resources” not “historic?” Are they not sometimes expressed “archaeologically” – that is, through the presence of artifacts and other material on and in the ground? Are not all the ostensibly “prehistoric” resources discussed in the previous subsection also “Native American Heritage Resources?” The reader is left to wonder how this subsection relates to the preceding one.

T1-126

Much of this subsection is given over to a discussion of how the analysts consulted with the various tribes. It is good to see that they did consult to some extent, and some concerns of some tribes are briefly outlined in tabular form (Table 4.4-2). The FMIT’s concerns about effects on the entire landscape, including the river, are summarily reported in the table, as is its insistence that cumulative effects be addressed. FMIT concerns are elaborated upon to some extent on subsequent pages (See pages 4.4-28 through 31).

T1-127

On page 4.4-32, we are given another “inventory of resources;” how this relates to the previous one is not explained. The first “resource” described is the Topock Maze, including a very handsome aerial photograph. It is my understanding that it is contrary to the traditions of the FMIT for the Maze to be photographed, or at least for such photographs to be published; one wonders whether the analysts were not made aware of this, or simply elected to ignore it. Be this as it may, the discussion responsibly notes that the Maze is only part of a larger culturally significant landscape, but little is said about this landscape, how the Maze relates to it, or its other component parts. The reader is left with the impression that the Maze as defined by archaeologists and included in the National Register of Historic Places (NRHP) is the main (if not exclusive) “heritage resource” of concern to the tribes. As you know very well, and as I have learned over the last five years, this is by no means the case. We have repeatedly explained to DTSC and the other agencies involved in the Project that the FMIT’s culturally valued landscape extends far up and down the

T1-128

T1-129

Colorado River and for some miles back from its banks; it is disappointing to see this fact so poorly represented in the DEIR.

T1-129
con't.

- C. *Page 4.4-36/37: Discussion of traditional cultural properties.* In a generally accurate gloss on National Register Bulletin 38, the National Park Service's guidelines for determining the eligibility of traditional cultural properties for the NRHP, the DEIR says that agencies must first "evaluate the integrity of the resource as a TCP," before determining its eligibility for the NRHP. What the authors leave out is Bulletin 38's repeated allusions to evaluating integrity and other aspects of a property through the eyes of those who value it. As the co-author of Bulletin 38, who thought it was almost too obvious a point to mention, I am continually surprised at the difficulty that some agencies and consultants have in grasping this simple principle. In a very real sense, no one outside the group that values a place – and certainly no agency of government – can say whether that place is a "TCP" or has integrity. This is a particularly important point with regard to the landscape surrounding and including the Topock Maze. Though no fault of the FMIT or other tribes, the area has suffered many abuses over the years (the pattern of cumulative effects alluded to above), it is up to the tribes and their members, not to DTSC or any other agency of government, to decide whether these abuses have caused it to lose integrity. Failure to recognize this seemingly obvious point has led BLM in the past to discount tribal cultural concerns about places where the land had been "disturbed" by recent construction or land use. Such places may have lost integrity in the eyes of archaeologists, but they have not necessarily lost integrity in the eyes of tribes and their members. Since it is to tribes and their members that places like the landscape around the Topock Maze is culturally significant, it is their views, not those of archaeologists, that matter in judging the integrity of the landscape and its component parts.

T1-130

- D. *Pages 4.4-47, 53-54: Topock Cultural Area.* It is gratifying to see DTSC acknowledge that what it calls the "Topock Cultural Area" – not only the Topock Maze as understood by archaeologists but the landscape within which it lies – qualifies as an historic resource under CEQA. This determination shows a good deal more wisdom, humanity, and good sense than BLM's continued dithering over whether the area qualifies for the NRHP³. Unfortunately, however, the DEIR, without providing any rationale for doing so, restricts recognition of the landscape's cultural significance to that portion of the landscape lying "within the Project area" or within "the area that may be affected by the proposed Project" (both terms appear on page 4.4-53). This restriction introduces ambiguities into DTSC's determination that (a) make no sense and (b) are likely to complicate efforts to manage and mitigate Project effects.

T1-131

By way of analogy, imagine that we were considering remediating a toxic spill under a parking lot in Yosemite Valley. In considering the potential impacts of the remediation on the Valley, would we say that Yosemite has historical, cultural, and scenic significance only within the Project area (that is, the parking lot)? Or would we ascribe such significance only to areas that might be affected by the remediation? Of course we would do neither, because neither ascription would make any sense.

Instead we would recognize that Yosemite Valley is a beautiful, historical, culturally valuable place with or without parking lots, toxic spills, or remediation projects, and we would then evaluate the potential impacts of the remediation Project on its values. In just the same way, the expansive landscape that surrounds and includes the Topock Maze is culturally, historically, and spiritually significant to the FMIT and other tribes; this significance is utterly independent of the effects of the Topock Remediation Project.

If DTSC recognizes only that area within the “Project area” as significant, then it fails to consider areas that may be subject to visual, auditory, and other effects outside the Project area boundaries, and hence it fails to consider effects on such areas. This is unlikely to be acceptable to the FMIT and other tribes, and is contrary to CEQA’s requirement that all environmental impacts – not just direct, physical, impacts within a Project area – be considered, so it is sure to lead to further arguments down the road. If DTSC recognizes as significant only “the area that may be affected,” as that area is presently defined, then in the future if the effects of the Project change in any way, DTSC is going to have to go through a whole process of evaluating the significance not only of the newly defined effects but of the lands where the effects will occur. This will certainly waste time and money, and try everyone’s patience (especially that of the FMIT). It would be much simpler, more efficient, more consistent with reality, and more defensible legally simply to recognize as historically significant the entire landscape within which the Project is proposed, and move on to the real question of how impacts on that landscape’s values can be mitigated.

T1-131
con’t.

- E. *Subsection 4.4.3.3: Impact Analysis.* This analysis is fundamentally flawed by its stated focus on “those locations where planned construction, operations, and decommissioning activities would occur” (p. 4.4-54). These are arguably the locations where direct physical impacts will occur on resources important to archaeologists – assuming, ridiculous as it would be to do so, that the pattern of such impacts will not change as the Project matures – but they are not the only areas within which impacts may occur on aspects of the cultural landscape that are important to the FMIT and other tribes. On page 4.4-55 the DEIR acknowledges that effects beyond physical effects on places valued by archaeologists may occur, alluding to visual, auditory, and other impacts and to the effect of the Project’s “mere presence,” but the fact remains that the analysis focuses overwhelmingly on physical impacts on places and things that archaeologists recognize and value, not on those qualities of the environment valued by tribes. It is asserted that visual and auditory effects on the area’s cultural significance are addressed in Sections 4.1 and 4.9, but as noted above and below, this is not really true.

T1-132

That said, this subsection (in a rather tortured manner) reaches what I think is a correct conclusion on page 4.4-56, that the Project’s impacts on the “Topock Cultural Area” will be significant and unavoidable.

T1-133

- F. *Mitigation Measures (Pages 4.4-57 through 64).* As usual in this DEIR, the mitigation measures for “cultural resources” have apparently been developed by

T1-134

DTSC's ostensible experts, without significant attention to the concerns of tribes or other parties. As a result, they are largely irrelevant, and mitigate nothing.	T1-134 con't.
Measure CUL-1a has PG&E avoiding physical impacts to archaeologically defined archaeological sites "to the extent feasible," while allowing tribal members access to the Project site for cultural purposes, provided such access does not interfere with operations or raise safety issues. How these actions are perceived to mitigate the impacts of the Project on cultural resources is not explained.	T1-135
Measures CUL-1b and 1c have PG&E hiring a "qualified cultural resource consultant" (whatever that means) to prepare plans for dealing with archaeological sites besides those involved in the Topock Cultural Area. It is not clear whether PG&E is expected to implement these plans or simply put them on a shelf. Generally these measures provide for archaeologists to monitor construction, and for permitting the tribes to visit once a year.	T1-136
Measure CUL-2 also provides for archaeological monitoring.	
Measure CUL-3 provides for paleontological monitoring.	
Measure CUL-4 provides for archaeological monitoring and treatment of human remains if encountered.	
In summary, these "mitigation measures" appear designed to ensure the employment of archaeological planners and monitors, plus paleontological monitors. They have little to do with mitigating the Project's impacts on the Topock Cultural Area as defined by DTSC, and nothing to do with mitigating impacts on the landscape that is significant to the FMIT and other tribes.	T1-137

Section 4.7: Hydrology and Water Quality

I have personally heard you, other FMIT members, and members of other tribes repeatedly stress to DTSC and others that the Colorado River, its tributaries, marshes, and associated aquifers, and the plants and animals that live in or use these water bodies, are important aspects of the cultural landscape to which you and they attach traditional cultural significance. Nothing of this importance is reflected in the discussion of impacts on hydrology and water quality.	T1-138
A. <i>Mitigation Measure HYDRO-1: This proposed measure</i> would require that the Project "meet the substantive criteria of all applicable federal, state, and local permit and regulatory requirements." This measure may be deficient because it fails to require meeting substantive criteria established by the tribes. Even if tribes may not have formally promulgated such criteria, this does not mean they do not have them, and given the long life of this Project, they may well publish such standards before the Project has been fully implemented. This mitigation measure surely should allow for this possibility..	T1-139

- B. *Mitigation Measure HYDRO-2*: This measure posits that the Project will alter local drainage patterns. Since drainages comprise an important aspect of the cultural landscape, the FMIT is likely to want to be consulted about how to implement this measure.

T1-140

Section 4.8: Land Use and Planning

This section fails to note the traditional and ongoing use of land potentially affected by the Project, and already the victim of cumulative impacts, for cultural and spiritual purposes. As a result, it fails to propose any measures to mitigate impacts on such use.

T1-141

Section 4.9: Noise

Like Section 4.1 on visual impacts, this section suffers from a failure to consult those actually subject to current and potential auditory impacts. It appears to reflect an assumption that all human beings experience noise in similar ways, so that hard and fast noise thresholds can be established without recourse to subjective experience. Such an assumption is questionable at best. Also like Section 4.1, this section fails entirely to consider cumulative effects, except by treating past and present effects as the basis for characterizing current ambient noise levels; in other words, past and present contributions to cumulative noise effects are simply accepted as given, and only changes that would exacerbate noise levels above current conditions are addressed. These flaws should be corrected.

T1-142

T1-143

- A. *Subsection 4.9.3.2: Thresholds of Significance*. It is gratifying to see that “conflict with Native American values associated with the Topock Cultural Area” is identified (fifth bulleted phrase) as a significant impact. One’s gratification evaporates, however, when one turns the page and finds oneself referred back to Section 4.4 (“Cultural Resources”) for detail about how such conflicts might be identified and dealt with. Section 4.4, of course, alludes to noise impacts only by referring the reader to Section 4.9. This sort of treatment can only be characterized as giving the reader a run-around; it is meaningless verbiage masquerading as a description of impact significance.

T1-144

- B. *Subsection 4.9.3.3: Impact Analysis*. Here it is gratifying to find, in the discussion of IMPACT NOISE-3 on pages 4.9-23/24, an explicit and somewhat detailed acknowledgement of the potential for noise impacts on tribal values associated with the “Topock Cultural Area”. The analysis is flawed in the usual ways. It fails to analyze cumulative impacts, instead accepting past and present contributions to cumulative impacts as the basis for existing ambient noise conditions. It attempts to impose objective standards of impact measurement on the intrinsically subjective act of hearing, and it was apparently carried out without any involvement by anyone (for example, anyone from the FMIT) whose ears and brains will actually be subject to noise impacts from the Project. Its conclusion – that the auditory impact of the Project on Native American values is “potentially significant” is probably accurate, but the mitigation measures that it goes on to outline are not very meaningful. In essence, MITIGATION MEASURE NOISE-3 proposes to implement general noise control measures outlined in measures NOISE-1 and NOISE-2, and have a tribal liaison person warn tribes when particularly noisy activities are planned. Presumably the tribes are expected to prevent

T1-145

T1-146

anyone from dying and sending his or her spirit through the Maze landscape during the conduct of such activities. Needless to say, there is nothing in the DEIR to suggest that these ostensible mitigation measures were approved by, or even worked out in consultation with, the tribes.

T1-146
con't.

Section 5.1: Unavoidable Significant Impacts

A. *Subsection 5.1.1: Cultural Resources.* This subsection appears to be a verbatim copy of Section 4.4, and is subject to all the comments offered above on that section.

T1-147

B. *Subsection 5.1.2: Noise.* This subsection appears to be a verbatim copy of Section 4.9, and is subject to all the comments offered above on that section.

T1-148

Section 6: Cumulative Impacts

Rather than considering cumulative impacts with reference to each resource or impact type, the DEIR elects to consider them in a separate chapter. This is an interesting approach, with the potential to give cumulative impacts more thoroughgoing attention than might be the case were they embedded in the overall discussion of direct and indirect impacts. On the other hand, by isolating the discussion of cumulative impacts in its own section, this approach facilitates the flawed analyses found in the previous sections, in which past and present contributions to cumulative impacts are accepted as the baseline against which potential effects are measured, resulting in a systematic underestimation of the significance of such effects. Be this as it may:

T1-149

A. *Subsection 6.4.1: Aesthetics.* This subsection acknowledges the potential for the proposed Project to contribute significantly to cumulative effects on the Topock Maze as it is defined by archaeologists, but it quickly proposes that such contributions will be mitigated by various landscaping activities. Beyond this there is no consideration of cumulative effects on tribal values associated with the landscape, and as usual there is no indication that tribes were consulted in developing the DEIR's conclusions. As a result, tribal cultural concerns about ongoing effects that can be classified as aesthetic remain unaddressed.

T1-150

B. *Subsection 6.4.3: Biological Resources.* Like Section 4.3, this subsection evidences no appreciation for the cultural value of "biological resources" to the FMIT and other tribes, so it naturally fails to analyze cumulative effects on such resources as they are valued by the tribes. This too leaves tribal environmental concerns unconsidered.

T1-151

C. *Subsection 6.4.4: Cultural Resources (sic).* Although this section responsibly reports the general concerns of the tribes for the overall landscape within which the Project is proposed, it does not actually analyze cumulative impacts. In fact, it expends a rather large number of words to say very little, and does not reflect much evident understanding of what cumulative effects are. It correctly (if vaguely) concludes that the Project (along with other activities) will have significant cumulative impacts that cannot be reduced to an insignificant level, but it vitiates this accurate observation by proposing that the manifestly inadequate measures set forth in Section 4.4 will somehow mitigate these impacts. Once again, tribal concerns about cumulative impacts – while to some extent represented in the text – are left unconsidered.

T1-152

<p><i>D. Subsection 6.4.7: Hydrology and Water Resources:</i> Like Section 4.7, this subsection evidences no appreciation for the cultural significance of the Colorado River and its associated water resources to the FMIT and other tribes, so it fails to analyze cumulative effects on such resources in a manner relevant to the FMIT's cultural concerns, and effectively leaves these concerns unconsidered.</p>	T1-153
<p><i>Section 7: Alternative Baseline Analysis</i></p>	
<p>This section appears simply to reorganize and parrot material found in Sections 4.3 and 4.4, and reflects the same flaws as the ones found in those sections. The last sentence in this section, on page 7-26, strikes me as a breathtakingly arrogant expression of self-perceived omnipotence on the part of the DEIR authors. Is there, I wonder, a training program that certifies an environmental impact analyst as expert in the restoration of sanctity?</p>	T1-154 T1-155
<p><i>Section 8: Alternatives</i></p>	
<p>With the caveat that it reflects all the same biases and blinders on display in the other sections, this section's comparison of the impacts of the various alternatives appears to me to be fairly accurate.</p>	T1-156
<p><i>Section 9: Other Informational Analysis</i></p>	
<p><i>Subsection 9.1: Environmental Justice</i></p>	
<p>Paragraph 9.1.1.2 on page 9-2 accurately concludes that the proposed Project "could result in a disproportionate burden" on "the Native American community" (i.e. the FMIT and other tribes), "because the resource (the "Topock Cultural Area") is "imbued with cultural, religious, and sacred values" to that community. The impact analysis presented at 9.1.3.2 essentially regurgitates those offered in other sections, and preserves the flaws found in those sections, but the conclusions offered on pages 9-9 and 9-10 appear to be accurate.</p>	T1-157
<p><i>Summary Conclusions</i></p>	
<p>To summarize: in my view, the central flaw in this DEIR lies in its failure to consider the cultural values ascribed by the FMIT and other tribes to the landscape, its physical components, its air and water, and its spiritual qualities; as a result, the DEIR fails to consider direct, indirect, and cumulative effects on these aspects of the environment. Some sections of the DEIR allude to such values, but nothing is done actually to analyze impacts on them, or to propose ways of mitigating impacts. As a result:</p>	T1-158
<p>A. Most sections of the DEIR (regarding aesthetics, water resources, air quality, biological resources, cumulative impacts, etc.), either ignore tribal cultural values altogether or give them only ineffectual lip service;</p>	T1-159
<p>B. The "cultural resources" sections, while I believe they are well-intentioned, are biased in favor of the values ascribed to aspects of the environment by archaeologists and</p>	T1-160

government historic preservation officials, at the expense of tribal values (and indeed anyone else's values).

T1-160
con't.

- C. The measures proposed to mitigate Project impacts are entirely inadequate – indeed, most do not even merit being called mitigation measures. They may be appropriate from the standpoint of archaeologists, but they do not relate to the impacts of the Project on tribal cultural values as these have been explained to me (and to DTSC).

T1-161

To correct these problems, I believe that DTSC should thoroughly re-work all the sections of the DEIR discussed above, in consultation with the FMIT and other tribes, and if the Project goes forward, should require PG&E to implement mitigation measures that:

- A. Are developed through consultation with the tribes, and are acceptable to them;
B. Address the full range of impacts (direct, indirect, cumulative; visual, olfactory, physical, etc.) on all aspects of the environment to which the tribes ascribe cultural value; and
C. To the extent possible, compensate for the offenses that the tribes and their culturally valued landscape have suffered over the years at the hands of PG&E and other agents of cumulative change.

T1-162

I hope the above comments are helpful to you and the Tribe.

Sincerely,



¹ The term "cultural resource" as used in this DEIR and in many other contexts is deeply misleading, tempting the reader to think that environmental resources having cultural significance have been comprehensively addressed – when in fact, only archaeological sites and sometimes buildings and other places eligible for various historical registers have been considered. This ignores the vast majority of cultural values in the environment – culturally significant plants, animals, qualities of air and water, associated songs, stories, subsistence and medicinal practices, art forms, traditional land uses and lifeways – and results in a systematic failure to consider a Project's effects on such values. For further discussion of this issue see "How the Archeologists Stole Culture: a Gap in American Environmental Impact Assessment and What to Do About It." *Environmental Impact Assessment Review* 18(2): 117-133, January 1998.

T1-163

² I am aware that it is standard practice under CEQA to lump paleontological resources with cultural resources, but I suggest that California should re-think this practice. We cannot know, of course, whether extinct animals or plants had culture as we understand it today, but since analysts do not routinely ascribe culture to non-human living things, it seems peculiar to ascribe it to dead ones. Paleontological research is certainly a cultural activity, but so is particle physics, and we do not see quarks and Higgs bosons categorized as cultural resources. I suspect that the lumping of paleontology with culture under CEQA reflects a long-standing practice of equating "cultural resources" with archaeological resources; at some point, I can only assume, someone decided that paleontologists and archaeologists do similar work, so paleontological resources must also be cultural. As noted in the previous footnote, the general equation of culture with archaeology is a most unfortunate one, that results in systematically undervaluing and even ignoring most impacts on cultural resources. This result is vividly on display in this DEIR.

T1-164

³ The overall landscape within which the Project is proposed, extending for miles along the Colorado River and for miles back from its banks, is clearly eligible for the NRHP as a traditional cultural property, based on its association

T1-165

with core cultural/historical Mojave traditions and traditional practices. Despite repeated FMIT explanations, BLM (encouraged by PG&E) seems not be able to quite bring itself simply to recognize and accept this simple fact. To the extent I can understand BLM's less-than-coherent expressions on the subject, it appears to me that BLM is unable to comprehend the difference between formally nominating a place to the NRHP, which requires a good deal of research, analysis, and documentation, and agreeing to regard a place as eligible for the NRHP, which does not require such activities. BLM seems to think that it cannot regard the FMIT's treasured landscape as eligible for the NRHP without elaborate studies and paperwork; moreover, it appears to think that thus regarding it will have administrative complications. In fact, under the relevant federal regulations (36 CFR 800.4(c)), no particular studies or paperwork are required, and the only administrative "complication" implicit in regarding a tribally valued cultural place as eligible is that agencies must consult with the concerned tribe about their actions – a "complication" that agencies must live with regardless of whether NRHP-eligible properties have been identified. Arguably, regarding the landscape as eligible for the NRHP would actually simplify administration of BLM's responsibilities, because it would relieve BLM of the responsibility of making new determinations of NRHP eligibility/ineligibility each time a new Project is proposed that might affect the FMIT's valued landscape. None of this may be directly relevant to DTSC; I would only caution that DTSC should not look to BLM for any wisdom on the question of how to deal with the significance of tribal cultural places. I should also note that DTSC cannot escape its own legal responsibilities by expecting BLM to consult with tribes and to communicate what it learns. DTSC has an independent obligation to ensure that the impacts of the Project are accurately assessed and avoided or mitigated to the extent feasible; it cannot meet this obligation without engaging the tribes in a respectful, consultative manner.

T1-165
con't.

Thomas F. King, PhD

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Professional Resume

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Cultural Resource Impact Assessment and Negotiation, Writing, Training

Employment

Presently: Private consultant, educator, writer, facilitator in cultural resource management and environmental review; Trainer/Consultant, SWCA Environmental Consultants; Archeologist, The International Group for Historic Aircraft Recovery Amelia Earhart Project. Member, Sussex Archaeological Executive, advising the Government of Great Britain regarding archaeological recovery of site thought to be *Sussex* shipwreck off Gibraltar.

Formerly: Senior Instructional Consultant, National Preservation Institute. Expert consultant to U.S. General Services Administration, program director for Advisory Council on Historic Preservation, Consultant to the High Commissioner, Trust Territory of the Pacific Islands, Archeologist with the National Park Service, consulting archeologist, head of archeological surveys at San Francisco State University, UCLA, University of California Riverside.

Education

PhD, University of California, Riverside, Anthropology, 1976.

BA, San Francisco State University (then College), Anthropology, 1968.

Certificate: Mediator, Bowie State University Center for Alternative Dispute Resolution, 1997.

Recent and current Clients

Government Agencies: U.S. Department of Veterans Affairs; Yap State Historic Preservation Officer; Bureau of Land Management California State Office; Bakersfield Field Office; USDA Forest Service. USDA Farm Service Agency, U.S. Fish and Wildlife Service. U.S. Navy, U.S. Air Force, U.S. Army, Federal Aviation Administration, Grand Canyon Monitoring and Research Center. City of Newport News, Virginia.

Indian Tribes & Other Indigenous Groups: Fort Mojave Indian Tribe, Table Mountain Rancheria, Big Pine Band of Paiute, Tuolumne Rancheria, Confed. Tribes of the Umatilla Reservation, Klamath River Intertribal Fish and Water Commission; Office of Hawaiian Affairs; Mole Lake Sokaogon Community of Lake Superior Chippewa Indians; Bad River and Red Cliff Bands of Lake Superior Tribe of Chippewa Indians, Hualapai Tribe. Quechan Indian Nation. Round Valley Indian Tribes. Penobscot Tribe.

Private Sector: Blythe Energy Corp., Cingular Wireless. Odyssey Marine Exploration, Avista Utilities, Dripping Springs Ranch.

Non-profit organizations: National Preservation Institute, Buckland Preservation Society, Backcountry Horsemen of California.

1

EXHIBIT 1

Courses Taught

Short courses for SWCA Environmental Consultants, National Preservation Institute, University of Nevada, Reno, General Services Administration, Advisory Council on Historic Preservation, Environmental Protection Agency, National Park Service, and Department of Defense in cultural resource law and policy, Section 106 review, National Environmental Policy Act implementation, identification and protection of traditional cultural properties, Native American consultation, environmental justice, conflict resolution, and related subjects.

Publications (Selected)

Books and Monographs

- *Companion to Cultural Resource Management* (Editor). Wiley-Blackwell, 2010 (in press)
- *Thirteen Bones* (Novel). Dog-Ear Press, 2009.
- *Our Unprotected Heritage: Whitewashing Destruction of Our Natural and Cultural Environment*. Left Coast Press, 2009.
- *Cultural Resource Laws and Practice: An Introductory Guide* (Third edition) AltaMira Press 2008 (First edition 1998; second edition 2004)
- *Saving Places that Matter: A Citizens Guide to the National Historic Preservation Act*. Left Coast Press 2007.
- *The Archaeological Survey Manual*. With Greg White. Left Coast Press 2006.
- *Doing Archaeology: a Cultural Resource Management Perspective*. Left Coast Press 2005.
- *Amelia Earhart's Shoes*. With R. Jacobson, K. Burns, and K. Spading. AltaMira Press, 2004 (First edition 2001).
- *Places that Count: Traditional Cultural Properties in Cultural Resource Management*. AltaMira Press 2003
- *Thinking About Cultural Resource Management: Essays From the Edge*. AltaMira Press 2002.
- *Federal Projects and Historic Places: the Section 106 Process*. AltaMira Press, 2000
- *Piseken Nóomw Nón Tonaachaw: Archeology in the Tonaachaw Historic District, Moen Island, Truk*. With P.L. Parker, Southern Illinois University, Carbondale and Micronesian Archeological Survey, Saipan 1984.

Articles

- Archaeology of the Recent Past; The Legal Mélange; and A Future for Cultural Resource Management? Chapters in *Companion to Cultural Resource Management*, Wiley-Blackwell, 2010 (in press)
- My Historic Environment. *Historic Environment* 1:1:103-6, Maney & Son, London, 2010.
- Backing Into Disaster: Lessons in Cultural Resource Management from the "Graving Dock" at Port Angeles, Washington. *Journal of Northwest Anthropology* 4(2):153-161, 2009.
- Who Makes It Heritage? *Heritage Management* 1:1:99-107, 2009.
- Review of *Archaeological Theory and the Politics of Cultural Heritage*, Laura Jane Smith, *Australian Archaeology* 66:77-8. June 2008.

Articles (continued)

- Entries on archaeological ethics, archaeology in environmental impact analysis, and deep-ocean archaeology in *The Encyclopedia of Archaeology*, Deborah M. Pearsall, ed. in chief, Elsevier, New York, 2007.
- Review of *Yearbook of Cultural Property Law: 2006*, Sherry Hutt et al, eds., *The Public Historian* 29:2:109-113, 2007
- Review of *Ethnographies of Archaeological Practice: Cultural Encounters, Material Transformations*, Matt Edgeworth, ed., *The Applied Anthropologist* 27:2:186-8, 2007
- "Creatures and Culture: Some Implications of *Dugong v. Rumsfeld*." *International Journal of Cultural Property* 2006
- "Animals and the National Register." *The Applied Anthropologist* 2006.
- "How Micronesia Changed the U.S. Historic Preservation Program, and the Importance of Keeping It From Changing Back." *Micronesian Journal of the Humanities and Social Sciences* 5:1, 2006 (online journal, <http://marshall.csu.edu.au/MJHSS/>).
- "TIGHAR and the TBD in Jaluit: An Example of the Complexities to be Considered in Planning Submerged Historic Aircraft Recovery." *Micronesian Journal of the Humanities and Social Sciences* 5:1, 2006 (online journal, <http://marshall.csu.edu.au/MJHSS/>)
- "Cultural Heritage Preservation and the Legal System with Specific Reference to Landscapes." Chapter 13 in *Landscapes Under Pressure: Theory and Practice of Cultural Heritage Research and Preservation*, Ludomir R. Lozny, ed., Springer, New York, 2006.
- "What Are Traditional Cultural Properties?" *The Applied Anthropologist* 25:2:125-130, 2005.
- Review of "Tribal Cultural Resource Management: The Full Circle to Stewardship," by Darby C. Stapp and Michael S. Burney. *High Plains Applied Anthropologist* 25:1:S:05:68, 2005.
- An Archaeological Reconnaissance of McKean Island, Phoenix Group, Kiribati, TIGHAR, http://tighar.org/wiki/McKean_Island, 2004
- Counterpoint to review: "Four Books by Thomas F. King: a Joint Review," *High Plains Applied Anthropologist* 25:S:04:201, 2004.
- Considering the Cultural Importance of Natural Landscapes in NEPA Review: The *Mushgigagamongsebe* Example. *Environmental Practice* 5:4, Oxford University Press, 2003
- "I Learned Archaeology From Amelia Earhart: Using a Famous Mystery to Teach Scientific Methods." In *Strategies for Teaching Anthropology*, 3rd Edition, Patricia Rice and David McCurdy, eds., Prentice Hall, New York; 2003..
- "Cultural Resources in an Environmental Assessment Under NEPA." *Environmental Practice* 4(3):137-144, National Association of Environmental Professionals, Sept. 2002.
- "Historic Preservation Laws" in *Encyclopedia of Life Support Systems*. EOLSS Publishers for UNESCO, 2002.
- "What Should Be the 'Cultural Resources' Element of an Environmental Impact Assessment?" *Environmental Impact Assessment Review* 20(2000):5-30, 2000.
- "Archaeology in the Search for Amelia Earhart." With Richard Gillespie. In *Lessons from the Past: An Introductory Reader in Archaeology*, Kenneth L. Felder, ed., Mayview Press, Mountain View CA, 1999

Articles (continued)

- "How the Archeologists Stole Culture: a Gap in American Environmental Impact Assessment and What to Do About It." *Environmental Impact Assessment Review* 18(2): 117-133, January 1998.
- "The Nature and Scope of the Pothunting Problem." In *Protecting the Past: Readings in Archaeological Resource Management*. J.E. Ehrenhard and G.S. Smith, eds., The Telford Press, Caldwell NJ 1991.
- "AIRFA and Section 106: Pragmatic Relationships." In *Preservation on the Reservation*, A. Klesert and A. Downer, eds., Navajo Nation Publications in Anthropology 26, Window Rock 1991.
- "Prehistory and Beyond: The Place of Archeology" In *The American Mosaic: Preserving a Nation's Heritage*. R.E. Stipe and A.J. Lee, eds., US/ICOMOS, Washington DC, 1987.
- "Intercultural Mediation at Truk International Airport." With P.L. Parker. In *Anthropological Praxis: Translating Knowledge Into Action*. R.W. Wulff and S.J. Fiske, eds., Washington Association of Professional Anthropologists, Westview Press, Boulder 1987.
- "The Once and Future Drought." *American Archeology* 5:3:224-8, Ridgefield, CT 1985
- "Professional Responsibility in Public Archeology." *Annual Review of Anthropology* 12, Palo Alto 1983.
- "Recent and Current Archeological Research on Moen Island, Truk." With P.L. Parker. *Asian Perspectives* xxiv(1):11-26, Honolulu 1981.
- "The NART: A Plan to Direct Archeology Toward More Relevant Goals in Modern Life." *Early Man*, Evanston, winter 1981.
- "Don't That Beat the Band? Nonegalitarian Political Organization in Prehistoric Central California." In *Social Archeology*, C. Redman, Editor, Academic press, New York 1978.
- "The Evolution of Complex Political Organization on San Francisco Bay". In *'Antap: California Indian Political and Economic Organization*. L.J. Bean and T.F. King, eds., Ballena Press, Ramona, CA 1974.

Government Guidelines and Regulations

- Draft revised cultural resource management directive and handbook for Department of Veterans Affairs, 2010.
- Regulations, guidelines, and plain-language brochures on environmental and cultural resource management, NEPA review, Section 106, and related topics, for Department of Agriculture Farm Service Agency (FSA) (unattributed, with FSA NEPA and Cultural Resource staff). FSA, 2004.
- Orders, Guidelines, and Fact Sheets: Cultural Resource Management, Floodplain Impact Management, Wetlands Impact Management, Federal Real Property Disposal, Archeological Collections Management, Indian Sacred Sites Management, Historic Document and Artifact Management, Environmental Justice, and Social Impact Assessment (unattributed, with GSA NEPA Call-In Staff). General Services Administration, Washington DC, 1998.
- *NEPA Desk Guide* and related orders (unattributed, with L.E. Wildesen and GSA Environmental Quality Working Group). General Services Administration, Public Buildings Service, Washington DC, 1997.
- *Guidelines for Evaluating and Documenting Traditional Cultural Properties*. With P.L. Parker. National Register Bulletin 38, National Register of Historic Places; National Park Service, Washington DC, 1990

Government guidelines and regulations (continued)

- *Preparing Agreement Documents*. Advisory Council on Historic Preservation, Washington DC, 1989.
- *Public Participation in Section 106 Review: a Guide for Agency Officials*. Advisory Council on Historic Preservation, Washington DC 1989.
- *Identification of Historic Properties: a Decisionmaking Guide for Managers*. Advisory Council on Historic Preservation and National Park Service, Washington DC 1988.
- *The Section 110 Guidelines: Guidelines for Federal Agency Responsibilities Under Section 110 of the National Historic Preservation Act*. With S.M. Sheffield. 53 FR 4727-46, National Park Service, Washington DC 1988
- *Regulations for the Consideration and Use of Historic and Cultural Properties* (Unattributed). Commonwealth of the Northern Mariana Islands Historic Preservation Office, 1983
- *Treatment of Archeological Properties: a Handbook*. Advisory Council on Historic Preservation, 1980.

Popular

- "Recent Cosmic Impacts on Earth: Do Global Myths Reflect an Ancient Disaster?" *About.com*, December 2007, http://archaeology.about.com/od/climatechange/a/masse_king.htm
- "Archaeology and the Fate of Amelia Earhart." *About.com*, June 2005. http://archaeology.about.com/od/pacificislands/a/king_ae.htm
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- "Sea Changes: 14th Century Micronesia." *Glimpses of Micronesia and the Western Pacific* 25:1, Honolulu 1985.
- "Tonaachaw: a Truk Village Rediscovered its Past." With P. Parker. *Glimpses of Micronesia and the Western Pacific* 21:4, Honolulu 1982.
- "How You Can Help the Archeologists." *Boys Life*, Boy Scouts of America, 1971.

Other

- Videotapes on "historic contexts" and "traditional cultural properties," for National Park Service
- "E-Book" environmental review software, for General Services Administration
- "NEPA for Historic Preservationists and Cultural Resource Managers," worldwide web pages for National Preservation Institute.
- "Cultural Resource Management Checklist," interactive worldwide web pages for the Department of Veterans Affairs



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July 18, 2010

VIA FACSIMILE

Ms. Nora McDowell-Antone
FORT MOJAVE INDIAN TRIBE
Project Manager Topock Remediation
Aha Makav Cultural Society
P.O. Box 5990
Mohave Valley, AZ 86440-5990

Re: Technical Review of DEIR for the Topock Compressor Station Groundwater Remediation Project, April 2010

Dear Ms. McDowell-Antone:

Per your request, attached are my technical review comments on the California Department of Toxic Substances Control's April 2010 *Draft Environmental Impact Statement [DEIR] for the Topock Compressor Station Groundwater Remediation Project*. Please contact me if you have any questions concerning these comments or need further information on the DEIR.

Sincerely,

HARGIS + ASSOCIATES, INC.

Leo S. Leonhart, PhD, PG, CHG
Principal Hydrogeologist

Attachment
839.07 DEIR

Other Offices:
Mesa, AZ
San Diego, CA

EXHIBIT 2

Ms. Nora McDowell-Antone
July 18, 2010
Page 2

Technical Review Comments
Draft Environmental Impact Report for the
Topock Compressor Station
Groundwater Remediation Project
April 2010

For the past five years I have served as Consultant to the Fort Mojave Indian Tribe (the Tribe) assigned to the technical review of the Topock Compressor Station Project. I earned a doctorate in watershed hydrology from the University of Arizona, and I am professionally certified as a Professional Geologist (Certificate No. 5779) and Hydrogeologist (Certificate No. 350) in the State of California. My experience as an environmental professional extends over 35 years and includes direct responsibility of reviewing federal environmental impact statements issued pursuant to the National Environmental Policy Act of 1969, Section 102(C), while serving as the U.S. Environmental Protection Agency's liaison with the U.S. Department of the Interior in Washington, D.C.

T1-166

On the basis of this experience, I have completed my review of the Draft Environmental Impact Report (DEIR) for the Topock Compressor Station Groundwater Remediation Project as directed, and have prepared comments focusing on the technical issues presented in the report, which I have deemed to be of interest to the Tribe. Generally, the comments follow in order of presentation in the DEIR.

Project Objectives (Section 1.2.2)

- Are institutional controls in place to prevent the risk of future groundwater development in the project area as well as in adjacent areas where groundwater extraction might adversely affect the remedy?

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- The potential for future well development affecting the capture and possibly the cleanup time under Alternative E was discussed in the DEIR as it relates to the Remedial Action Objectives. Did Pacific Gas & Electric Company (PG&E) run any scenarios about the degree & type of interference due to hypothetical pumping scenarios, particularly at Park Moabi? Isn't there a freshwater injection well (IW) located strategically to prevent this? (See also Section 3.4)

T1-168

Remediation Facilities (Section 1.2.3.1)

- The key facilities associated with the infrastructure are summarized on Tables 1-1 and 4.3-4 of the DEIR. The Tribe understands that the estimates of the types, quantities, size, and locations of this infrastructure are best estimates of the maximum requirements. However, the Tribe also understands that there will likely be a need for facility replacement and possibly design adjustments throughout the long timeframe projected for this project. Accordingly, the Tribe believes that these estimates, and hence the associated impacts, may be understated in the DEIR, and therefore their environmental impacts may not be being fully mitigated.
- In addition to the above, there are concerns about the cumulative impacts of all of this infrastructure that will be added to the existing infrastructure and disturbances of the land as a result of the characterization studies to date as well as those yet to come in regard to the soils characterization and remedy. How is this accounted for in the DEIR?
- Will there be infrastructure emplaced at the present location of Interim Measure 3 (IM3) or on the IM3 property in support of Alternative E? If so, Why? What? Where? In general, the Tribe is concerned about and would like to limit infrastructure on the IM3 parcel, a parcel the Tribe now owns.
- Will the IM3 location be used for temporary storage and/or staging during project construction or afterwards as it has recently been used for implementation of the AOC-4

T1-169

T1-170

T1-171

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Time-Critical Removal Action? If so, Why? What? Where? Again, the Tribe is concerned about and would like to limit infrastructure on the IM3 parcel.

T1-171
con't.

- What is the plan for facility abandonment? The Tribe understands that there are State regulations, guidelines, and standards in place for well abandonment. These should be reviewed for applicability in regard to the various well designs in the project area and discussed with the tribes. In particular, how many and which of the wells could be abandoned in the near future? When will this be reviewed? What kind of environmental impacts may occur during such abandonment? (See comments on Section 3.5.4.1).
- It seems that there is no basis for well replacement estimates (that lead to the estimate of the maximum numbers of wells in Table 1-1). However, engineering information is available from technical literature that might enable a better basis for assumptions. For example, there is the on-site experience with IWs to date. Additionally, there is industry information on the operation and longevity of municipal extraction wells constructed from various materials. This is important to the Tribe because the number of replacement wells represents the potential for future intrusions at the site. Failure to include such information may underestimate significant impacts to the Tribe.

T1-172

T1-173

Description of the Proposed Project Features (Section 3.5.1)

- The conceptual design calls for a string of extraction wells (EW) at five locations along the edge of the Colorado River. These are intended to provide interception of any contaminants that might pass through the line of *In Situ* Reduction Zone (IRZ) wells along National Trails Highway.
- Is it necessary to continually pump these wells to insure capture if there are monitor wells between the IRZ and the EWs that confirm there are no contaminants passing through the IRZ? We understand that in the initial phases of operation it would be necessary to observe circulation of the reductants across the IRZ and also towards and into the EWs.

T1-174

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Page 5

- | | |
|---|------------------|
| Once this is assured, however, it may be acceptable to simply monitor for breakthrough. This is important, as this could be one way to lessen activities and impacts within the area. | T1-174
con't. |
| <ul style="list-style-type: none">It is understood that, if the EWs along the Colorado River were not pumped continuously, the cleanup timeframe might be extended. Did PG&E run any scenarios involving intermittent pumping of the EWs to see the effect on cleanup times? | T1-175 |
| <ul style="list-style-type: none">The conceptual design of the EWs at these five proposed locations has not been specified in either the CMS/FS report or the DEIR. Do these five locations represent a single well or multiple nests of EWs? From what depth(s) of the aquifer will these wells draw water? For example, the EWs associated with IM3 were initially set at different depths in order to draw water across the entire thickness of the contaminant plume. Will the EWs along the River be similarly constructed with multiple wells set at different depths, or will there be fully penetrating wells screened across a large thickness of the aquifer? | T1-176 |
| <ul style="list-style-type: none">The Tribe is concerned with the extreme level of environmental impact of some of the proposed extraction well configurations in the East Ravine (ER) bedrock area involving numerous, closely-spaced extraction wells. It will be important to ascertain the potential for contaminated groundwater in this area to enter the Colorado River. This will indicate the level of urgency for addressing this contingency through remedial measures. (See also DEIR Section AOC 10 (East Ravine) on p. 4.7-29 to -30). | T1-177 |
| <ul style="list-style-type: none">It may be appropriate to perform groundwater extraction in the alluvial materials adjacent to the bedrock contamination in the ER first and determine whether there is an effect on the bedrock concentrations. | T1-178 |
| <ul style="list-style-type: none">In line with the above, it may also be appropriate to implement the groundwater remedy in the areas outside the ER to determine whether there is any change in the groundwater conditions (hydraulic or quality changes) that might indicate the possibility of a more passive strategy for the ER, which could reduce environmental impacts. | T1-179 |

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- When will the design for this area be decided? Will it require another regulatory vehicle such as a Record of Decision (ROD) amendment or Explanation of Significant Differences (ESD)?

T1-180

Decommissioning of Wells (Section 3.5.4.1)

- This section does not address whether the type of well (such as single- vs. multiple-completion) will require different or any special type of abandonment procedures. While the Tribe is concerned with proper sealing and abandonment of wells, it is also interested in the level of disturbances associated with various types of abandonment. The DEIR describes the general requirements for abandonment, but does not clarify whether different types of wells such as multiple completions and slant holes under the Colorado River might require some different procedures.
- Is there any schedule or generalization that can be drawn as far as how many of the existing wells can be abandoned?
- Is there any possibility that any of the existing network of wells can be incorporated into the design in an effort to reduce the overall number of wells required for the project?

T1-181

T1-182

T1-183

Decommissioning of IM-3 (Section 3.5.4.5)

- The current project schedule suggests that the IM3 will end upon completion of construction of the groundwater remedy. The targeted date for this milestone is listed as August 13, 2011. However, recent presentations have indicated that someone has decided that the decommissioning of the IM3 plant will be contingent on demonstration of successful circulation of reductive agents within the aquifer instead of using an actual date.

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July 18, 2010
Page 7

- It seems that planning for IM3 decommissioning, regardless of the milestone date, can begin immediately. This would permit immediate implementation and better opportunities for Tribal consultation in the interim. This was discussed at the June 2010 meeting of the Consultative Working Group (CWG) in which the Department of the Interior (DOI) indicated that PG&E would be directed to proceed with this plan. Additionally, the master schedule needs to be adjusted to reflect changes in both the planning and implementation of the IM3 decommissioning.
- The Tribe requests the opportunity to consider alternative configurations for restoration of all aspects of the IM3 site, such as the type of contouring or regarding that could be achieved, in all components of the property – the wells, the treatment plant area and the former parking area. This perhaps could be presented in simulation images. What does DTSC envision as the schedule for these discussions?
- Are there any IM3 facilities apart from the treatment plant, such as the injection wells (IW), observation wells (OW), or EWs, that might be incorporated into the final remedy design?
- Or conversely, that might be eligible for decommissioning and removal in the IM3 plant?
- A detailed basis for the estimate of IM3 removal and site restoration is provided in Table D-17 of the Corrective Measures Study/ Feasibility Study (CMS/FS) report. This estimate totals \$1.6M, including a line item for site restoration of \$89K. The Tribe requests an opportunity to discuss the details of this estimate, and as discussed in regard to the relationship between the IM and the DEIR, to request that the planning for this decommissioning begin as soon as practical so that the plan can be implemented at the earliest possible time. Additionally, the Tribe requests opportunities to have meaningful input into the preparation of this plan and as it develops.

T1-185

T1-186

T1-187

T1-188

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Air Impacts (Section 4.2)

- | | |
|---|--------|
| <ul style="list-style-type: none">• There is a fine line with regard to air quality, aesthetics, and cultural impacts. For example, the impacts of fugitive dust emissions with regard to Tribal values primarily relate to reduced visibility. It is noted that the period of concern could be limited primarily to the construction phase of the project and that measures to minimize this source will be imposed. Nevertheless, it is important for the DEIR to recognize that air quality potentially impacts cultural values as well. | T1-189 |
| <ul style="list-style-type: none">• The Tribe offers the assistance of its Tribal monitors in the identification of problem areas, and mitigation measures. | T1-190 |

Biological Impacts (Section 4.3)

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|---|--------|
| <ul style="list-style-type: none">• These sections call for a survey of wetlands and other habitats and also restoration as necessary under various federal and state authorities as a matter of protection of wildlife habitat. All creatures of the earth, wildlife and vegetation alike, are important to the Tribe. | T1-191 |
| <ul style="list-style-type: none">• The Tribe requests to be notified whenever such surveys and restoration planning occurs and be offered the opportunity to participate in those efforts. | T1-192 |

Geology and Soils (Section 4.5)

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| <ul style="list-style-type: none">• The Tribe is concerned with activities that contribute to soil erosion and compaction. In particular, activities that result in off-road and on-road impacts can be disruptive for access to ceremonial areas. Compaction can also prevent plant re-growth. Of even greater concern is the potential for damage due to legal and illegal off-road transportation attracted to the area, in part, due to an increase in field and other activities related to the Project. We understand that mitigation measures (such as described on p. 4-5-48 & 49) | T1-193 |
|--|--------|

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will be taken to minimize or otherwise offset such damage, but it should be pointed out that there has already been such damage in certain areas as a result of past and ongoing activities.

T1-193
con't.

- Enforceable and effective mitigation should also be undertaken to repair this damage as well as to prevent further damage, particularly by controlling the access.
- The Tribe requests that it be consulted and have Tribal monitors assist in the identification of problem areas and solutions.

T1-194

Hazardous Materials (Section 4.6)

- Spills and releases of hazardous chemicals as discussed in this section are characterized as “potentially significant,” and the DEIR suggests that mitigation measures can be undertaken to reduce such impacts to “less than significant” levels. Again, it must be said that a determination of a “less than significant” impact relates primarily to the various respective regulatory standards, but does not address the potential desecration of the sacred land.
- The best mitigation is prevention and avoidance to the maximum extent possible. Best management practices, as they may evolve over the long timeframe of the project, should be in place and exercised at all times.

T1-195

Hydrology and Water Quality (Section 4.7)

- As discussed in comments for Section 4.5, erosion and siltation is a concern to the Tribe and under Impact Hydro-2 in Section 4.7 it is recognized as a “potentially significant” impact that potentially creates impervious surfaces. Additionally, soil compaction can also increase runoff, erosion, and siltation. This is a condition that can be mitigated

T1-196

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through proper planning and implementation of best management practices during all phases of the project.

T1-196
con't.

- The Tribe expects to be consulted and offers the assistance of its Tribal monitors in the identification of problem areas and solutions.

T1-197

Noise (Section 4.9)

- The DEIR correctly acknowledges that an increase in noise within the Topock Cultural Area would be “potentially significant.” It is ultimately concluded in Section 4.9 that the effect would be “significant and unavoidable.” The Tribe emphasizes that this new source of noise is in fact an impact that is superposed onto the existing noise level from operations at the Topock Compressor Station, jet boats on the River, recreational noises at the Park Moabi facilities after recent expansions and the recent notice of a recreational vehicle park with possibly 250 spaces.
- The distraction that is present during religious ceremonies is at times intolerable. The mere notification of the times of occurrence may not be sufficient mitigation. It may be appropriate and necessary at times to defer these activities if there is a significant ceremony taking place.

T1-198

Utilities and Service Systems (Section 4.11)

- The DEIR acknowledges the possibility of construction of new facilities for generation or transmission of electrical power. It is suggested that one possible mitigation measure would be to phase the power demands such that the power demand for operating the IM3 facility would be phased out due to decommissioning, while, at the same time, the power demand for the new facilities would be phasing in (see p. 4.11-7). It is concluded that such a mitigation measure would then reduce the impact to “less than significant.” While

T1-199

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this might offset a temporary increase in the net power demand, it seems that power transmission lines would still be needed. From the Tribe's standpoint, the possibility of added transmission lines and associated facilities is a significant impact.

T1-199
con't.

- While the details of this electrical utility need may remain uncertain at the present time, the Tribe, a property owner in the area and an entity with deep cultural and religious ties to the area, needs to be apprised of this situation as it develops and requests participation in any planning, development and siting.
- The current pole locations of the existing lines are within significant cultural sites. The Tribe has asked about the status of the utilities rights of way, the Bureau of Land Management is investigating the issue, and is to provide information to the Tribe. No consultation was done for the past connections to IM-3 and, as a result, ground disturbance was sustained. In the recent past, the City of Needles Electric intruded into culturally sensitive areas, and partly because of this past history, discussions and planning must include the Tribe.
- The growth inducing aspects of utility extension and expansion must also be studied in the DEIR.

T1-200

T1-201

Water Supply (Section 4.12)

- As suggested earlier in regard to risk scenarios, the potential for interference from private wells in the Park Moabi area can be assessed using model simulations. Considering that a question was asked about this type of scenario at the Needles public meeting, PG&E should proceed to complete an assessment.

T1-202

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Unavoidable Significant Impacts (Section 5.1) (Cultural Resources)

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| <ul style="list-style-type: none">As a mitigation measure, it is suggested that the siting of new “physical improvements” make use of “previously disturbed” areas to the extent possible. In this context, the measure should read, “to the maximum extent possible” to make every effort to try and protect tribal cultural values. | T1-203 |
| <ul style="list-style-type: none">First, the Tribe challenges that the facilities associated with the Compressor Station and/or any of the remedial facilities should be referred to as “physical <i>improvements</i>” as they indeed scarify a once pristine landscape. What would be improved? Why is DTSC attempting to ameliorate the adverse profile of these intrusions by referring to them as “improvements?” “Infrastructure” is a more neutral term. | T1-204 |
| <ul style="list-style-type: none">Second, the use of “previously disturbed” areas may reduce impacts only to the extent that new areas of disturbance are not being created. But in fact such areas generally represent the disturbance, disruption, and or desecration of areas within the cultural landscape that may or may not have been the subject of mitigation or tribal consultation in the past. These are areas that were once undisturbed and undesecrated and that now may persist as pock marks within the formerly intact landscape. It is important to consider possibilities for minimizing or avoiding need for new facilities and not taking these areas as a “given” for facilities. Such areas need to be considered on a case by case basis. Some may need to be restored quickly to reduce the potential for attracting additional activity into the area unrelated to the remediation. | T1-205 |
| <ul style="list-style-type: none">It is unclear as to the context of the DEIR’s reference to “... mitigation required through the federal CERCLA process.” (p. 5.2, 2nd arrow). Please provide further explanation and a citation for this CERCLA reference. | T1-206 |
| <ul style="list-style-type: none">It is appropriate that the Tribe be notified whenever project activities will generate new noise, but this in no way should be considered mitigation. The noise and aesthetic impacts remain significant and unmitigated. | T1-207 |

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- On p. 5-5, the last bullet discusses a protocol for PG&E involving Native American tribal monitors to observe various site activities. It is imperative that this protocol be formalized. It may not need to be the same for all tribes, and the points of contact need to be established.

T1-208

Alternatives to the Proposed Project Report (Section 8)

- Because the DEIR relies on previous reports in order to assess the impacts of the proposed groundwater remedy, it is necessary to review these documents in parallel for consistency. In particular, there are various assumptions and aspects of the conceptual design discussed in the CMS/FS report that carry through to the assessment of impact in the DEIR, such as the level of infrastructure and the cost basis.
- One particular inconsistency between the DEIR and CMS/FS report is the redefinition of the no action alternative (CMS/FS Alternative A) as the “Continued Operation of Interim Measure Alternative” (CMS/FS Alternative I, and thus the elimination of what was formerly labeled as the “No Action Alternative” in the CMS/FS). The Tribe does not consider this an appropriate action for several reasons:
 - Alternative I is truly not a “no action alternative” as called for in Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) guidance.
 - Does not account for the pre-2004 baseline.
 - Does not comply with the Settlement Agreement.
- It is important that the assumptions underlying the conceptual design and implementation of the proposed project are understood and accurate because these will affect the approach to and level of mitigation required, and hence potentially a number of conclusions in the DEIR. At no time was there consultation by any agency with the Tribe on this significant change. The Tribe views this as a form of discrimination and a matter of environmental justice.

T1-209

T1-210

T1-211

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Cost Estimates

- | | |
|---|--------|
| <ul style="list-style-type: none">• Table D-6 of the CMS/FS summarizes the basis for the cost ranges estimated for the various alternatives, including the proposed Alternative E. For Alternative E, the cost range is given as \$92 million to \$198 million, with a best estimate of \$184 million. Does this spread encompass the -30% to +50% range of cost uncertainty required at the feasibility study stage? | T1-212 |
| <ul style="list-style-type: none">• We understand that there is uncertainty in all the cleanup timeframes, including that for Alternative E, which ranges from 10 to 110 years, with an expected timeframe of 29 years. This is based on model predictions for flushing between two and 20 pore volumes, with the expected value of five pore volumes. How does this timeframe uncertainty factor into the cost range? | T1-213 |
| <ul style="list-style-type: none">• The timeframe for cleanup under Alternative E is estimated to be 29 years. It should be made clear, however, that the overall project requires additional phases at the front and back ends, including construction (3 yrs); long-term monitoring (10 yrs); and decommissioning (2 yrs). Thus overall, if project construction were to begin early in 2011, it is not expected to be completed by about 2055. | T1-214 |
| <ul style="list-style-type: none">• This long-term presence at the site should factor into impact assessment, planning, management and mitigation. The Tribe seeks assurances that that there will be continuity and consistency in the measures and mitigation that is exercised over this entire project lifetime. | T1-215 |

Environmentally Superior Alternative (Section 8.7)

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| <ul style="list-style-type: none">•• On p. 8-69, the section says that, although Alternative B is environmentally superior to Alternative E, it does not meet the “fundamental project objective” of achieving the | T1-216 |
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Ms. Nora McDowell-Antone
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remedial action objectives (RAO) in a “reasonable timeframe” as required by California State Water Board Resolution 92-49. The RAOs do not contain any language about “reasonable timeframe,” but in Section 1.2 the criterion seems to be listed as a project objective. This seems to be a rather circuitous way of eliminating monitored natural attenuation (MNA).

T1-216
con’t.

- Also, if MNA is unacceptable as a stand-alone remedy, what makes it acceptable as a component remedy? The timeframe may not be different for natural attenuation of contamination in recalcitrant areas. Does this indicate that the time to achieve the RAOs under even the preferred remedy may extend beyond a reasonable timeframe?
- This question relates to whether the Department of Toxic Substances Control (DTSC) would consider MNA a serious alternative in the East Ravine area. The Tribe considers that MNA may be an appropriate alternative, and may prefer MNA in that area to the excessive number of bedrock wells as presently proposed by PG&E. MNA is the Tribe’s preferred remedial alternative as stated in its letter of February 2009 on the CMS/FS report. The Tribe believes that MNA is the remedy that best addresses remediation of the chromium plume while minimizing impacts to its cultural and spiritual values.

T1-217

T1-218



AHAMAKAV CULTURAL SOCIETY

Fort Mojave Indian Tribe

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July 19, 2010

Mr. Aaron Yue
DTSC Project Manager
5796 Corporate Avenue
Cypress, CA 90630

RE: Comments on Draft Environmental Impact Report for PG&E Topock Compressor Station
Groundwater Remediation Project

Dear Mr. Yue,

Through this letter are my review comments on the Department of Toxic Substances Control's April 2010 Draft Environmental Impact Statement (DEIR) for the PG&E Topock Compressor Station Groundwater Remediation Project.

I offer these comments based on my experience as the Fort Mojave Indian Tribe's (FMIT) Project Manager for the Topock Remediation for the past two years and on my prior experience as Chairperson of the Fort Mojave Indian Tribe for the past 25 years, with expertise in the Tribal Government field.

My experience as the former Chairperson provided me with the knowledge and traditional values necessary to lead my people for the past two decades, and built my expertise on my people's cultural values. I have learned the historical record of the severity of impacts upon our people and our lifeways. Knowledge that our traditional cultural beliefs will be shared to the next generation and the connectivity to our ancestors is the responsibility I hold and carry on behalf of the Aha Makav –the Mojave name for our people.

T1-219

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EXHIBIT 3

It is based on this experience and knowledge that I offer comments on the DEIR. I want to make it known for the record that the Fort Mojave people will be heard and that the DTSC, Federal representatives and PG&E will need to make amends for the destructive and adverse way this project has been implemented at the expense of the Religious and Sacred landscape that we revere at the location of our holiest of places, Topock.

T1-220

For the past six years, the Fort Mojave Tribe has repeatedly asked for the recognition and sanctity of our spiritual place be made a priority and given respect and acknowledgement at the highest levels of State and Federal governments. Sadly, for this we have been penalized with diminished oversight and minimized value of our cultural affiliation to this project site.

T1-221

It is with stern disappointment and great dissatisfaction that I state that the DEIR document in its present form doesn't reflect the many years of the Elders and adult member's voices which I've heard begging for so many years, pleading and at times with burning tears telling the regulatory agencies of this place of reverence, and asking simply that the area be left alone and allowed to continue to heal on its own, in its own time. This request from the voices of the ones most impacted the "Aha Makav" is the one missing from this DEIR document.

T1-222

To ensure their voices will be part of the record, attached to this letter, please find a Sign on Letter with signatures from the Fort Mojave Indian Tribe Community and specific letters from individuals. Also attached is the Statement from Linda Otero, Director/Tribal Council Member of the FMIT which was read at the Public Hearing on June 29, 2010 for the record.

T1-223

In general the document tries haphazardly to offer a history and account of our people, but fails in reflecting the most accurate account - the one directly from the Tribal viewpoint. During discussions with DTSC, the Tribe tried very early on in the process to discuss this Tribal viewpoint so that we would not have to be at the 11th hour trying to explain again the fundamental flaw. We have painstakingly tried to make it clear that this area is a Sacred Landscape and asked that it be given true acknowledgement and utmost respect in the technical process. We have written countless letters to the DTSC, DOI and PG&E which reflected the tribal -perspective, and in addition we have echoed this same statement for the record within the CWG, TWG, CTF and TLP processes only to have it minimized, ignored or rejected within the written record, or reworded to lessen the true meaning from our point of view and how we see things.

T1-224

In our discussions with representatives of your contractor, EDAW, we were never allowed to discuss mitigation measures, but only to provide general cultural background information; we could not provide input on specific impacts and mitigation. We were told that the DTSC was not legally able to discuss such specific impacts as those on the view shed for example; the contractors were cautioned by the DTSC lawyer to not discuss specific mitigation. It was a very difficult and stressful process, which led us to request a written account so that we could see what EDAW had captured from our long interview. It was very disappointing to receive a one page bullet list as the record of our meeting. Several times we met and tried in vain to have an adequate and meaningful dialogue; it was at times insulting and tension producing to have to repeatedly repeat ourselves. We provided eventually a written account which I have attached; I request that it be incorporated into the DEIR as the background section specific to Fort Mojave.

T1-225

The DEIR document reflects very basic mitigation, standard mitigation you might see for a general development project in some ordinary place, not what we view from the Tribal perspective as adequate for a large scale remediation project with significant unmitigated impacts lasting possibly for decades or a hundred years that irreversibly damages and desecrates a Holy Place to the Mojave people. From our perspective, everything that this and other developments -continue to do within this area has an adverse affect. It will forever change what Creation has made.

Mitigation should be given the highest priority and consideration, - This place is PRICELESS to us, and the past actions and the proposed project - directly, indirectly, and cumulatively impacts us. -Each member of our Tribe holds the Topock landscape within their minds – knowledge of a place of peace, a place of holiness, a place that is inscribed within our hearts, a place specific to our natural being, a holy place of existence for the Mojave people, atonement for the soul of our people, past, present and the future.

T1-226

This project will be carried out in the area through which the souls of our people pass to the afterlife; it is critical to our very existence, in this world and the next, that it be respected. If DTSC could understand the levels of impact that intrusions upon our religious place create, -if DTSC could view the need for mitigation from the impacts we live with day in, day out, it would understand the level of priority that must be given to developing effective mitigation measures. We continue to be impacted by the experiences we have dealt with during this ongoing process, and we will continue to be impacted long into the future.

3

Since DTSC cannot guarantee the passage of souls to the afterlife, DTSC and the Tribe are left in the uncomfortable position of trying to determine what else can be done to mitigate impacts to the Tribe. While this may be a difficult, unpleasant or unfamiliar task, it must be done, in order to make something good come out of something bad - a situation the Tribe did not cause, a situation the Tribe did not ask for the industrialization and polluting of its sacred place.

We ask therefore that specific mitigation be given the highest priority and consideration during this comment period. The Fort Mojave Indian community will not accept anything less than that in exchange for accepting and having to live with this revised Alternative E, an alternative that will cause additional adverse effects and irreversible damage for the life of the project- regardless of the risk to public health and the environment that DTSC believes warrants this project. We request DTSC and its contractors to be creative, fair and comprehensive.

As a Community, the known historic people in the area begin with the Aha Makav (Mojave) who trace their occupation of the area to the time of creation. Our continuous occupation of this area is based on the fact that Matavilya (the Creator) placed us here and this is where we have remained since recorded time. This is our only homeland, this is where our beginning is and where our end transitions, this area holds the footprints of our ancestors and attests to our past, present and future generations, who cannot and will not ever leave this place, until our time ends here at this place, our Sacred area called Topock.

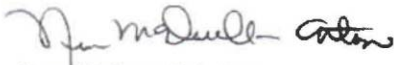
What DTSC is recommending for mitigation is unacceptable and does not reflect our specific cultural concerns and the continuing and long-lasting harms that are being thrust upon Us. We deserve due consideration now of our issues, because - we were told by DTSC, PG&E, DOI that this DEIR document will be the place that will focus on the Cultural aspects of our concerns. So we once again and finally ask: Why have you not addressed our cultural concerns?

We therefore ask that specific mitigation measures be addressed and negotiated with the FMIT as a means to ensure a better future for the culture and practice of the FMIT people as part of its Draft EIR and project approval.

T1-226
con't.

Thank you for your time and attention to my written comments for the record and on behalf of the Fort Mojave Indian Community.

Sincerely,



Nora McDowell-Antone

Project Manager Topock Remediation

Fort Mojave Indian Tribe/Aha Makav Cultural Society

Attachments

FOR INCLUSION INTO DEIR July 19, 2010
TOPOCK DEIR COMMENTS (ATTACHMENT)

Ethnographic Literature

The Mojave are a Yuman-speaking people whose core territory, according to the ethnographic literature, included a main settlement area centered on the Colorado River corridor north of the Bill Williams River. While their main settlements were in the Mojave Valley north of present-day Needles, they travelled widely across the desert and had place names for locations from as far east as Prescott Valley into the Los Angeles basin. According to Kroeber (1959), the region of core Mojave occupation extended on both sides of the lower Colorado River from south of Davis Dam to Topock. By the mid-19th century, however, Mojave settlements had extended both north and south, including Cottonwood Island to the north, and the Chemehuevi and Colorado valleys to the south (Stewart 1969:265–286). The historical record suggests the Mojave were encountered by the Juan de Onate Spanish expedition as far south as the present Colorado River Indian Reservation in 1604 (Stewart 1969), and intermittently controlled areas as far south as Palo Verde (Kroeber 1959). Modern Mojave consultants indicate that three somewhat distinct geographic groupings of clans were recognized: a northern group in the Davis Dam vicinity, a middle group in the Mojave Valley, and a southern group south of Needles. Sherer (1965:8) describes their settlement area thusly:

Their river holdings stretched from Black Canyon, where the tall pillars of First House of *Mutavilya* loomed above the river, past *Avi kwame* or Spirit Mountain, the center of spiritual things, to the Quechan Valley, where the lands of the Indians began. Translated into present landmarks, their lands began in the north at Hoover Dam and ended about one hundred miles below Parker Dam. Their tribal name was *Aho macave*, meaning the people who lived along the water (the river).

Habitation patterns and types at the time of contact with Europeans typically consisted of flat-topped shade structures during the summer months and low, rectangular, sand-covered structures during the winter months. The roofs were typically covered with arrowweed thatch, upon which a thick layer of muddy sand was created for insulation (Kroeber 1925:731–735).

Subsistence for the Mojave was dependent partially on agriculture, with crops such as maize, tepary beans, pumpkins, and melons forming the foundation of the diet. Maize was by far the most principal of all the crops, however, with a family typically clearing between 1 and 2 acres. Silt deposited by river overflows fertilized the fields, while women did most of the planting and cultivation (Stewart 1983:58).

Tribes Reservation was founded in 1865. Many Mojave though remained in Mojave Valley. The Fort Mojave Reservation was founded there in 1870.

The Mojave religion places special emphasis on the experience of and interpretation of dreams, with dreams affecting nearly all facets of life and behavior. Stewart (1983:65) states:

Mohave religion featured an unusual conception of dreaming, which was in fact a pivotal concept in their culture as a whole, permeating almost every phase of Mohave thought and endeavor. All special talents and skills, and all noteworthy successes in life, whether in warfare, lovemaking, gambling, or as a shaman, were believed to be dependent upon proper dreaming.

Kroeber (1925) noted that dreams often were experienced in close connection with tribal history and mythological traditions. *Kroeber (1963) stated that,

There is the further peculiarity in Mohave-Yuman narratives that the stories and songs are first dreamed, and it is the dreamer who then sings and tells his dream, and in this way his listeners learn the songs and at least parts of the narrative. . . . It is reserved to these Colorado River peoples to dream their entire literary corpus. To them, dreaming is moving back in time and in understanding to the beginnings of things when gods walked the new earth. They participate in the events and feelings and beliefs of those days by way of the dream, so that even the creation of the world may become part of the dreamer's own experience . . .

It is possible - it has been done - to pinpoint on a modern geodetic map of the Colorado River area of California and Arizona the villages, the scenes of wars, the mountains, the passes, the springs, and the desert washes which are named and described in such a dreamed myth, even to tracing in detail the routes of long migrations made in mythical times . . .

This accuracy, this lingering and savoring of place and event in story is, of course, something the Mohave like to do today next best to actually travelling to familiar but distant places within their own land . . .

Oral traditions for the Mojave people are generally rich with detail, with mythical occurrences commonly associated with identifiable places and landmarks. Mojave stories typically recount journeys and/or the transformation of mythical persons into animals or landmarks (Stewart 1983). Many stories are part of traditional song cycles, and the landmarks identified in the stories include those within traditional Mojave territory as well as places in the surrounding region (Kroeber 1925). Additionally, Mojave tradition involves the naming of clans. Clan names were given by *Mutavilya*, The Creator, based on aspects of the natural world, including (but not limited to) the sun, rain, small birds, the coyote, prickly pear cactus, and the frog. According to oral tradition, each clan went in different directions from *Avi kwami* (Spirit Mountain) after receiving their name. Each clan has a song commemorating the journey and various encounters experienced during that journey. According to Kroeber (1925) Mojave traditional culture is extraordinarily shaped by the tribe's historical narratives.

Literature Regarding the Topock Maze Area A very significant place within the project area is the Topock Maze and the surrounding landscape. According to Earle (2005), the Topock Maze—also referred to historically by non-Indians as “Mystic Maze”—is a large geoglyph of piled gravel windrows of dark desert-pavement terraces, approximately 13 miles southeast of Needles, California, to the west and northwest of the PG&E Station. The windrows are made of large pieces of gravel that are typically darkly stained by “desert-varnish,” which is a naturally occurring chemical transformation of exposed rock surfaces that largely depends on geological and atmospheric factors. Each windrow is comprised of piled gravel. The maze is comprised of a series of parallel rows, some of which may intersect and curve slightly across the landscape, spanning minor drainages. As stated above, the Topock Maze is not physically a maze at all, as it does not have a beginning, end, or “solution” per se.

The Topock Maze is viewed by non-tribal archaeologists as comprising three separate locations, typically referred to by archaeologists as Loci A, B, and C. Locus A is the largest of the loci (17.7 acres) and is located west of the Station, south of Interstate 40. Loci B (9 acres) and C (6 acres) are located north of the Station near the Interim Measure 3 (IM-3) Groundwater Extraction and Treatment Facility (IM-3 Facility), on the east and west sides of Bat Cave Wash, respectively. Locus A is thought by archaeologists to contain the best preserved rows. Historical testimony suggests that a large, anthropomorphic geoglyph, as well as a cairn shrine, were part of a complex of cultural features in the vicinity of Locus A at Topock. Loci B and C are smaller and have experienced a higher level of disturbance than Locus A, but windrows are still visible in these areas. According to the draft report by Earle (2005), the rows at Locus B show more variation in their alignments than at Locus A, while some rows at Locus C are almost completely gone, leaving only the faintest hint that rows once existed. The evidence suggests, and interviews with the Mojave confirm, that all maze loci and nearby geoglyphs form a complex suite of an associated cultural complex that has been disturbed to varying degrees by the construction of the railroad, interstate, various other linear features in the area, and by ORV activity. As discussed below, members of the Fort Mojave Indian Tribe indicate that the maze as understood by archaeologists is only part of the maze as they understand and value it; the tribally valued property includes the disturbed inter-locus areas as well as surrounding lands, and is linked conceptually and spiritually to other landforms in the area.

The origin of the Topock Maze has been disputed by some, with arguments supporting a Native American origin, while others have suggested that the maze is a byproduct of railroad construction between 1888 and 1893 (cite SBCM report). There is also disagreement as to its age or how it was created. Those arguing for an origin related to the construction of the railroad typically cite a single memo from a railroad engineer in 1891 that describes the collection of gravel into windrows by Mojave workers, prior to the gravel being hauled and used to support a bridge caisson. Photographic evidence of the bridge construction, interviews with railroad workers from the time, and statements from Needles residents present at the time of the bridge construction all suggest, however, that the maze was present prior to bridge construction, even if portions of it were later collected for ballast or support (cite SBCM report and Earle).

Interviews conducted by Kroeber with Mojave tribal members in the early 20th Century did not highlight a strong cultural interest in the Topock Maze, but these interviews cannot be considered definitive. At least one observer suggested that the origin might be attributed to a tribe that had lived in the area prior to the Mojave, perhaps the Maricopa (Earle 2005). Other interviewees, however, suggested that the Mojave would use the maze (regardless of its ultimate prehistoric origin) to purify themselves by running through the maze or by navigating through the maze without walking over a windrow, leaving evil spirits or ghosts in the maze. (There are also ethnographic reports that reference the sending of tribal decedents down the River and through the Maze area). Interviews conducted with Fort Mojave Indian Tribe representatives for this EIR as part of the NACP suggest that it would not be proper for them to say who made the maze. Earle indicates that the ultimate constructors of the maze are unknown to him, as his research did not identify stories, songs, or tales that relate directly to its construction; however, Tribal interviewees believe that the maze is of ancient origin and of deep cultural importance to the Mojave People.

Regardless of its origin or age, the Topock area and the many other intaglios and geoglyphs in the region (including those within the project site area) seem to be an integral part of the Mojave worldview. Earle (2005) outlines the many other intaglios in the region, as well as many Mojave song cycles that speak of the Topock area (though not necessarily of the maze itself), and concludes that the Topock area is a key location for supernatural events and mythical feats for the Mojave. Despite apparent variances in the ethnographic record, there is no dispute that Topock Maze is believed to form part of a geoglyph tradition for the lower Colorado River valley that has "its origin in the sacred song and story traditions of the prehistoric and historic Yuman-speaking cultures of the region" (Earle 2005).

Information Provided by the Fort Mojave Tribe

The following information was provided to the EIR team, either in correspondence from the Tribe or through meeting with designated tribal representatives:

- The FMIT has cultural resources affiliation with an expansive traditional territory extending from north of Las Vegas to the south as far as the Phoenix area, and East into Kingman, and as far West as Santa Barbara. The Tribe has lived within this area since time immemorial, and although Tribal lands are now confined to Reservations within the states of AZ, CA, and NV, the Tribe still has very strong cultural affiliation with their entire traditional territory.
- The FMIT has concerns about many areas of cultural and spiritual connection along the Colorado River valley. The Tribe's traditional beliefs about these areas are very important in defining tribal identity and are critical to how the Tribe continues to exist as a people.
- The Tribe is affiliated deeply with the land, plants and animals, air, and water of the region. The Tribe feels it has a duty or responsibility to be stewards of the historical land and the environment of the region. The tribe respects the land and the spirit of the place. They were put there by the Creator for a purpose. They've never severed their relationship with the land and the entire environment.

- The Tribe did not create and had no power to stop the contamination of the Topock area by others, but now it has to live with the consequences of that. The Tribe's religious and traditional beliefs are uniquely affected by the continued efforts to remediate the contamination. The Tribe is also uniquely affected in that it is the nearest tribe to the site and has reservation and fee lands in the area.
- The protection of the Colorado River is the primary responsibility and concern to the Tribe, as well as downstream tribes, but the clean-up process should minimize impacts to traditional cultural resources. Residual data gaps may be acceptable to the Tribe, and decisions regarding the need for additional data acquisition must be balanced by decision makers against further impacts on cultural resources, Tribal members and legal obligations to prevent or minimize such impacts.
- The Tribe has strong cultural ties to the Topock area. The Tribe's traditional songs are tied to the land on and surrounding the project site. The songs describe the Tribe's creation and history and provide guidance about the Creator's commandments about how to live life.
- Specifically, the area of the proposed project -- including but not limited to the "Topock Maze" as it is understood by archaeologists -- is critical to tribal cultural beliefs, especially those beliefs related to the afterlife, and the area should be treated with respect and acknowledged as sacred despite previous impacts and desecrations to the area. The Tribe still reveres the area today and wants to be able to conduct traditional religious activities in the area.
- According to Fort Mojave Indian Tribe representatives, the Topock Maze -- including the disturbed inter-locus areas as well as surrounding lands -- is the area where the spirits of the deceased go to pass on to the next world. The Tribe has done as best it can to adequately describe the importance of this area in order to try and protect it, while acknowledging respecting the fact that it is culturally disrespectful to speak of the dead. There are impacts to the People, their spirits and their connection to their relatives when projects come into this area.
- The Tribe has expressed concerns that the project has and will continue to impact the burial practices, ceremonies and passage of Tribal members to the afterlife.
- The Topock Maze area is also a place to go for purification, for instance after engaging in warfare or in more modern times for other types of spiritual healing and strength. It is also a teaching area for Tribal youth. The Tribe has done as best it can to adequately describe the importance of this area in order to try and protect it, while respecting private matters. There are impacts to the People and their lifeways when projects come into this area.
- The Tribe has expressed concerns that the project has and will continue to impact the Tribe's transmission of its cultural values to its youth.
- The Maze area cannot be moved and the roles it plays cannot be bestowed upon some other location. The Creator put it here and it is not for us to change or move it.

- The approach to cultural resource management must fully consider the cultural value attributed by the Tribe to the entire landscape and its constituent parts (landforms, water, plants, animals, spiritual qualities, etc.), and not focus merely on the research value of specific sites that are of interest to archaeologists.
- The Tribe believes that the entire Topock area is a traditional cultural property (TCP) that deserves protection. The TCP includes essentially the entire area under consideration in selecting the final remedy.
- The Tribe is also concerned about a larger scale cultural landscape along the Colorado River corridor from the Colorado River delta at least as far upstream as Hoover Dam.
- The Tribe also believes an area larger than that which has already been listed on the National Register since 1978 is eligible for listing on the National Register of Historic Places and the California Register. To the Tribe, the Maze area is not just the three loci that are visible to archaeologists. But rather, a larger area that includes the spaces between the loci, the areas where the Maze physically once was and associated intaglios, both those still visible and those no longer present. The Tribe's view is that these areas within the larger landscape are interconnected. If you impact or sever one area, that it affects the whole. Like cutting off a limb, it can affect your well being and cannot be recreated.
- Lithic scatters at Topock are important to the Tribe. There is an overwhelming sense of connection there. These sites are markers of what is still there, what remains of their ancestors. These sites deserve to be protected.
- Tribal monitors continue to identify previously unrecorded archaeological sites and archaeological material in the field in and around the Topock remediation area. This indicates the potential need for additional cultural surveys with qualified Tribal monitors as the remediation project progresses.
- Based on the importance placed on Topock as described above, this entire area is considered to be integral to the Tribe's traditional culture. If a desecration occurs to this area, there is no remedy that can fully mitigate it or fully undo that desecration.
- The Tribe expects that impacts in this area be as limited as possible. The Tribe believes that some groundwater and soil remediation technologies are more damaging than others and has and will comment on the alternatives. A proper analysis of alternatives must include Tribal views on the relative impacts. Consultation between DTSC, its consultants, and the Tribe should occur regarding each and every alternative prior to the finalization of the EIR, as different alternatives may affect cultural resources differently.

- Consultation between DTSC, its consultants, and the Tribe should occur during remedy design and implementation and monitoring phases, as different project designs or refinements may affect cultural resources and the Tribe differently.
- The Tribe is concerned about existing and additional visual impacts not only from the viewpoints of the general public but also from that of a Tribal person looking out from and toward the Topock Maze mesas while carrying out spiritual activities. The Tribe is also concerned about impacts on views of the river, the mountains, and other features of the landscape, which create a context for spiritual experiences.
- The Tribe is concerned about existing and additional noise impacts to the Topock TCP. The EIR should include an assessment of impacts of existing and expected noise sources on human receptors, including Tribal members who may be in the area engaging in cultural or spiritual activities.
- The EIR should contain a thorough assessment of the cumulative impacts on the Topock area TCP, which is considered to be a cultural and ethnographic landscape. The Tribe is very concerned about the impacts of the remedial investigations and interim measures that already have been installed at Topock, and thus, the cumulative impacts analysis should include any impacts since at least January 2004 that have occurred due to the groundwater and soils investigations and clean-up. Cumulative impacts would also include the development, operation, maintenance and repair of pipelines that took place in the past or are ongoing in the present, any plans related to the past or future construction or relocation of facilities at the PG&E Compressor station, power lines, highways, the railroad, farming operations, urbanization, and recreational facilities and uses, including the potential expansion of Park Moabi and the development of the Naked Pirate Cove Bar and Grill.
- The Tribe has noticed that project operations have attracted people to the area which has caused environmental harm to resources. The Tribe is concerned about additional project operations further attracting more people into the area increasing the illegal OHV activity and trespassing.
- The Tribe is concerned about having the capacity (staff, consultants and equipment) to sustain its level of involvement in project tracking, monitoring and making technical and policy input into the project for the life of the project which could be thirty years or more. The Tribe would also like to formally train Tribal members in such fields as hydrology, hydrogeology, cultural resource management, language and environmental sciences to help strengthen its in-house capacity.
- The Tribe is concerned that open consultation did not occur regarding the cultural resource and related sections of the DEIR (i.e., impact determinations, mitigation measures) in that drafts of all the relevant sections were not provided to the Tribe for its review despite several requests by

the Tribe. The Tribe is concerned that this could result in unnecessary delay in the DEIR review process.

- The Tribe is concerned that the Earle report, commissioned by PG&E for a limited purpose yet cited many places in the DEIR text, is not authoritative, is a draft report only, and was written without benefit of interviewing the Mojave Tribal Council, the Ahamakav Cultural Society or other qualified Tribal members.
- The Tribe does not believe ethnographic reports need to be done or referred to - that the agencies must trust the Tribe and take its beliefs as the authoritative view. In any case, the Tribe feels that the Ethnographic Literature sections as presented to them from the DEIR are not complete and do not reflect a comprehensive ethnographic report.
- The Tribe is surprised and disappointed that no effort has been made to date as part of the final remedy by the lead agencies to consult with it on potential mitigation measures for the project's direct, indirect and cumulative impacts, despite the ongoing effort to draft a Cultural Resources Programmatic Agreement for the final remedy and subsequent design and operation. The Tribe is concerned this failure to timely consult could result in otherwise unnecessary project delays as these issues must then be addressed through the public review period. Because of the severe impacts this project has had and continues to have on the Tribe's sacred landscape and People, "standard" or "boilerplate" CEQA EIR mitigation measures alone will not be sufficient.
- The Tribe is very concerned that despite its prioritization of this issue and settlement terms, that there appears to be no schedule or criteria established for decommissioning and removal of the IM3 treatment plant as part of the final remedy or its DEIR. Until it is removed, there will certainly be significant, continuing impacts to the Tribe that will require mitigation that must be addressed in the EIR.
- The Tribe is especially concerned as DTSC repeatedly said that Tribal concerns would be thoroughly addressed in the DEIR. That is the reason they gave the Tribe for not fully or more directly addressing the Tribe's concerns earlier during the RI/RFI, CMS/FS and various work plans.
- Regulatory agencies are required under federal law and the recent settlement agreement to consult with the Tribe. Consultation must be understood to involve a direct discussion of issues and concerns of the Tribe, for the purpose of resolving such issues and concerns in a mutually agreeable way, and it must lead either to a documented agreement or formal disagreement that informs final agency decisions.
- The Tribe will be hosting a forum for tribal members to discuss the project. The Tribe would like the comments to be incorporated into the NOP process and to inform the EIR.
- All efforts must be made to avoid and minimize impacts on the cultural and spiritual values the Tribe ascribes to the landscape, air, and water subject to effect.

- The Tribe may prefer, if a choice must be made for project component location, for infrastructure to be placed within historic road instead of other previously disturbed locations or native soils.
- All efforts must be made to correct, restore and compensate for the damage that has already been sustained and the Tribe must be timely and meaningfully consulted on such matters.
- The EIR must be consistent with the settlement agreement in *Fort Mojave Indian Tribe v. Department of Toxic Substances Control, et al.*, Sacramento Superior Court Case No. 05CS00437.
- The project must be consistent with, and the EIR must fully evaluate, Public Resources Code Sections 5097.9 and 5097.97 on project design and impacts on both state and federal lands.
- The Tribe wants the DEIR, maps and the administrative record to reflect that the IM-3 facility parcel has been repatriated recently to FMIT ownership. This repatriation reflects the high value the Tribe places on this land area to its people. The Tribe believes that having cultural lands in Tribal ownership and/or management supports traditional cultural values and strengthens the Tribe.
- The DEIR must be relevant for the People in the future. If it's a thirty year project, this EIR, its impacts analysis and mitigation measures should strive to be comprehensive and adequate for the time period of the remedy activities.

*(Theodora Kroeber, *The Inland Whale*, University of California Press, 1963, pages 193-194).

Statement of Linda Otero
Tribal Council Member/Director of Aha Makav Cultural Society
Fort Mojave Indian Tribe
Topock Compressor Station
Public Hearing
June 29, 2010
Needles High School Auditorium
1600 Washington Street
Needles, California 92363

Good Evening members of the hearing panel.

My name is Linda Otero, I serve in the capacity as Director of the Aha Makav Cultural Society and also as Council member of the Fort Mojave Tribe of California, Arizona and Nevada. The Fort Mojave Indian Tribe has 1,200 enrolled tribal members who reside on the Fort Mojave reservation. The Fort Mojave Indian reservation is situated along the banks of the Colorado River and this whole valley, from above Hoover Dam to below Blythe, California was once our traditional homeland. Since time immemorial we have inhabited this area, we were created and placed along the Colorado River to live and care for all of mankind. For centuries we lived and enjoyed the natural setting, the River our namesake "Aha Makav" people of the river, the Mountains we revere as the place of creation known as "Avi Kwa Ame" Spirit Mountain, all things the air, the sky, things above and below ground. These named places in Mojave are the cornerstones of our existence and demark the footprints of our ancestors upon this birthplace of the Mojave people.

Today, we continue to oversee the vast land holdings of this valley, even though throughout time the lands were taken from our ownership and we were minimized to the 48,000 acres that encompass our reservation land, by that past action of the federal government (taking of our traditional homelands) we continue to play a critical role in what takes place on these lands which are private, state and federally held in ownership, these lands hold the birthplaces, living areas of 18 clans upon the mountain ridges and along the natural river corridor, cremation areas, cultural sites, earth figures, petroglyphs, cultural environment and home sites of our people, past, present and into the future. We, as a people continue to be connected to these places of religious and cultural affiliation, the values, the traditional landscape of this valley as far as the eye can see, east, west, north and south, are our ties to this area and our reference points from our beginning to our end, from birth to death, that bond with all things is what and who we are and make us the Aha Makav. All lands within this valley are considered sacred especially the area where this proposed Alternative E will be implemented.

T1-227

We, as a Tribal Government have actively been involved in the ongoing actions at the Topock Compressor Station since we were first notified of the Chromium VI contamination and its potential to reach the Colorado River back in 2004. At that time we asked to become a part of the process and asked for a 30 day period to come up to speed with what was taking place in our Sacred site area and to be able to assess the actions of the Federal government and the State of California Department of Toxic Substances Control who were the regulators overseeing the proposed actions. Our appeal to DTSC representative then manager Norman Shopay was not filtered up the chain of command and because of the pending actions being contemplated by the regulators we had no choice but to file a lawsuit to get our foot in the door and to have our issues addressed at the highest levels of State government. A Settlement agreement was reached with DTSC, PG&E and Metropolitan Water District in 2007.

From that point on we have continued to struggle to have our concerns heard and to see them given equal if not more weight in the decisions that will affect the our Sacred land, water, and our religious and spiritual beliefs. We have diligently been following DTSC/DOI actions relative to this remediation action proposed within our Sacred Site landscape area we know as Topock. We have attending many many meeting with DTSC/DOI/BLM and PG&E where we offered testimony to DTSC/PG&E personnel on the Cultural and practice of the Fort Mojave Indian Tribe religious beliefs and the impacts that have occurred past, current and now into the future as proposed within the draft Statement of Basis, draft EIR and proposed plan which will continue to impose on our practice of our religion and continue with the desecration of our Sacred lands located within the APE where this proposed alternative E will occur.

T1-227
con't.

I cannot begin to tell you of the devastation I feel when I contemplate such actions as those that are being proposed to this sacred area. My only response is the heart felt hurt, pain and anguish our people feel to their spirits as we know how this applies to our beliefs and what that area represents to us when we leave this earthly existence. Our knowing of what happens to the ceceased when they pass from this world to the next is our greatest pain, knowing if they will safely pass to the otherside without impediments is our greatest worry for my people. The actions listed as the alternatives means to us more impacts/adverse effects of the past, current and future PG&E projects in the way of pipelines, compressor stations, pollution, disturbances 170 new wells in addition to the 150 that are currently in the ground, and remediations i.e., IM-1, IM-2, IM-3, Arizona Wells, AOC-4, East Ravine, the list goes on and on and we haven't even addressed the soils yet. Those mitigation issues will also need to be addressed when they occur.

The cumulative "added together" effects of those remediation and operations along with other past projects in the area, National Trails Highway, Route 66, I-40 Freeway, Bridges, Railroad, gas transmission lines, electric lines, utility corridors, and current projects unmanaged recreation, ORV, Park Moabi, Naked Pirate Beach/Grill just add to the impacts on our culture and practice of the Fort Mojave people. We feel as members of the Fort Mojave Indian Tribe who are first hand suffering and will continue to suffer the impacts/adverse effects on our cultural environment that PG&E and DTSC must do something more than what's in the draft EIR, recommending the State standard mitigation measures as outlined is unacceptable and does not address our specific concerns. We therefore ask that specific mitigation measures be addressed and negotiated with the Fort Mojave Indian Tribe as a means to ensure a better future for the culture and practice of the Fort Mojave Indian Tribe as part of its Draft EIR and project approval.

T1-227
con't.

The Fort Mojave Indian Community (1,200) tribal members will not accept anything less than that in exchange for accepting and having to live with this revised Alternative E, an alternative that will cause additional adverse effects and irreversible damage for over 30-100 years to our Native American Community who is the closest and most impacted people affected everyday by this man-made disaster. This gross oversight/lack of proper Cultural mitigation in essence is an Environmental Justice issue that needs to be looked into as part of this DEIR process if not properly addressed and mitigated by those who are responsible for seeing what we have been told that by them (DTSC/DOI/PG&E) "that our Cultural issues would be dealt with in the draft EIR process."



AHAMAKAV CULTURAL SOCIETY

Fort Mojave Indian Tribe

P.O. Box 5990 Mohave Valley, Arizona 86440

Phone (928) 768-4475 • Fax (928) 768-7996



July 14, 2010

Mr. Aaron Yue
DTSC Project Manager
5796 Corporate Avenue
Cypress, CA 90630

RE: Topock EIR Comments
Topock Compressor Station Groundwater Remediation Project

Dear Mr. Yue,

We are writing to comment on the Draft Statement of Basis (SOB) and the Draft EIR and Proposed Plan currently open for public comment.

We are members of the Fort Mojave Indian Tribe and people with close community ties to the Fort Mojave people who reside on the Fort Mojave Indian Reservation located in Needles, California and/or Mohave Valley, Arizona. We have been made aware of the ongoing actions at the Topock Compressor Station through various Community Meetings held in conjunction with this project and have been diligently following DTSC/DOI actions relative to this remediation action proposed within our Sacred Site landscape area we know as Topock.

We have been part of the Tribal Community team who has offered comments at meetings with DTSC/DOI/BLM and PG&E, attended scoping meetings where we offered testimony to DTSC/PG&E personnel on the Cultural and practice of the Fort Mojave Indian Tribe religious beliefs and the impacts that have occurred past, current and now into the future as proposed within the draft SOB, draft EIR and Proposed plan which will continue to impose on our practice of our religion and continue the desecration of our Sacred lands located within the APE where

T1-228

We cannot begin to tell you of the devastation we feel when we contemplate such actions as those that are being proposed to this sacred area. Our only response is the heart felt hurt, pain and anguish we feel to our spirit as we know how this applies to our practice of our religious beliefs and what that area represents to us when we leave this earthly existence. Our knowing of what happens to the deceased when they pass from this world to the next is our greatest pain, knowing if they will safely and without any impediments make it to the other side, is our greatest worry for our people, that any actions listed as the alternatives means more impacts/adverse effects of the past, current and future PG&E projects in the way of pipelines, compressor stations, pollution, 170 new wells in addition to the 150 that are currently in the ground, and remediation i.e., IM-1, IM-2, IM-3, Arizona Well, AOC-4, East Ravine, the list goes on and on and we haven't even addressed the Soils yet. Those mitigation issues will also need to be addressed when they occur.

T1-229

The Cumulative "added together" effects of those remediation and operations along with other past projects in the area, National Trails Highway, Route 66, I-40 Freeway, Bridges, Railroad, gas transmission lines, electric lines, utility corridors, and current projects unmanaged recreation, ORV, Park Moabi, Naked Pirate Beach/Grill/ just add to the impacts on our culture and practice of the Fort Mojave Tribe.

T1-230

We feel as members of the FMIT who are first hand suffering and will continue to suffer the impacts/adverse effects on our cultural environment that PG&E and DTSC must do something more than what's in the draft EIR, recommending the standard mitigation measures as outlined is unacceptable and does not address our specific cultural concerns. We therefore ask that specific mitigation measures be addressed and negotiated with the Fort Mojave Indian Tribe as a means to ensure a better future for the culture and practice of the Fort Mojave Indian Tribe people as part of its Draft EIR and project approval.

T1-231

As a Community, we have existed in this area for many generations as a tribe, this is our only homeland, this is where our beginning is and where our end transitions, this is all that we have known as our traditional cultural properties, from Hoover Dam to below Blythe, this area holds the footprints of our ancestors and attests to our past, present and future generations, who cannot and will not ever leave this homeland until our time ends here at this place, our Sacred area called Topock.

T1-232

The Fort Mojave Indian Community (1,200 tribal members) will not accept anything less than that in exchange for accepting and having to live with this revised Alternative E, an alternative that will cause additional adverse effects and irreversible damage for over 30-100 years to our Native American Community who is the closest and most impacted individuals affected by this man-made disaster. This gross oversight/lack of proper Cultural mitigation in essence is an Environmental Justice issue that needs to be looked into as part of this DEIR process if not properly addressed and mitigated.

T1-233

We ask these measures be given the highest priority and consideration during this comment period as we speak from our hearts for our Elders, Children and those yet to be born, the animals that co-exist and especially the Sacred land area, People, Places and Things that will be desecrated and cumulatively impacted over the course of this remediation clean up.

Sincerely,
Fort Mojave Indian Tribe Members

Cc: Pamela Innis, DOI
William Lodder, DOI, DC Office
Maziar Movasaghi, DTSC

SIGNATURE SHEET FOR TOPOCK EIR COMMENTS

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Barbara Jones	204 Race St Needles CA 92363	
Cynthia Russell	9018 Via Rancho Dr Mojave Valley AZ 86410	
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Richard Thomas	1700 Davidson Ln Needles CA 92363	
Shirley Clougherty		

T1-234

SIGNATURE SHEET FOR TOPOCK EIR COMMENTS

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PHILLIP SMITH	997 SMITH RD NEEDLES CA	
KAROL SMITH	997 SMITH RD NEEDLES CA	

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con't.

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Director CHITLET circle MV 012 66440

For McDowell. Okla 65320 Eander Way Mohave Valley, AZ 86440

Finch Owens 404 MEARMER Needles, CA

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con't.



Fort Mojave Vocational Rehabilitation

8678 Highway 95, Suite B
Mohave Valley, AZ 86440
PHONE (928) 768-1144

July 16, 2010

Aaron Yue
DTSC Project Manager
5796 Corporate Avenue
Cypress, CA 90630

Re: Topock EIR Comments / Topock Compressor Station / Remediation Project

Dear Mr. Yue,

I am writing to comment on the Draft Statement of Basis (SOB) and the Draft EIR and proposed Plan Currently open for Public comment. I am the Fort Mojave Vocational Rehabilitation (FMVR) Director, and I have lived and worked in the Fort Mojave community for ten years. The FMVR Program provides services to the Fort Mojave people with disabilities who reside on the Reservation located in Needles, California and Mohave Valley, Arizona. I am requesting that the Natural Attenuation be the final and only plan and that the existing 150 wells be removed from the sacred lands of the Mojave people.

T1-235

T1-236

I have been a participant at several of the meetings held on the reservation that was designed to address the groundwater cleanup alternatives and mitigation. The litigation in theory is supposed to create an avenue where respectful dialog and appropriate follow-through is achieved and where an equitable solution to benefit all parties is the outcome, the Fort Mojave People, PG&E, DTSC, and MWD. Thus far PG&E/DTSC has demonstrated a deaf ear to the testimony of the many Fort Mojave people who have shared their heart, their tears, and their hope that PG&E will understand that the Fort Mojave people are the stewards and caretakers of their homeland, and they have been instructed by the Creator to safeguard all lands, water, and life.

The expectation is that DTSC/DOI and PG&E will:

- Prevent any action which has the aim or effect of depriving [the Fort Mojave People] of their integrity as distinct peoples or their cultural values or ethnic identities
- Prevent any action which has the aim or effect of dispossessing [the Fort Mojave People] of their lands, territories or resources
- Prevent any form of forced population transfer which has the aim or effect of violating or undermining any of [the Fort Mojave People] rights
- Prevent any form of forced assimilation or integration
- Prevent any form of propaganda designed to promote or incite racial or ethnic discrimination directed against [the Fort Mojave People]

T1-237

United Nations Declaration on the Rights of Indigenous Peoples, 2007

In closing I have two questions that beg an answer: would you build a plant and drill wells in the middle of a Christian Church, a Synagogue, or a Mosque, or any house of worship? If your answer is no, then why are you desecrating the sacred lands and waters of the Fort Mojave people?

T1-238

To reiterate, I have heard testimony by the Fort Mojave people and their plea is straightforward and profound: Alternative E is not in the best interest of the Fort Mojave people, the land, the water, and all life forms. I ask that you do the right thing and honor the request of the Fort Mojave People.

T1-239

June 30, 2010

Mr. Aaron Yue
DTSC Project Manager
5796 Corporate Ave.
Cypress, CA 90630

Re: Topock EIR Comments
Topock Compressor Station
Remediation Project

Dear Mr. Yue,

My name is Diane L. Montoya and I am an Aha Macav Tribal member within the Oach clan. We had an opportunity to provide brief comments at the Needles Public Hearing on June 29, 2010.

However, this was very brief; I did not feel I had enough time to explain the cultural significance regarding the maze, and how Alternative E is not in our best interest -or- the best interest of land and life. I am asking that Natural Attenuation be the final and only plan. I am also advocating that the existing 150 wells be removed.

As Tribal members we have been instructed by, The Great Spirit, our Creator to be as stewards, and as caretakers of our homelands to safeguard all land and life. To date, you may have heard our ancestors made a great maze in the Topock area that has been riddled with 150 wells and other encroachments. To include or consider additional wells would be an act of further desecration. The maze is the place where we make a final journey once our meat body expires. It is a place where we reflect and review our life, and then we journey on to the Spirit World. We must have a clear path; we cannot withstand having any more obstacles in our path. Please understand that further damage, blockage and desecration would definitely hinder and impede our journey to rejoin our ancestors in the next world, per our Creator's instructions. You see, we all share a deep understanding of WHERE WE ARE GOING, when it is our time to make the journey to the Spirit World. We still actively practice our traditional sacred funeral rites.

Already we have suffered from the 150 wells placed in our maze directly in our path to the next world. We have resided here since the beginning of time.

This is why further construction of wells in accordance to plan E is a threat to our very existence.

We shall never abandon our home; it was given to us by our Creator and is understood then as home of our hearts and the heart of our home.

Please remove the wells that are already there, do not continue to desecrate our home. You need to allow Mother Nature's all powerful ability via Natural Attenuation to occur.

It is my sincerest prayers that all destruction stops.

Thank you,
Di'ench Oach
Diane L. Hammond, Montoya

T1-240

T1-241



EXHIBIT 4

REMY, THOMAS, MOOSE and MANLEY, LLP
ATTORNEYS AT LAW

MICHAEL H. REMY
1944 - 2003

TINA A. THOMAS
OF COUNSEL

JAMES G. MOOSE
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SENIOR COUNSEL

AMANDA R. BERLIN
LAURA M. HARRIS
CHRISTOPHER J. BUTCHER
JEANNIE LEE
ASSOCIATES

June 24, 2010

VIA FACSIMILE & REGULAR MAIL
(760) 629-5767

Honorable Chairman Timothy Williams
Fort Mojave Indian Tribe
500 Merriman Avenue
Needles, CA 92363

Re: Topock Groundwater Remediation Project and Draft EIR - Summary of
May 27, 2010 Meeting at Fort Mojave Indian Tribal Council (Needles,
California)

Dear Honorable Chairman Williams:

Thank you for welcoming us on May 27, 2010, to discuss the above referenced project and related Draft Statement of Basis and Draft Environmental Impact Report ("DEIR"). We appreciated hearing directly from the Tribal members who were present and believe, overall, that the meeting was a positive one. The purpose of this letter is to memorialize the issues of concern we heard expressed by representatives of the Tribe regarding the proposed final remedy, the adequacy of the DEIR, and consistency of the proposed final remedy and DEIR with previous settlement agreements, among other matters. We understand the meeting was intended to be informal and preliminary. We nevertheless see value in attempting to capture the comments made so that DTSC staff can determine whether and how to incorporate changes into the Final EIR or other appropriate document as the project moves forward.

I have conferred with DTSC and AECOM staff in preparing the summary of preliminary concerns from the Tribe below. Please let me know if you think we have missed anything of substantive concern or mischaracterized any of the comments that were made.

T1-242

EXHIBIT 5

1. Project Description:
 - a. AECOM was asked to clarify what "Replacement wells through O&M phase" means exactly in terms of potential new future construction, if any, as well as timing and frequency of this activity. (DEIR, p. 18.) T1-243
2. Aesthetics
 - a. Tribe would like more visuals of wells, size, number(s) and potential locations. T1-244
 - b. Tribe would like EIR to weave in cultural concerns re: adding wells and other infrastructure to area into aesthetics analysis. T1-245
3. Historical/Cultural Analysis:
 - a. Tribe believes the area of potential effects (APE) needs to be enlarged to address potential direct and indirect effects of project on Tribe as previously expressed in PA process (consider using DEIR Exhibit 3-4). T1-246
 - b. Wells along existing road would be better than most other locations although still significant to Tribal members. To Tribal members, significance depends on number and location of wells and other facilities. Need performance standards as part of mitigation measures and more visuals. T1-247
 - c. Water is sacred and its use should be given great consideration in the cultural analysis of potential effects to the Tribe. Natural attenuation should be discussed as part of view that humans should not be altering the environment. T1-248
 - d. Recognize that some members view any activity in sacred area as an impact and hurtful. Want DTSC to consider policy changes to thresholds and how sacred sites are treated generally. T1-249
 - e. Consider ways to better depict the maze loci (currently shown as "holes" on the project footprint) to avoid implication that only these loci are important. T1-250

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- | | | |
|----|---|--------|
| 4. | <u>Land Use</u>
No area of critical environmental concern (ACEC) assessment/management plan yet so should be explained more what this would entail. | T1-251 |
| 5. | <u>Noise</u> | |
| a. | Existing cumulative noise levels are high. DTSC should consider mitigation measures requiring PG&E to decrease the volume on their existing outdoor PA/phone system, require people in the field to use cell phones, and fully enclose loud equipment. | T1-252 |
| b. | List of cumulative projects identified for consideration and geographic scope of area considered should be better explained. | T1-253 |
| 6. | <u>Mitigation Measures:</u> | |
| a. | Tribe would like to see inclusion of performance standards that reflect Tribal concerns re: final remedy in CMS/FS and Draft Statement of Basis. | T1-254 |
| b. | Tribe would like estimates of costs for implementation and enforcement of mitigation measures. | T1-255 |
| c. | Removal of Interim Measure (IM-3) should be required as part of binding mitigation measure or condition of approval. Tribe requests a work plan for decommissioning and removal as soon as possible, and potentially as part of implementation plan so that physical removal can happen promptly following decision to decommission this facility. Restoration of the IM-3 footprint following decommissioning is viewed as critical. | T1-256 |
| d. | DEIR needs to better explain existing PG&E and Tribal consultation with overseeing and monitoring activities. Need to add specifics and enforceability to involvement of Tribal members in future monitoring, in part, because selected Tribal monitors would have information and knowledge that others do not. | T1-257 |
| e. | Need to better explain existing laws to protect human remains and cultural resources that could be uncovered during construction, including AB 2641 and Health and Safety Code provisions. | T1-258 |
| f. | Need to tighten measures re: archaeological monitor to include qualified osteologist to identify bone fragments etc. if anything found during construction. | T1-259 |

Honorable Chairman Timothy Williams
June 24, 2010
Page 4

- g. Consider imposing "Fair Share" fees on PG&E to offset significant and cumulative cultural impacts. T1-260
7. Alternatives:
- a. Tribe believes Alternative I conflicts with provisions of Settlement Agreement. T1-261
- b. Tribe states that Alternative I improperly assumes IM-3 remains in place. DEIR should have used a pre-IM-3 baseline to determine significance throughout the DEIR. IM-3 is to be removed and it was wrong to include it as part of the baseline. T1-262
- c. Estimated costs of various alternatives appear "soft" because we don't have final design. T1-263
- d. Tribe is opposed to any equipment, wells etc. being added to IM-3 parcel and view such attempts as contrary to the Settlement Agreement with PG&E. T1-264
8. Process
- Tribe would like to review admin final EIR (or portions thereof) and/or have the opportunity to review DTSC responses to their comments prior to the final remedy decision. T1-265

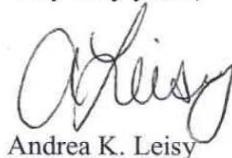
* * *

We look forward to meeting again on July 6, 2010, to continue the above dialogue. In order to make the meeting as productive as possible we ask that the Tribe consider bringing proposed changes to the EIR mitigation measures so that we can discuss.

T1-266

If you have any additional comments to add to this summary, or if you think I have mischaracterized anything please also bring those comments to the meeting. Thank you.

Very truly yours,



Andrea K. Leisy

Honorable Chairman Timothy Williams
June 24, 2010
Page 5

cc: Honorable Vice Chair Shan Lewis, Fort Mojave Indian Tribe
Linda Otero, Fort Mojave Indian Tribe
Nora McDowell, Fort Mojave Indian Tribe
Karen Baker, DTSC
Courtney Coyle, Esq.
Steve Heipel, AECOM
Nancy Long, DTSC
Steven McDonald, Esq.



United States Department of the Interior

NATIONAL PARK SERVICE

1849 C Street, N.W.
Washington, D.C. 20240

IN REPLY REFER TO:

H32(2280)

NOV 23 2009

Ms. Courtney Ann Coyle
Held-Palmer House
1609 Soledad Avenue
La Jolla, CA 92037-3817

Dear Ms. Coyle:

This letter responds to your correspondence of October 6, 2009, on behalf of the Fort Mojave Indian Tribe regarding proposed revisions to the National Register of Historic Places listing for the Topock Maze in Needles, California. The Topock Maze Archeological Site was originally listed in the National Register on October 5, 1978.

Until a formal nomination is presented to our office for consideration the National Register is not in a position to direct how an agency shall carry out its identification and documentation responsibilities under the National Historic Preservation Act. Under the Act each Federal agency is charged with establishing its own internal preservation programs for the identification, evaluation, and nomination of historic properties. Each agency is responsible for determining its internal policies and procedures under the framework of the Act and its implementing regulations, including 36 CFR Part 60.

Rest assured that our review of any revised nomination for the Topock Maze site, if and when it is formally submitted under the 36 CFR Part 60 regulations, will include a thorough examination of the documentation, including the sources cited and the parties consulted in reaching the eligibility determinations. Should we find these deficient, or the evaluation process flawed, we will return the nomination with a request to revise the materials as necessary. The National Park Service's guidance on the development of nominations for traditional cultural places explicitly cites the importance of direct consultation with members of the traditional community that values such resources. We view such consultation as essential to understanding the historic context in which these types of properties are appropriately evaluated.

We recommend that your clients utilize the public comment period outlined in the National Register regulations to voice specific concerns regarding the revised nomination and the procedures used in obtaining the information.

T1-267

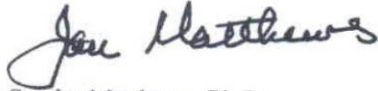
EXHIBIT 6

In response to your inquiry I have requested Paul Lusignan of the National Register staff to contact the Federal agencies preparing the Topock Maze nomination to see if he can offer any assistance in their documentation efforts.

T1-267
con't.

If you have any additional questions, please feel free to contact Paul Lusignan at 202-354-2229 or paul_lusignan@nps.gov.

Sincerely,



Janet Snyder Matthews, Ph.D.
Associate Director, Cultural Resources

cc: CA SHPO
FPO Bureau of Reclamation
FPO BLM

Examples of What Other PAs and MOAs have Accepted as Mitigation Measures

07/05/10

Category 1: Measures to restore the land and its life forms, to improve tribal access, and reduce incompatible uses:

1. Land Transfers, etc.

Glamis Mine: Provide for acquisition of lands of traditional concern

Tahquitz Creek Flood Control Project: Transfer city land to tribe (taken into trust by U.S.)

2. Co-Management, etc.

Imperial Valley Solar: Trail-wide Mitigation Fund

King William Reservoir: Tribal or co-management of river and other places of cultural importance

3. Enhanced Law Enforcement, etc.

West Tavaputs Plateau Natural Gas Full Field (Nine Mile Canyon): Site stewardship program

4. Tribal Access, etc.

King William Reservoir: TCP Mitigation program provisions for access and use by Tribes including for special events and traditional activities

Sequoia and Inyo National Forests: Tribal access to wilderness areas in Sierra high country

Glamis Mine: Ensure continued tribal access to the Area of Traditional Cultural Concern during project implementation and after closure

Warm Springs Dam/Lake Sonoma: Transplanting of basketry plants (sedge, willow) and tribal access to these plant stands in perpetuity

Category 2: Measures to Strengthen traditional Mojave spiritual, cultural and funerary traditions

1. Financial support for cultural, educational, facilities and programming and staffing

Glamis Mine: Provide for expansion plan for Quechan Museum

Imperial Valley Solar: Preparation of comprehensive Interpretive Plan, Interpretive Facilities, Museum Exhibit for Anza National Historical Trail

Tahquitz Creek Flood Control Project: Contribute toward construction of interpretive center

T1-268

EXHIBIT 7

Snowbowl: Applicant to work with Tribes and USFS to develop cultural center with tribal interpreters

King William Reservoir: Cultural, educational and Tribal community activities

2. Habitat Restoration for sustainable harvest of natural funerary materials

Snowbowl: Access guaranteed for collection of medicinal, ceremonial and food plants, logs offered for kivas

Warm Springs Dam/Lake Sonoma: Transplanting of basketry plants (sedge, willow) and tribal access to these plant stands in perpetuity

Category 3: Measures to assist Tribe in relating to remediation project

1. Education and technical training for tribal members

Glamis Mine: Provide for endowment for tribal member to study cultural features of area and for tribal cultural education.

King William Reservoir: Education and training for interpreters, curators, etc.

2. Continue support for outside technical assistance

King William Reservoir: Funding for expert assistance to develop TCP Mitigation Program

3. Continue support for ongoing tribal monitoring and staffing of project

King William Reservoir: Compensate for reasonable costs of any tribal monitoring

T1-268
con't.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
FISH AND WILDLIFE SERVICE
BUREAU OF RECLAMATION



ELECTRONIC SUBMISSION

May 3, 2010

Leo S. Leonhart, PhD, RG, ChG
Principal Hydro geologist
HARGIS & ASSOCIATES, INC.
1820 E. River Road, Suite 220
Tucson, Arizona 85718-5991

Dear Dr. Leonhart:

Subject: Cultural Resource Surveys

During the April 15, 2010 Topock Technical Working Group (TWG) conference call, an inquiry regarding the extent of the cultural resource surveys was made by Fort Mohave Indian Tribe representatives. A follow up e-mail was provided by you on April 16, 2010, reiterating the content of that inquiry. This letter provides a response concerning the nature and extent of cultural resources surveys performed both within and outside the expanded Topock Remediation Project Area of Potential Effects (APE). For your convenience, attached are Applied Earthworks' survey coverage map and description from their report: Archaeological and Historical Investigations, Third Addendum: Survey of the Original and Expanded APE for Topock Compressor Station Site Vicinity, San Bernardino County, California, Mohave County, Arizona by Applied Earthworks (2007).

T1-269

The information provided below reiterates the inquiry made during the TWG regarding the extent of the cultural survey and provides the response to that inquiry. This information has been relayed by the PG&E Archaeologist, Glen Caruso.

1. Areas within the Compressor Station fence line?
A. Areas within the Topock Compressor Station fence line have not been surveyed.
2. Areas within the PG&E property boundary?
A. The PG&E property outside the Compressor Station fence line was examined at a complete and intensive level.

PG&E Topock Compressor Station Remediation Site. DOI Response to TWG/FMIT Cultural Resource Survey Inquiry. 05/03/10

EXHIBIT 8

Dr. Leo Leonhart
Page 2 of 2

3. Areas outside of the PG&E property where remedial activities are either ongoing or being considered (including ER & the Compressor Station)?

A. All other areas of APE were also examined at a complete and intensive level.

4. Areas outside the expanded APE that may be part of the final Remedy?

A. For those areas included within Alternative E that are outside the APE, the Department of Toxics Substances Control (DTSC) requested a preliminary field reconnaissance and record search. A record search was conducted at both Arizona and California information centers. Relevant historical and anthropological primary reference sources were reviewed and relevant historical maps and photos were also examined. The field reconnaissance consisted of a preliminary or 'windshield' examination, i.e., visual observations of those areas from existing public access roads.

T1-269
con't.

In response to your question regarding the proper protocol for filing your request for information on cultural resources related to Topock Remediation Project, in the future, please feel free to contact the Lake Havasu Field Office Archaeologist, George Ward Shannon, Jr., Ph.D., RPA at (928) 505-1255.

If you have any questions regarding this, please contact me at (303) 445-2502.

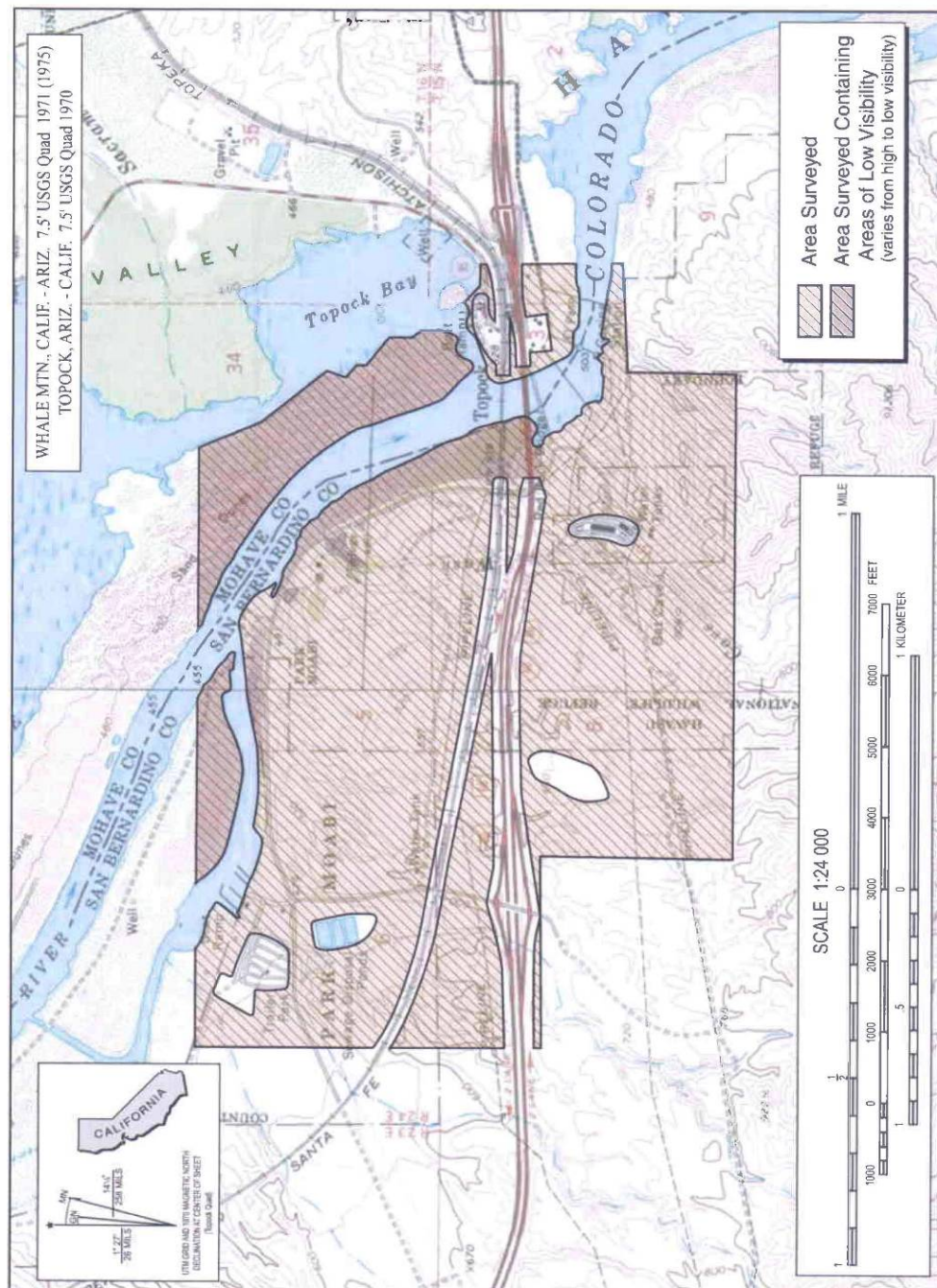
Sincerely,



Pamela S. Innis
DOI Topock Remedial Project Manager

cc: Aaron Yue, DTSC
Karen Baker, DTSC
Yvonne Meeks, PG&E
Carrie Marr, USFWS
Jeff Smith, BOR
Cathy Wolff-White, BLM
Rick Newill, DOI Consultant
PG&E Topock TWG Members

PG&E Topock Compressor Station Remediation Site, DOI Response to TWG/FMIT Cultural Resource Survey Inquiry, 05/03/10



T1-269
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2 METHODS

Complete and intensive archaeological surveys of the Original 155-acre APE and the Expanded 1,660-acre APE were conducted by three AECOM archaeologists between September 21 and December 23, 2004. Survey transects were spaced a maximum of 10 meters (33 ft) apart due to the isolated and discrete nature of many of the archaeological sites within the Project area. All landforms likely to contain or exhibit prehistoric or historical archaeological resources were inspected carefully to ensure that all visible, potentially significant resources were discovered and documented. Additionally, surveyors investigated any unusual landforms, contours, soil changes, features (e.g., road cuts, drainages), and other potential site markers. Ground visibility throughout the 1,815-acre was generally excellent (100%); however, along some of the major arroyos draining into the Park Moabi Slough and/or the Colorado River, dense stands of tamarisk reduced ground surface visibility from 50 to 75 percent. It should be noted that areas of private property or those that have been developed with standing structures were not surveyed (see Figure 3).

When encountered, all potentially significant archaeological and historical resources were recorded on State of California Department of Parks and Recreation Archaeological Site Forms (DPR 523 [1995]). Systematic efforts were made to characterize and define the aerial extent of each resource; site integrity was also assessed as either retained (i.e., intact) or impaired (damaged). Site locations then were plotted on the appropriate 1:24,000 scale USGS topographic map using a Garmin handheld Global Positioning System (GPS) unit using UTM NAD 27. Sketch maps of each archaeological site were drawn to scale, and color print photographs were also taken of each site, as well as of any extant cultural features and exceptional artifacts present. Any discrete cultural features important to site interpretation were also fully documented and photographed. When necessary, the records of sites previously documented CH2M Hill were updated. No artifacts were collected during the archaeological surveys.

T1-269
con't.

List of Topock Project Documents

Former Project Schedule	Publication Date	File Size
Topock Remediation Detailed Project Schedule, Version 7	Nov-09	466 KB
Summary of Key Schedule Changes Since August 15, 2007 Revision 6	May-09	117 KB
Topock Remediation Detailed Project Schedule, Version 6	May-09	415 KB
Detailed Schedule	Nov-08	872 KB
Project Timeline for Groundwater Remedy Selection	Nov-08	39 KB
Condensed Project Schedule	Nov-08	34 KB
Topock Detailed Schedule	Jun-08	1.1 MB
Topock Condensed Schedule - Critical Path Analysis	Jun-08	38 KB
Detailed Schedule	Apr-08	1.2 MB
Condensed Schedule - Critical Path Analysis	Apr-08	33 KB
Current Project Schedule	Publication Date	File Size
Topock Remediation Detailed Project Schedule, Version 8	Mar-10	4.8 MB
Summary of Key Schedule Changes, Revision 8	Mar-10	145 KB
EIR Documents	Publication Date	File Size
Notice of Availability of the Draft EIR, Draft Statement of Basis, and Proposed Plan	Jun-10	40 KB
Groundwater Proposed Plan for the Topock Compressor Station	Jun-10	276 KB
Draft Environmental Impact Report for the Topock Compressor Station Groundwater Remediation Project, California Department of Toxic Substances Control - Chapters 1 through 3	Apr-10	2.8 MB
Draft Environmental Impact Report for the Topock Compressor Station Groundwater Remediation Project, California Department of Toxic Substances Control - Chapter 4	Apr-10	39.3 MB
Draft Environmental Impact Report for the Topock Compressor Station Groundwater Remediation Project, California Department of Toxic Substances Control - Chapters 5 through 12	Apr-10	4.4 MB
Draft Environmental Impact Report for the Topock Compressor Station Groundwater Remediation Project, California Department of Toxic Substances Control - Appendices	Apr-10	89.3 MB
Draft Statement of Basis For a Preferred Groundwater Remedy, PG&E Topock Compressor Station Needles, California EPA ID Number CAT080011729	Apr-10	1.3 MB
California Environmental Quality Act Initial Study - Template	Nov-08	325 KB
Article 9. Contents of Environmental Impact Reports	Nov-08	88 KB
Topock Final Scoping Report	Aug-08	14.1 MB
EIR Scoping Meeting Comments	Publication Date	File Size
Big River Scoping Meeting Transcript	Jun-08	94 KB
Lake Havasu City Scoping Meeting Transcript	Jun-08	90 KB

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EXHIBIT 9

Needles Scoping Meeting Transcript	May-08	115 KB
Yuma Scoping Meeting Transcript	May-08	78 KB
Public Notices	Publication Date	File Size
Notice of Preparation Public Notice	May-08	60 KB
Fact Sheets	Publication Date	File Size
June 2010 Fact Sheet, PG&E Topock Project Update	Jun-10	377 KB
March 2010 Fact Sheet, PG&E Topock Environmental Investigation Update	Mar-10	1.6 MB
July 2009 Fact Sheet - PG&E Topock Environmental Investigation Update	Jul-09	1.5 MB
May 2008 Fact Sheet - PG&E Topock Compressor Station Project Availability of a Notice of Preparation	May-08	524 KB
February 2008 Fact Sheet - Pacific Gas and Electric Company (PG&E) Work Notice: Topock Groundwater Study – Upcoming Well Drilling	Feb-08	1.1 MB
February 2007 Fact Sheet - Notice of Upcoming Groundwater Investigation Activities	Feb-07	664 KB
October 2006 Fact Sheet - Pacific Gas and Electric Company (PG&E) Topock Project Update	Oct-06	463 KB
July 2005 Fact Sheet - Pacific Gas and Electric Company (PG&E) Topock Project Begins Interim Measure No. 3 Treatment Operations	Jul-05	989 KB
August 2004 Fact Sheet - PG&E's Topock Compressor Station in Needles Directed to Expand Cleanup Operations	Aug-04	869 KB
May 2004 Fact Sheet - Interim Measures at the PG&E Topock Compressor Station	May-04	1.4 MB
September 1999 Fact Sheet - Environmental Investigation Results	Sep-99	256 KB
May 1998 Fact Sheet - The Public's Role During the Permit Process	May-98	1.3 MB
March 1998 Fact Sheet - Hazardous Waste Investigation	Mar-98	338 KB
Public Involvement Plans	Publication Date	File Size
U.S. Department of Interior Topock Community Involvement Plan	Apr-10	2.4 MB
Public Participation Plan Addendum	Jul-09	4.1 MB
Updated Public Participation Plan	Feb-07	4.8 MB
Public Participation Plan	Jun-98	799 KB
Other Outreach Documents	Publication Date	File Size
Topock Open House/Public Meeting Poster	Jun-10	1.1 MB
Needles Open House/Public Meeting Poster	Jun-10	1.2 MB
Lake Havasu City Open House/Public Meeting Poster	Jun-10	1.1 MB
Parker Open House/Public Meeting Poster	Jun-10	1.0 MB
Topock Public Meeting Flyers	Jul-09	537 KB
Notice of Preparation	May-08	972 KB

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Archive of What's New Bullets	Mar-05	28 KB
Press Release February 22, 2005	Feb-05	27 KB
Press Release March 08, 2004	Mar-04	27 KB
News Articles	Sep-03	1.6 MB
RCRA Facility Assessment (RFA)		
RCRA Facility Assessment Questionnaire	Publication Date	File Size
RCRA Facility Assessment	Sep-06	4.8 MB
	Aug-87	1.2 MB

Site Investigations: RFI/RI Reports
RFI Report Volume 1

	Publication Date	File Size
Proposal for Addendum to RFI/RI, Vol 1 - Site Background and History	Aug-07	54 KB
RFI/RI Volume 1 - Appendix B	Aug-07	68 KB
RFI/RI Volume 1 - Site Background and History with Appendix A	Aug-07	55 KB
RFI/RI Volume 1 - Appendix C	Aug-07	59 KB
Response to Additional DTSC Comments on the RFI/RI, Volume 1 Site Background and History	Aug-07	210 KB
RFI/RI Volume 1 - DTSC Response to Comments	May-07	204 KB
RFI/RI Volume 1 - DTSC Response to Comments Cover	May-07	38 KB

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RFI Report Volume 2

	Publication Date	File Size
RCRA Facility Investigation/ Remedial Investigation Report Volume 2 Addendum Text, Tables, Figures and Appendices A - D and F - H	Jun-09	29 KB
RCRA Facility Investigation/ Remedial Investigation Report Volume 2 Addendum Appendix E	Jun-09	6 KB
Revised Final RCRA Facility Investigation/Remedial Investigation (RFI/RI), PG&E Topock Compressor Station, Needles, California - Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigation - Text Tables and Figures	Feb-09	36 KB
Revised Final RCRA Facility Investigation/Remedial Investigation (RFI/RI), PG&E Topock Compressor Station, Needles, California - Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigation - Appendices A - H2 and I - J	Feb-09	64 KB
Revised Final RCRA Facility Investigation/Remedial Investigation (RFI/RI), PG&E Topock Compressor Station, Needles, California - Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigation - Appendices H3 - H6	Feb-09	23 KB
Comments on July 2008 RCRA Facility Investigation and Remedial Investigation Report Volume 2 at PG&E, Topock Compressor Station, Needles, California (EPA ID NO. CAT080011729)	Oct-08	1 KB

Response to Comments Related to the Site History Portion of the RFI Report Dated February 2005	Jul-06	4 KB
Site Investigations: Other Documents Related to Soil Investigation		
Soil Investigation Work Plan Part A		
	Publication Date	File Size
Calculation of Soil Screening Levels for Protection of Groundwater at the PG&E Topock Compressor Station	Aug-08	0 KB
RCRA Facility Investigation/Remedial Investigation Soil Investigation Work Plan Part A	Nov-06	59 KB
Soil Investigation Work Plan Part B		
	Publication Date	File Size
Part B Phase 1 Proposal, PG&E Topock Compressor Station, Needles, California	Sep-08	4 KB
Topock Part B Soil Investigation Work Plan	Dec-07	57 KB
Other Soil-Related Studies and Documents		
	Publication Date	File Size
Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil, PG&E Topock Compressor Station, Needles, California	Aug-09	0 KB
Soil Background Investigation at the PG&E Topock Compressor Station, Needles, California	May-09	4 KB
Final Soil and Sediment Data Usability Assessment Technical Memorandum, PG&E Topock Compressor Station	Aug-08	2 KB
Responses to Agency Comments on Soil and Sediment Data Usability Assessment Technical Memorandum, PG&E Topock Compressor Station	Nov-07	0 KB
Soil and Sediment Data Useability Assessment Technical Memorandum	May-06	5 KB
Interim Measures No. 3 Closure Planning - Baseline Soil Sampling Work Plan	Feb-06	3 KB
Site Investigations: Other Documents Related to Groundwater Investigations		
Arizona Groundwater Investigation		
	Publication Date	File Size
Installation Report for Wells on the Arizona Shore of the Colorado River at the PG&E Topock Compressor Station, Needles, California	Aug-08	3 KB
Work Plan for Well Installation and Groundwater Characterization on Arizona Shore of the Colorado River at Topock, Arizona	Jan-07	10 KB
Groundwater and Surface Water Monitoring Plans		
	Publication Date	File Size
Letter to DTSC, Subject: Updates and Modifications to Groundwater Monitoring Program	Jul-07	0 KB

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Site Access and Sampling Procedures for Groundwater Monitoring Wells Located Near Potential Southwestern Willow Flycatcher Habitat, Rev. 3	Apr-06	1 KB
Response to DTSC Comments on Metals Sampling	Nov-05	1 KB
Proposed Revision to Surface Water Sampling Program	Sep-05	1 KB
Spill Prevention, Containment and Control Measures for Monitoring Well Sampling - SOP	Jul-05	0 KB
Revised Sampling Plan and SOP for Depth-Specific Surface Water Sampling	Jul-05	1 KB
Contingency Planning for Surface Water Monitoring	Jun-05	0 KB
Appendix B to Final Workplan for Chromium Sample Filtration Comparison Test	Apr-05	0 KB
Monitoring Plan for Groundwater and Surface Water Monitoring Sampling Analysis and Field Procedures Manual	Apr-05	6 KB
Final Workplan for Chromium Sample Filtration Test	Mar-05	5 KB
Contingency Planning for Sentry Well Groundwater Monitoring (Copy)	Mar-05	0 KB
Contingency Planning for Sentry Well Groundwater Monitoring (Copy)	Feb-05	0 KB
Sampling and Analysis Plan, Groundwater and Surface Water Monitoring	Jul-04	5 KB
Sampling Plan Addendum for Evaluating Monitoring Well Sampling Methods	Feb-04	1 KB
Sampling and Analysis Plan for Quarterly Groundwater Monitoring	Sep-03	0 KB
	Publication Date	File Size
Groundwater and Surface Water Monitoring Reports		
Fourth Quarter 2009 and Annual Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report	Mar-10	31 KB
Third Quarter 2009 IM Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report PG&E Topock Compressor Station, Needles, California	Nov-09	6 KB
Second Quarter 2009 IM Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report PG&E Topock Compressor Station, Needles, California	Aug-09	5 KB
Groundwater and Surface Water Monitoring Report, First Quarter 2009, PG&E Topock Compressor Station, Needles, California	Jun-09	1 KB
Groundwater and Surface Water Monitoring Report, Fourth Quarter 2008 and Annual Summary, PG&E Topock Compressor Station, Needles, California	Mar-09	1 KB
Groundwater and Surface Water Monitoring Report, Third Quarter 2008, PG&E Topock Compressor Station, Needles, California	Jan-09	47 KB
Groundwater and Surface Water Monitoring Report, Second Quarter 2008, PG&E Topock Compressor Station, Needles, California	Aug-08	5 KB
Groundwater and Surface Water Monitoring Report, First Quarter 2008, PG&E Topock Compressor Station, Needles, California	Jun-08	4 KB
Groundwater and Surface Water Monitoring Report, Fourth Quarter 2007 and Annual Summary	Mar-08	4 KB
Groundwater and Surface Water Monitoring Report, Third Quarter 2007, PG&E Topock Compressor Station, Needles, California	Dec-07	1 KB

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Well Installation Report for Slant Wells MW-52 and MW-53 - Appendices and Figures	Jun-07	8 KB
Addendum to Work Plan for California Slant Drilling Activities Beneath the Colorado River	Dec-06	3 KB
Revised Biological Assessment for Slant Drilling Activities and Seismic Survey Activities	Dec-06	1 KB
Streambed Alteration Agreement (SAA) Notification of Slant Drilling Well Installation Activities	Nov-06	4 KB
Work Plan for Additional Groundwater Characterization Beneath the Colorado River by Slant Boring in California	Oct-06	8 KB

Other Groundwater-Related Studies and Documents

	Publication Date	File Size
Tech Memos: In Situ Test Plan, Core Test Plan, and Geotechnical Test Plan	Jun-04	5 KB
Exploratory Drilling Results and Evaluation of Groundwater Pilot Test Extraction Sites	Dec-03	1 KB
Tech Memo: Summary Workplan Groundwater Exploratory Boring and Test	Nov-03	1 KB
Draft Tech Memo: Groundwater Pilot Study	Sep-03	0 KB

East Ravine Investigation

	Publication Date	File Size
Revised East Ravine Work Plan	Jul-08	14 KB
Responses to Comments on the Work Plan for East Ravine Groundwater Investigation, PG&E Topock Compressor Station, Needles, CA	Feb-08	2 KB
Work Plan for East Ravine Groundwater Investigation, PG&E Topock Compressor Station, Needles, California	Dec-07	5 KB

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Site Investigations: Other Studies

Pore Water Seepage Study

	Publication Date	File Size
Pore Water and Seepage Study Report	Mar-06	20 KB
Addendum to Revised Pore Water and Seepage Study Work Plan	Dec-05	0 KB
Summary of Pore Water Sampling Phase 1	Dec-05	3 KB
Addendum to PWSS Work Plan - Revised Contingency Plan	Dec-05	0 KB
Pore Water and Seepage Study Notice of Exemption	Nov-05	1 KB
Sampling and Analysis Plan for Evaluating Reducing Geochemical Conditions in River Sediment, Pore Water and Seepage Study	Nov-05	1 KB
Revised Pore Water and Seepage Study Work Plan	Oct-05	7 KB
Pore Water and Seepage Study Work Plan	Sep-05	6 KB
Pore Water and Seepage Study Overview	Jul-05	8 KB
Conceptual Approach for a Pore Water Sampling and Seepage Study	Jun-05	0 KB

Chromium Isotope Study

Publication File Size

Chromium Isotope Study Summary Report, PG&E Topock Compressor Station, Needles, California	Date May-08	3 KB
Phase II Chromium Isotope Study Work Plan PG&E Topock Compressor Station	Apr-07	1 KB
Revised Chromium Isotope Study Workplan	Apr-06	1 KB
Chromium Isotope Study Workplan	Mar-06	2 KB
Bedrock Investigations	Publication Date	File Size
Summary Report for Hydraulic Testing in Bedrock Wells, Topock Compressor Station, Needles, California	Jan-08	19 KB
Work Plan for Hydraulic testing in Bedrock Wells	Nov-06	2 KB
Review of Bedrock Groundwater Conditions Technical Memorandum	Mar-06	30 KB
Other RFI-Related Documents	Publication Date	File Size
Technical Memorandum - Summary of Colorado River Bridge Pier Construction and Hydrogeologic Assessment	Oct-08	16 KB
Final Land Use Memorandum, PG&E Topock Compressor Station, Needles, California	Nov-07	0 KB
Tech Memo re: Closure Information for Former 300B Pipeline Liquids Tank at PG&E Topock Compressor Station	Apr-07	3 KB
Technical Memorandum: Well Disposition Evaluation for Inactive Supply Well PGE-7	Feb-06	0 KB
Risk Assessment: Risk Evaluation Reports	Publication Date	File Size
Human and Ecological Risk Assessment of Groundwater Impacted by Activities at Solid Waste Management Unit (SWMU) 1/Area of Concern (AOC) 1 and SWMU 2	Dec-09	17.7 MB
Risk Assessment: Risk Assessment Work Plan		
Risk Assessment Work Plan (RAWP)	Publication Date	File Size
Risk Assessment Work Plan Addendum	Feb-09	0 KB
Human Health and Ecological Risk Assessment Work Plan, PG&E Topock Compressor Station, Needles, California	Aug-08	12 KB
Risk Assessment Work Plan Comments for Pacific Gas and Electric Company (PG&E), Topock Compressor Station, Needles, California (EPA ID NO. CAT080011729)	Mar-08	5 KB
Topock Compressor Station Ecological Exposure Parameters, Bioaccumulation Factors, and Toxicity Reference Values	Jun-07	694 KB
Topock Compressor Station Revised Technical Memorandum on Ecological Conceptual Site Models, Assessment Endpoints, and Receptors of Concern	Apr-07	536 KB

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Interim Measures

[AOC 4 Debris Ravine Removal Action](#)

[Interim Measure \(IM\) 1](#)

[IM-2 Batch Treatment System Planning, Operations and Monitoring](#)

[IM-3 Treatment System Planning](#)

[IM-3 Treatment System Construction](#)

[IM-3 Treatment System Operations and Performance Monitoring](#)

[IM-3 Injection Area Characterization](#)

[IM-3 WDR Reports and Compliance Monitoring](#)

EIR Notice of Preparation and Fact Sheet

[Notice of Preparation May 2008](#)

[Public Notice - Notice of Preparation](#)

[Fact Sheet - Notice of Preparation](#)

Publication Date	File Size
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May-08	972 KB
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May-08	60 KB
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May-08	524 KB
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EIR Scoping Meeting Comments

[Big River Scoping Meeting Transcript](#)

[Lake Havasu City Scoping Meeting Transcript](#)

[Needles Scoping Meeting Transcript](#)

[Yuma Scoping Meeting Transcript](#)

[Palm Desert Scoping Meeting Transcript](#)

Publication Date	File Size
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Jun-08	94 KB
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Jun-08	90 KB
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May-08	115 KB
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May-08	78 KB
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May-08	85 KB
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CEQA Documents for Interim Measures

[Initial Study and Proposed Negative Declaration, Renewal of Waste Discharge Requirements for Injection of Treated Water](#)

[CEQA Notice of Exemption for Interim Measures No. 3](#)

[CEQA Notice of Exemption for Interim Measures No. 2](#)

Publication Date	File Size
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Aug-06	2.6 MB
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Jun-04	194 KB
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Feb-04	132 KB
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CEQA Documents for In-Situ Studies

[Biological Resources Completion report for the Upland In-Situ Pilot Test and Associated Activities: PG&E Topock Compressor Station, Needles, California](#)

[DTSC Response to NAHC Comments on Upland In-situ Pilot Test, Aquifer Testing, Groundwater Well Maintenance And Well Decommissioning](#)

[Final Negative Declaration - Topock Upland In-situ Pilot Test, Aquifer Testing, Groundwater Well Maintenance and Well Decommissioning](#)

[Negative Declaration for Topock Upland In Situ Pilot Test, Aquifer Testing, Groundwater Well Maintenance And Well Decommissioning](#)

Publication Date	File Size
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Apr-08	1.2 MB
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Mar-07	192 KB
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Mar-07	16 KB
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Mar-07	16 KB
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DTSC Response to HNWR Comments on Upland In-situ Pilot Test, Aquifer Testing, Groundwater Well Maintenance And Well Decommissioning	Mar-07	42 KB
Notice of Determination - Topock Upland In-situ Pilot Test, Aquifer Testing, Groundwater Well Maintenance and Well Decommissioning	Mar-07	202 KB
DTSC Response to FMIT Comments on Upland In-situ Pilot Test, Aquifer Testing, Groundwater Well Maintenance And Well Decommissioning	Mar-07	416 KB
Initial Study for Topock Upland In Situ Pilot Test, Aquifer Testing, Groundwater Well Maintenance And Well Decommissioning	Mar-07	9.5 MB
DTSC Notice of Public Comment Period Re: for Topock Upland In Situ Pilot Test, Aquifer Testing, Groundwater Well Maintenance And Well Decommissioning	Feb-07	23 KB
Notice of Public Comment Period - Topock Upland In-Situ Pilot Test, Aquifer Testing, Groundwater Well Maintenance and Well Decommissioning	Feb-07	32 KB
Initial Study - Topock Upland In-Situ Pilot Test, Aquifer Testing, Groundwater Well Maintenance and Well Decommissioning	Jan-07	9.5 MB
Initial Study (Floodplain Area)	Nov-05	774 KB
Public Notice (Floodplain Area)	Oct-05	23 KB
Draft Negative Declaration (Floodplain Area)	Oct-05	21 KB
CEQA IM3 Project Description - July 8, 2004	Jul-04	539 KB
CEQA Other (Non-EIR) Documents	Publication Date	File Size
Notice of Intent to Adopt a Negative Declaration for Renewal of Waste Discharge Requirements	Jul-06	173 KB
Notice of Public Hearing for Discharge Permit	Jul-06	56 KB
CMS/FS Work Plan	Publication Date	File Size
Final Corrective Measures/Feasibility Study Work Plan	Mar-08	2.5 MB
Responses to Agency and Stakeholder Comments on the Corrective Measures/Feasibility Study Work Plan	Oct-07	242 KB
Corrective Measures / Feasibility Study Work Plan	Jun-07	2.4 MB
DTSC CMS Work Plan Comments	May-07	84 KB
CMS/FS Report	Publication Date	File Size
Final Groundwater Corrective Measures Study/ Feasibility Study Report for SWMU 1/AOC 1 and AOC 10 Chromium in Groundwater PG&E Topock Compressor Station Needles, California - Text, Tables and Figures	Dec-09	9.3 MB

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[Final Groundwater Corrective Measures Study/ Feasibility Study Report for SWMU 1/AOC 1 and AOC 10 Chromium in Groundwater PG&E Topock Compressor Station Needles, California - Appendices](#)

Dec-09 68.2 MB

Core Testing

[Summary of Results - MW-56 Anaerobic Core Hexavalent Chromium Uptake Capacity, PG&E Topock Compressor Station, Needles, California](#)

Publication Date
Jul-09 232 KB

[Work Plan for Testing Anaerobic Core Samples](#)

Jun-06 437 KB

[Work Plan for Collecting Additional Anaerobic Core Samples](#)

Feb-06 207 KB

Groundwater Evaluations and Modeling

[Hexavalent Chromium Holding Time Study Results](#)

Publication Date
Jan-08 87 KB

[Addendum to Work Plan for Hydraulic Testing in Bedrock Wells](#)

Dec-06 4.6 MB

[Workplan for Hydraulic Testing in Bedrock Wells](#)

Nov-06 1.6 MB

[Groundwater Model Report, Section 4.4, Initial Hydraulic Parameter Assignments](#)

Aug-06 243 KB

[Groundwater Model Report, Section 2, Site Conceptual Model](#)

Aug-06 16.5 MB

[Evaluation of Sampling Frequencies of Topock GMP Monitoring Wells Using Monitoring and Remediation Optimization System \(MAROS\) Software](#)

Jul-06 171 KB

[Groundwater Model Update Report](#)

Jul-05 12.7 MB

[Numerical Groundwater Flow Model Simulation of Interim Measures Extraction](#)

Jul-05 2.5 MB

[IM2 Groundwater Elevation and Hydraulic Gradient Error Analysis](#)

Jun-05 1.2 MB

[Evaluation of Site-Wide Groundwater Data for Hydraulic Gradient Mapping](#)

Jun-05 904 KB

Reference Documents

[Lower Colorado River National Wildlife Refuges Comprehensive Management Plan 1994 - 2014](#)

Publication Date
Sep-94 14.3 MB

In-Situ Pilot Studies

Floodplain In-Situ Pilot Study

[Third Quarter 2009 Monitoring Report for the Floodplain Reductive Zone In-Situ Pilot Test, PG&E Topock Compressor Station Environmental Investigation and Cleanup Project, Needles, California](#)

Publication Date
Nov-09 8 KB

[Second Quarter 2009 Monitoring Report for the Floodplain Reductive Zone In-Situ Pilot Test, PG&E Topock Compressor Station Environmental Investigation and Cleanup Project, Needles, California](#)

Jul-09 1 KB

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First Quarter 2009 Monitoring Report for the Floodplain Reductive Zone In-Situ Pilot Test, PG&E Topock Compressor Station, Needles, California	Apr-09	2 KB
Third Quarter 2008 Monitoring Report for the Floodplain Reductive Zone In-Situ Pilot Test, PG&E Topock Compressor Station, Needles, California	Oct-08	2 KB
Board Order R7-2006-0008 and R7-2007-0014 Floodplain Reductive Zone In Situ Pilot Test Second Quarter 2008 Monitoring Report, PG&E Topock Compressor Station, Needles, California	Jul-08	1 KB
Floodplain Reductive Zone In-Situ Pilot Test Final Completion Report	Mar-08	8 KB
December 2007 and Fourth Quarter 2007 Monitoring Report for the Floodplain Reductive Zone In-Situ Pilot Test	Jan-08	2 KB
Board Order R7-2006-0008 and R7-2007-0014, PG&E Topock Compressor Station, Needles, California, Floodplain Reductive Zone In Situ Pilot Test, November 2007 Monitoring Report	Dec-07	2 KB
Board Order R7-2006-0008 and R7-2007-0014, PG&E Topock Compressor Station, Needles, California, Floodplain Reductive Zone In Situ Pilot Test, October 2007 Monitoring Report	Nov-07	2 KB
Board Order R7-2006-0008 and R7-2007-0014, PG&E Topock Compressor Station, Needles, California, Floodplain Reductive Zone In Situ Pilot Test, September 2007 and Third Quarter 2007 Monitoring Report	Oct-07	3 KB
Arcadis R7-2006-0008 and R7-2007-0014 Floodplain In-Situ Pilot Test Report for August 2007	Sep-07	6 KB
Arcadis R7-2006-0008 and R7-2007-0014 Floodplain In-Situ Pilot Test Report for July 2007	Aug-07	4 KB
Arcadis R7-2006-0008 and R7-2007-0014 Floodplain In-Situ Pilot Test Report for June 2007	Jul-07	4 KB
Request for Reduction of Required Parameter Analysis at the Floodplain Reductive Zone In Situ Pilot Test for Board Order R7-2006-0008	Jun-07	1 KB
Arcadis R7-2006-0008 and R7-2007-0014 Floodplain In-Situ Pilot Test Report for May 2007	Jun-07	5 KB
Arcadis R7-2006-0008 Floodplain In-Situ Pilot Test Report for April 2007	May-07	3 KB
Arcadis R7-2006-0008 Floodplain In-Situ Pilot Test Report for March 2007	Apr-07	3 KB
Arcadis R7-2006-0008 Floodplain In-situ Pilot Test Report for Feb 2007	Mar-07	3 KB
Arcadis R7-2006-0008 Floodplain In-situ Pilot Test Report for Jan 2007	Feb-07	3 KB
Arcadis R7-2006-0008 Floodplain In-situ Pilot Test Report for Nov 2006	Dec-06	1 KB
Arcadis R7-2006-0008 Floodplain In-situ Pilot Test Addendum 3 to Work Plan	Nov-06	1 KB
Arcadis R7-2006-0008 Floodplain In-situ Pilot Test Report for Oct 2006	Nov-06	2 KB
Supplemental Letter Request to HNRW for Approval of Upland In-situ Pilot Test re: PGE-6, PGE-7, PGE-8 and MW-48 Activities	Nov-06	0 KB

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Arcadis R7-2006-0008 Floodplain In-situ Pilot Test Report for Sept 2006 - Revised Cover Letter	Oct-06	0 KB
Arcadis R7-2006-0008 Floodplain In-situ Pilot Test Report for Sept 2006	Oct-06	1 KB
August 2006 Monitoring Report for the Floodplain Reductive Zone In-situ Pilot Test	Sep-06	2 KB
July 2006 Monitoring Report for the Floodplain Reductive Zone In-situ Pilot Test	Aug-06	1 KB
60-Day Status Report Floodplain Reductive Zone In-situ Pilot Test	Aug-06	2 KB
Request for Approval of 2nd and 3rd Injection Events, Floodplain Reductive Zone In-situ Pilot Test	Jul-06	1 KB
June 2006 Monitoring Report for the Floodplain Reductive Zone In-situ Pilot Test	Jul-06	2 KB
May 2006 Monitoring Report for the Floodplain Reductive Zone In-Situ Pilot Test, Waste Discharge Requirements, Order No. R7-2006-0008	Jun-06	1 KB
April 2006 Monitoring Report for the Floodplain Reductive Zone In-Situ Pilot Test, Waste Discharge Requirements, Order No. R7-2006-0008	May-06	1 KB
Contingency Plan Floodplain Reductive Zone, In Situ Pilot Test Board Order R7-2006-0008	Apr-06	0 KB
March 2006 and First Quarter 2006 Monitoring Reports for the Floodplain Reductive Zone In-Situ Pilot Test, Waste Discharge Requirements, Order No. R7-2006-0008	Apr-06	6 KB
Addendum 2 to the In-Situ Hexavalent Chromium Reduction Pilot Test Work Plan - Floodplain Reductive Zone Enhancement	Apr-06	0 KB
Arcadis R7-2006-0008 Floodplain In-situ Pilot Test Report for Dec 2006	Jan-06	4 KB
Notice of Determination for In-situ Hexavalent Chromium Reduction Pilot Test Work Plan -- Floodplain Reductive Zone Enhancement	Dec-05	0 KB
Final Addendum to the In-situ Hexavalent Chromium Reduction Pilot Test Work Plan -- Flood Reductive Zone Enhancement	Dec-05	0 KB
Final Addendum to the In-Situ Hexavalent Chromium Reduction Pilot Test Work Plan--Floodplain Reductive Zone Enhancement	Dec-05	0 KB
Biological Assessment - PE-1 Pipeline and Floodplain In-situ Area	Nov-05	5 KB
In-situ Public Notice - Floodplain Area (Copy)	Oct-05	0 KB
Draft Negative Declaration for In-situ Hexavalent Chromium Reduction Pilot Test Work Plan -- Floodplain Reductive Zone Enhancement	Oct-05	0 KB
In-Situ Hexavalent Chromium Reduction Pilot Test Work Plan--Floodplain Reductive Zone Enhancement	Aug-05	3 KB
Initial Study - Floodplain Area (Copy)	Nov-03	1 KB
Draft Negative Declaration - Floodplain Area (Copy)	Oct-03	0 KB
Upland Area In-Situ Pilot Study	Publication Date	File Size
Third Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test, PG&E Topock Compressor Station Environmental Investigation and Cleanup Project, Needles, California	Dec-09	12 KB

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Second Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test, PG&E Topock Compressor Station Environmental Investigation and Cleanup Project, Needles, California	Jul-09	3 KB
First Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test, PG&E Topock Compressor Station, Needles, California	Apr-09	3 KB
November 2008 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test, PG&E Topock Compressor Station, Needles, California	Dec-08	3 KB
October 2008 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test, PG&E Topock Compressor Station, Needles, California	Nov-08	3 KB
September 2008 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test, PG&E Topock Compressor Station, Needles, California	Oct-08	3 KB
Board Order R7-2007-0015 Upland In-Situ Pilot Test August 2008 Monitoring Report, PG&E Topock Compressor Station, Needles, California	Sep-08	3 KB
Board Order R7-2007-0015 Upland In-Situ Pilot Test July 2008 Monitoring Report, PG&E Topock Compressor Station, Needles, California	Aug-08	3 KB
Board Order R7-2007-0015 Upland In-Situ Pilot Test June 2008 Monitoring Report, PG&E Topock Compressor Station, Needles, California	Jul-08	2 KB
February 2008 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test	Mar-08	2 KB
Board Order R7-2007-0015 PG&E Topock Compressor Station, Needles California Upland In-Situ Pilot Test January 2008 Monitoring Letter	Feb-08	0 KB
Board Order R7-2007-0015, PG&E Topock Compressor Station, Needles, California, Upland In-Situ Pilot Test, November 2007 Monitoring Letter	Dec-07	0 KB
Board Order R7-2007-0015, PG&E Topock Compressor Station, Needles, California, Upland In-Situ Pilot Test, October 2007 Monitoring Letter	Nov-07	0 KB
Board Order R7-2007-0015, PG&E Topock Compressor Station, Needles, California, Upland In-Situ Pilot Test, DRAFT September 2007 Monitoring Letter	Oct-07	0 KB
Arcadis R7-2007-0015 Upland In-Situ Pilot Test Report for August 2007	Sep-07	0 KB
Arcadis R7-2007-0015 Upland In-Situ Pilot Test Report for July 2007	Aug-07	0 KB
Arcadis R7-2007-0015 Upland In-Situ Pilot Test Report for June 2007	Jul-07	0 KB
Arcadis R7-2007-0015 Upland In-Situ Pilot Test May 2007 Monitoring Letter	Jun-07	0 KB
Arcadis R7-2007-0015 Upland In-Situ Pilot Test April 2007 Monitoring Letter	May-07	0 KB
Arcadis R7-2007-0015 Upland In-Situ Pilot Test Contingency Plan	Apr-07	1 KB

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Arcadis R7-2007-0015 Upland In-Situ Pilot Test March 2007 Monitoring Letter	Apr-07	0 KB
Negative Declaration - Topock Upland In-situ Pilot Test, Aquifer Testing, Groundwater Well Maintenance and Well Decommissioning Workplan	Mar-07	0 KB
Clarification of Upland Insitu Work Plan - Sampling Confirmation Initial Study - Topock Upland In-situ Pilot Study, Aquifer Testing, Groundwater Well Maintenance and Well Decommissioning	Feb-07	0 KB
Board Order R7-2005-0015 PG&E Topock Compressor Station, Needles California Upland In-Situ Pilot Test December 2007 and Fourth Quarter 2007 Monitoring Letter	Jan-07	10 KB
Letter Request to HNWR for Approval of Upland In-situ Pilot Test Revised In-Situ Hexavalent Chromium Pilot Test Work Plan Upland Plume Treatment	Jan-07	0 KB
Arcadis Upland In-situ Pilot Test Work Plan - Revised	Oct-06	1 KB
Draft In-Situ Hexavalent Chromium Reduction Pilot Test Work Plan--Upland Plume Treatment (MW-25 Area)	Sep-06	5 KB
	Sep-06	5 KB
	Aug-05	3 KB
Other Corrective Measures Documents and Technical Memos	Publication Date	File Size
Tech Memo: Preliminary Concepts for Soil-Bentonite Cutoff Wall	Apr-04	300 KB
Background Study		
Background Study Work Plan	Publication Date	File Size
Background Study - Draft Work Plan: Assessing Background Metals Concentrations in Groundwater	Jun-04	4 KB
Steps 1 and 2 Results	Publication Date	File Size
Preliminary Evaluation of Data for the Groundwater Background Study	Sep-06	5 KB
Background Study, Step 2 Results	Sep-05	5 KB
Background Study, Step 1 Results	Mar-05	26 KB
Steps 3 and 4 Results	Publication Date	File Size
Final Groundwater Background Study, Steps 3 and 4: Revised Final Report of Results - Text, Tables, Figures and Appendices A, C - F	Nov-09	5 KB
Final Groundwater Background Study, Steps 3 and 4: Revised Final Report of Results - Appendix B	Nov-09	0 KB
Groundwater Background Study, Steps 3 and 4: Revised Final Report of Results, PG&E Topock Compressor Station, Needles, California	Nov-09	4 KB
Approval Letters and Communications	Publication Date	File Size
DOI Letter Regarding: Acceptance of Work Plan for Time-Critical Removal Action at AOC 4, PG&E Topock Compressor Station, Needles, California	Dec-09	72 KB

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DTSC Approval of Final Groundwater Corrective Measure Study/Feasibility Study Report for SWMU 1/AOC 1 AND AOC 10, PG&E, Topock Compressor Station, Needles, California (EPA ID NO. CAT080011729)	Dec-09	152 KB
Final Groundwater Corrective Measures Study/Feasibility Study Report for SWMU 1/AOC 1 and AOC 10, PG&E Topock Compressor Station, Needles, California	Dec-09	74 KB
DTSC Letter Request: Historic Burn Activities and Disposal Practices, PG&E Topock Compressor Station, Needles, California	Dec-09	470 KB
DTSC Letter: Acceptance of Final Groundwater Risk Assessment Report, PG&E Topock Compressor Station, Needles, California	Dec-09	61 KB
DTSC Acceptance of Groundwater Background Study Step 3 and 4: Revised Final Report of Results for PG&E, Topock Compressor Station, Needles, California (EPA ID NO. CAT080011729)	Nov-09	120 KB
DTSC Letter: Clarification of Specific California Applicable or Relevant and Appropriate Requirements, PG&E Topock Compressor Station, Needles, California	Oct-09	1.4 MB
DTSC Part B Soil Investigation at the PG&E Topock Compressor Station, Needles, California (EPA ID NO. CAT080011729)	Oct-09	1.4 MB
DTSC Letter: Conditional Approval of Modifications to the Compliance Monitoring Program, PG&E Topock Compressor Station, Needles, California	Sep-09	95 KB
RCRA Facility Investigation/Remedial Investigation Soil Investigation - Part B, PG&E Topock Compressor Station, Needles, California	Aug-09	121 KB
PG&E Proposal to Defer the Part B Soil Investigation at the Topock Compressor Station, Needles, California (EPA ID No. CAT080011729)	Jul-09	142 KB
DOI Action Memorandum: Request for Time-Critical Removal Action Number 4 at AOC 4 Debris Ravine, Pacific Gas and Electric Topock Compressor Station	May-09	443 KB
Conditional Approval of RFI/RI Volume 2 Addendum	May-09	32 KB
Approval of Proposal for Consolidating Reporting for the Topock Interim Measures Performance Monitoring Program with Site-wide Groundwater Monitoring Program, PG&E Topock Compressor Station, Needles, California	May-09	26 KB
Direction to Sample Select Groundwater Wells for Contaminants Recently Detected in Soil Samples and Request to Document Burn Activities within the Area of Concern 4 (AOC-4) Debris Ravine Area, PG&E Topock Compressor Station, Needles, California	May-09	119 KB
PG&E: Concurrence on Redline Soils Background Tech Memo, PG&E Topock Compressor Station, Needles, California	May-09	42 KB
Approval Letter for the Revised Final RCRA Facility Investigation/Remedial Investigation (RFI/RI), PG&E Topock Compressor Station, Needles, California - Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigation	Feb-09	44 KB
Additional Direction on Preparation of the Corrective Measure Study/Feasibility Study at PG&E, Topock Compressor Station, Needles, California (EPA ID NO. CA080011729)	Dec-08	342 KB

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Clarification of Direction on Preparation of the Corrective Measure Study/Feasibility Study at PG&E Topock Compressor Station, Needles, California	Nov-08	315 KB
Change in River Monitoring Program to Include Collection and Analysis of Unfiltered Surface Water Samples at PG&E, Topock Compressor Station, Needles, California (EPA ID NO. CAT080011729)	Oct-08	39 KB
Conditional Concurrence on August 29, 2008 Final Soil and Sediment DUA Usability Assessment Technical Memorandum for PG&E Topock Compressor Station, Needles, California	Oct-08	42 KB
Concurrence to Proceed with Groundwater Risk Assessment at PG&E, Topock Compressor Station, Needles, California (EPA ID NO. CAT080011729)	Oct-08	36 KB
PG&E Topock Compressor Station Remediation Site - Final Soil and Sediment Data Usability Assessment Technical Memorandum	Oct-08	54 KB
Revision of Monitoring and Reporting Program (MRP), Board Order No. R7-2006-0060, PG&E Topock Compressor Station, Needles, California	Aug-08	443 KB
Approved Modifications to the Topock IM Performance Monitoring Program, PG&E Topock Compressor Station, Needles, California	Aug-08	169 KB
Modification to Surface Water Monitoring Program at PG&E Topock Compressor Station, Needles, California	Jul-08	234 KB
Revised Work Plan for East Ravine Groundwater Investigation, PG&E Topock Compressor Station, Needles, California	Jul-08	49 KB
Conditional Approval of the Revised East Ravine Work Plan at PG&E Topock Compressor Station, Needles, California	Jul-08	34 KB
Modifications to Hydraulic Data Collection for the Interim Measures Performance Monitoring Program at the PG&E Topock Compressor Station, Needles, California	Jul-08	101 KB
Field Report: White Powder Occurrences in the East Ravine - Area of Concern (AOC) 10, PG&E Topock Compressor Station, Needles, California	Jun-08	6.6 MB
Analytical Method Change for Evaluation of Hexavalent Chromium at Pacific Gas and Electric Company (PG&E), Topock Compressor Station, Needles, California (EPA ID NO. CAT080011729)	Jan-08	38 KB
Comments on the Ecological Exposure Parameters, Bioaccumulation Factors, and Toxicity Reference Values Pacific Gas and Electric Company (PG&E) Topock Compressor Station Needles, California (EPA ID NO. CAT080011729)	Jan-08	1.8 MB
Comments on the East Ravine Groundwater Investigation Work Plan Pacific Gas and Electric Company (PG&E), Topock Compressor Station, Needles, California (EPA ID NO. CAT080011729)	Jan-08	248 KB
CERCLA Permit Exemption	Nov-07	541 KB
Expanded Metal Analysis at Existing Groundwater Monitoring Wells, PG&E Topock Compressor Station, Needles, California	Nov-07	1.0 MB
Workplan for Groundwater Investigation for Area 10 - east Ravine, PG&E Topock Compressor Station, Needles, California	Oct-07	40 KB
DTSC Conditional Approval Letter of Updates and Modifications to GW and Surface Water Monitoring Program	Sep-07	58 KB

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DOI and Federal Agencies Approval of RFI-RI Volume 1 Revised August 2007	Sep-07	311 KB
DTSC Letter Providing Comments on PG&E Responses to Comments on Hydrogeology and Groundwater Sections of February 2005 Draft RFI/RI Report	Sep-07	228 KB
DTSC Letter Providing Comments on Corrective Measures/Feasibility Study Work Plan	Sep-07	1.9 MB
DTSC Letter Providing Comments on Soil and Sediment Data Usability Assessment Technical Memorandum	Aug-07	59 KB
Cover Letter to BLM/DTSC Re: Photos of Topock Compressor Station and Vicinity	Aug-07	232 KB
DTSC Acceptance Letter of Revised Final RFI/RI Vol 1	Aug-07	50 KB
DTSC Letter Providing Approval of the PGE-6 Well Decommissioning Report	Aug-07	49 KB
DTSC Letter Providing Comments and Conditional Approval of RFI/RI Soil Investigation Work Plan, Part A	Aug-07	2.5 MB
Letter to DTSC: Updates and Modifications to Performance Monitoring Program	Jul-07	84 KB
Letter to DTSC: Updates and Modifications to Groundwater Monitoring Program	Jul-07	395 KB
DTSC Letter Providing Comments on MW-20 Bench Batch Treatment Facility Decommissioning Work Plan	Jul-07	82 KB
Email sent July 4 summarizing PG&E-Agency communications regarding data for RFI-RI Volume 2 for Groundwater	Jul-07	463 KB
Well PGE-6 Decommissioning Summary	Jul-07	2.8 MB
2006 Annual Report - Archaeological and Historical Resources Management Activities for Topock (Applied EarthWorks)	Jul-07	44 KB
DTSC CMS Work Plan Comments	May-07	84 KB
DTSC RFI Volume 1 Response to Comments	May-07	204 KB
DTSC RFI Volume 1 Response to Comments Cover	May-07	38 KB
DTSC Approval of Work Plan for Anaerobic Core Samples	May-07	40 KB
DTSC Requirement for Phase II Chromium Isotope Study Workplan	Apr-07	122 KB
DTSC Conditional Approval of the In-situ Hexavalent Chromium Reduction Pilot test Work Plan ? Upland Plume Treatment	Apr-07	5.5 MB
DTSC Conditional Approval of Work Plan for Hydraulic Testing in Bedrock Wells	Apr-07	122 KB
DTSC Approve Well PGE-6 Revised Decomm Workplan	Mar-07	98 KB
DTSC Response to DOI/USGS Comments on Hydraulic Testing in Bedrock Wells WP Addendum	Mar-07	50 KB
DTSC Approve Addendum to CA Slant Drilling Workplan	Jan-07	41 KB
DTSC Approve Reduced GW Sampling Frequency	Jan-07	91 KB
Approval of Addendum 3 to the Floodplain In-situ Hexavalent Chromium Reduction Pilot Study Work Plan	Jan-07	42 KB
DTSC Acceptance of Performance Assessment Rpt for IM3 Injection Well Field	Jan-07	41 KB
DTSC Evaluation of Tech Memo: Information Review of GW Conditions in Bedrock Formation	Nov-06	392 KB
DTSC Evaluation of Work Plan for Additional GW Characterization Beneath the Colorado River by Slant Boring	Oct-06	81 KB

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DTSC Approves Request for Modification of Shoreline Surface Water Sampling	Oct-06	520 KB
DTSC Project Organizational Chart	Oct-06	34 KB
DTSC Review of PGE-6 Decommissioning Work Plan and the Tech Memo: PGE-6 Decommissioning Evaluation	Oct-06	67 KB
Slant Boring Plume Investigation Work Plan Letter	Sep-06	32 KB
December 24, 2005 and April 23, 2006 Lubricating Oil Releases Topock Compressor Station - Investigation Results Letter Report	Sep-06	1.6 MB
Copy Rescinding of the Request for Approval to Implement Limited Sampling Frequency for Select Metals/General Minerals at IM-3 Injection Monitoring	Sep-06	188 KB
April 16, April 29, and May 2, 2006 Waste Water Releases at the Topock Compressor Station - Investigation Results Letter Report	Sep-06	2.3 MB
Copy Response to Comments Related to the Site History Portion of the RFI Report Dated February 2005	Jul-06	3.8 MB
Third and Fourth Quarter 2005 Groundwater Monitoring Reports, Compliance Monitoring Program for Interim Measures No. 3 Injection Well Field Area	Jun-06	226 KB
Technical Addendum No. 2: Approach for Hydraulic Testing of Wells at Locations 1, 2, and 4, Interim Measures Performance Monitoring	May-06	448 KB
Conditional Approval of Addendum No. 2 to the Floodplain In-Situ Hexavalent Chromium Reduction Pilot Test Work Plan	May-06	99 KB
Conditional Approval of Chromium Isotope Study Workplan	Mar-06	763 KB
Requirement for the preparation of a data quality Assessment Technical Memorandum	Mar-06	192 KB
Conditional approval of approach to drilling and well installation at locations 1 through 5, well installation workplan for interim measure performance monitoring	Feb-06	578 KB
Requirement for revised groundwater flow model report	Feb-06	149 KB
Conditional approval to commence start-up of extraction well PE-1 and continued extraction from well TW-3D	Jan-06	137 KB
Requirement for chromium isotope study, PG&E Topock Compressor Station Needles, CA	Jan-06	194 KB
Transmittal of resource conservation recovery act (RCRA) facility assessment questionnaire	Jan-06	86 KB
Conditional approval of the draft well installation work plan for interim measures performance monitoring program, dated 11/30/05	Jan-06	521 KB
Clarification regarding requirements for information to be included in progress	Jan-06	16 KB
Requirement for technical memorandum evaluating potential bedrock fracture porosity and preferential groundwater migration pathways	Jan-06	17 KB
IM No. 3 Land Use Area Memo	Jul-05	940 KB
BLM Action Memorandum - Removal Action No. 3 - September 17, 2004	Sep-04	911 KB
Closure Certification Letters - May - June 1995	May-95	258 KB

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- T1-1 The comment is noted, but does not provide any specific information as to which of the Fort Mojave Indian Tribe's (FMIT's) interests have not been fully addressed; therefore, no further response to this particular comment is necessary.
- T1-2 The comments in the July 1, 2008, letter provided by FMIT following issuance of the notice of preparation (NOP) are addressed in the following ways in the DEIR:
- ▶ The DEIR recognizes cultural affiliation with the project area for FMIT in various places in the document; most specifically in Section 4.4.3.1.
 - ▶ Analyses of cultural resources considered to possess cultural values attributed by FMIT to the entire landscape are addressed in Section 4.4.3.3.
 - ▶ DTSC has carefully assessed the need for additional data acquisition and evaluation of potential impacts on the project area and has balanced the concerns of the various stakeholders/tribal governments as expressed by the Colorado River Indian Tribe's resolution (CRIT 2007).
 - ▶ The DEIR is concerned only with the proposed project and is not meant to mitigate or eliminate impacts that have been sustained by previous actions. However, Chapter 6 of the DEIR does consider the impacts of past projects, as required under the analysis of cumulative impacts required by CEQA.
 - ▶ Communication between DTSC and the FMIT has been central to the development of the DEIR, as discussed in Section 4.4.1.3 and the Tribal Communication Summary (Appendix TRI).
 - ▶ CEQA personnel integral in the development of the DEIR and the cultural resource section were trained about the importance of FMIT's cultural resources and sacred places.
 - ▶ Evaluation of cultural and biological impacts at the IM-3 site is provided in Chapter 7.
 - ▶ A record search, pedestrian inventory, and Global Positioning System (GPS) survey of cultural resources has been completed, as noted in Section 4.4.1 of the DEIR. As noted in response to comment I1-32, DTSC, under CEQA, had no requirement or authority to direct PG&E to fund and complete an ethnographic study as part of the EIR process.
 - ▶ Cumulative impacts are discussed in Chapter 6.
 - ▶ The area surrounding the Topock Maze is considered a historical resource for the purposes of the CEQA analysis, as noted in Section 4.4.3.1 of the DEIR.
 - ▶ The project title, as used in the DEIR, has been changed for clarity of project.
 - ▶ The project description (Chapter 3 of the DEIR) describes the purpose and need of the proposed project/final remedy.

- ▶ Exhibits 3-2 and 3-3 present the project area and the parcel ownership.
- ▶ The DEIR evaluates the potential project impacts on both state and federal lands, as appropriate.
- ▶ All initial environmental technical studies supporting the CEQA process have been provided to FMIT and all Consultative Working Group (CWG) stakeholders throughout the environmental process. Additionally, all environmental technical studies supporting the CEQA process are included in the DEIR as part of the administrative record (see attached CD).
- ▶ The aesthetic section of the DEIR (Section 4.1) includes an analysis of key viewpoints from within the Topock Maze area and of river, mountain, and landscape views.
- ▶ The area surrounding the Topock Maze has been included in the DEIR as a historical resource under CEQA (see Section 4.4.3.1).
- ▶ The history of the PG&E property is included in Section 4.8.1.1 of the DEIR. An analysis of the U.S. Bureau of Land Management (BLM) and U.S. Fish and Wildlife Service (USFWS) land uses are presented in Section 4.8.3.3 of the DEIR.
- ▶ The noise analysis in the DEIR includes an analysis of impacts on tribal members who may be in the area engaging in cultural or spiritual activities (see Section 4.9.3.3). Vibration effects are also evaluated (see Section 4.9.3.3).
- ▶ An analysis of traffic-related impacts is presented in Chapter 4.10. The discouragement of off-road activities has been revised and the discussion is presented in the new or revised mitigation measures in Section 4.4 of Volume 2 of the FEIR.
- ▶ Planning impacts are addressed in Section 4.8 of the DEIR. Cultural resources are considered historical resources under CEQA, which can be found in Section 4.4 of the DEIR. Global climate change is an environmental effect and it is not likely to be significant as the project would not create a substantial amount additional greenhouse gasses as part of its operation. At the time of the NOP, CEQA guidelines regarding global climate change (or greenhouse gases) had not been adopted; however they are included in this EIR in Section 6.4.2.3 of Volume 2. The information contained within the DEIR may be used by federal, responsible, and trustee agencies for their information and decision-making purposes as they may deem applicable.

T1-3 The comment provides a summary to the introductory portion of the comment letter and does not raise any specific comments on the environmental analysis presented in the DEIR. As the lead agency, DTSC prepared the CEQA documentation for this project, including the NOP, DEIR, and this FEIR in accordance with CEQA and the CEQA Guidelines. Specific comments are addressed in the following responses to letter T1 below.

T1-4 DTSC has and will continue to work with the FMIT on the development of work plans and remedy design and will offer opportunities for tribal comments and input. DTSC has considered the inputs provided by the tribes and properly documented these cultural concerns within the DEIR. DTSC believes that the proper document for cultural resources analysis is via this EIR, as required by CEQA. The RFI/RI, Final CMS/FS, and other work plans are technical documents addressing the contaminants and potential means to resolve the groundwater remediation. These documents were not the appropriate documents to provide such cultural resources impact analysis

as required by CEQA. DTSC has expended significant resources in gathering information from all interested tribes to document cultural concerns and beliefs within the proposed project area (see the Tribal Communication Summary in Appendix TRI). DTSC will provide responses to FMIT's concerns in so far as they are raised as part of the DEIR comments presented in letter T1 below. Furthermore, DTSC refers FMIT to Section 4.4, "Cultural Resources," of the DEIR and the revisions to the same section in Volume 2 of this FEIR with respect to capturing, analyzing, and mitigating the potential impacts of this project on tribal resources.

- T1-5 DTSC and its contractors, as part of the Native American Communication Plan (NACP) described in Section 4.4.1.3 of the DEIR, provided FMIT with a copy of the Mojave ethnographic summary, background on the Topock Maze, and a summary of the FMIT concerns for comment (see letter T2), because this information was identified as relating directly to FMIT's cultural resources concerns. Note that lead agencies are not required to share administrative draft documents with interested parties or agencies, including FMIT. DTSC, nevertheless, voluntarily shared a portion of the administrative draft cultural resources section with FMIT in an attempt to solicit feedback before release of the DEIR for public review and comment. The comments received from FMIT on the administrative draft portion were received by DTSC too late to incorporate into the DEIR; therefore, they are considered comments on the DEIR and are added into the record as letter T2. Where applicable, changes to the DEIR have been made to recognize FMIT's comments included in this FEIR (see the responses to letter T2 comments).
- T1-6 The summary of the comments in letter T2 is noted. Responses to those edits/comments in letter T2 are provided below in the responses to T2. Since the completion of the DEIR, the entire area has been surveyed for archaeological materials. Communication with the FMIT regarding additional mitigation measures has occurred since the publication of the DEIR in attempts to clarify FMIT comments on cultural concerns raised as part of the comment resolution process. DTSC has also received, reviewed, and considered the "FMIT Reaction to DTSC Proposed Mitigation Items on Agenda for October 24, 2010, Meeting on Groundwater DEIR" submitted to DTSC by e-mail on November 15, 2010, for the development of the mitigation measures outlined in the FEIR. The landscape level is considered in the DEIR (see Section 4.4.3.1). A more complete discussion of indirect impacts has been added to Volume 2 of the FEIR. Cumulative impacts are presented in Chapter 6 of the DEIR. The DEIR acknowledges that the religious and traditional beliefs of the Mojave people would be affected by the project (see Section 4.4.3.1).
- T1-7 The commenter is correct that FMIT offered to discuss mitigation strategies with DTSC before publication of the DEIR. FMIT also requested that the preferred alternative be communicated to them before crafting/developing mitigation measures. As a result, DTSC made available an advance draft of the DEIR and a summary of cultural information collected for DEIR consideration was provided to FMIT before the official 45 days public comment period. A response from FMIT on the summary of cultural information was received on April 16, 2010. Those comments are incorporated into FMIT's final response letter dated July 19, 2010, and are fully considered by DTSC in this responsive summary. The commenter's opinion that having input into the DEIR by interested parties prior to its release to the public is more efficient and valuable is noted. Although neither the Public Resource Code nor the CEQA Guidelines require that a lead agency, who are also often working with limited resources and staff time, solicit such comments prior to release of a DEIR, Nevertheless, DTSC did provide additional time to the tribes to review the DEIR prior to the public comment period. Furthermore, subsequent communication and outreach has occurred since the DEIR was published and FMIT has suggested a range of additional mitigation ideas, as is evidenced in Attachments 5 and 7 of letter T1.

TI-8	The commenter accurately describes FMIT's involvement and communications with DTSC after the release of the DEIR. However, DTSC also notes that additional communication and attempts to get further clarifications from FMIT after the receipt of the official comments also took place (see Tribal Communication Summary, Appendix TRI). In meetings the resulting comments from DTSC's meeting as submitted by the FMIT are appreciated and addressed below.
T1-9	Responses to information summarized in the June 24, 2010, letter to Chairman Williams (provided as Exhibit 5 to letter T1) are found below as responses to comments T1-242 through T1-266.
T1-10	If DTSC's Project Director ultimately approves one of the project alternatives other than Alternative E, meeting with the FMIT will be considered after the project approval and EIR certification.
T1-11	A summary of FMIT's cultural views, as expressed in the materials referenced by the commenter, is presented in Section 4.4.1.3 of the DEIR. The comments submitted by FMIT are also part of the EIR. The conclusions reached within the text of the EIR are supported by substantial evidence as required by CEQA (CEQA Guidelines, Section 15384). The commenter does not offer any specific information on the cultural views absent from the DEIR; therefore, no further response can be provided.
T1-12	Please see the response to comment T1-2 regarding responses to FMIT's NOP comment letter.
T1-13	The significance of project impacts on cultural resources is presented in Section 4.4.3.3 of the DEIR. Based on comments received on the DEIR, all mitigation measures in the cultural resources section have been revised in response to stakeholder comments, including Tribal comments. These changes are presented in Section 4.4.3.3 of Volume 2 of the FEIR.
T1-14	The importance of the Topock Cultural Area to a plurality of tribes is acknowledged in Sections 4.4.1.3 and 4.4.3.1 of the DEIR, and in those descriptions of tribal concerns in Section 4.4.1.3.
T1-15	The commenter is correct that the DEIR does not specifically analyze impacts on a larger Colorado River cultural landscape. Language related to tribal views of the cultural landscape has been added to the first paragraph of "Inventory of Resources" in Section 4.4.1.3, as well as to Section 4.4.3.1 of Volume 2 of the FEIR. The project area subject to discretionary action by DTSC occupies the physical space described as the Topock Cultural Area. DTSC has accounted for the importance the FMIT and other tribes place on the Colorado River and its environment in determining that the Topock Cultural Area is a significant historical resource under CEQA. As stated in Section 4.4.3.1 of the DEIR, "it is beyond the scope of this EIR to define whether there may be an additional historical resource area for purposes of the CRHR or the National Register of Historic Places (NRHP) beyond the project boundaries, or to address areas that are not affected by the proposed project."
T1-16	The commenter is correct that the entire project area had not been subject to intensive pedestrian surveys at the time the DEIR was published. Since that time, archaeological inventories by qualified professionals have been completed for the areas where potential freshwater supply wells may be located, and the text and exhibits (e.g., Exhibit 4.4-1) have been updated, as presented in Volume 2 of the FEIR. An archaeological survey performed within the PG&E fence line has been completed, and reviewed and approved by DTSC (Applied Earthworks 2010).
T1-17	FMIT's desire for involvement in cultural survey is noted. DTSC has requested that PG&E provide opportunities for tribal monitors to accompany the survey team for any area requiring

additional survey. For operational areas, PG&E will consider the safety of personnel with respect to tribal involvement. Additional mitigation measures have been developed that include tribal monitoring of activities within the project area, including annual inspections and for ground disturbing activities. Please also see the response to comment T1-16.

- T1-18 Additional mitigation measures have been developed that require PG&E to develop protocols for the tribal review of project-related cultural resources survey reports as the project moves forward. Please see Mitigation Measure CUL-1a provided in Section 4.4.3.3 of Volume 2 of this FEIR.
- T1-19 The DEIR does not assume that placing remediation facilities in previously disturbed areas is acceptable to the FMIT or would otherwise not create an environmental impact. However, this practice does potentially reduce impacts to native plants and other resources such as aesthetics, and is deemed an appropriate approach to project implementation by DTSC. Mitigation Measure CUL-1a (see Section 4.4.3.3) clearly states that the environmental impact on cultural resources would remain significant and unavoidable despite utilization of previously disturbed areas.
- T1-20 The primary documents referenced in the NRHP supplement for the Topock Maze (Earle 2005) have been reviewed by the EIR team, and the primary conclusions presented in the document are consistent with the primary archival record. In no instance does the DEIR present the Earle 2005 document as providing a contemporary cultural interpretation of the Topock Maze or Topock Cultural Area. As described in Section 4.4.1.3 of the DEIR, Earle notes that the Topock Maze is part of a larger geoglyph tradition for the lower Colorado River Valley. The report's ambiguity related to the inclusion of trails and intaglios is not referenced in the DEIR and is not part of the environmental analysis. A footnote has been added at the first reference of the Earle 2005 report (see Section 4.4.1.3 in Volume 2 of the FEIR) detailing its limitations.
- T1-21 Please refer to the response to comment T1-16 concerning the completion of additional intensive pedestrian inventories within the project area since the DEIR was prepared. Additional archaeological sites identified by PG&E, either through additional surveying or by tribal monitors participating in PG&E activities, have been added to Table 4.4-1 (Section 4.4.1.3 in Volume 2 of the FEIR). The presence of these sites shall influence project siting in a manner similar to other archaeological sites listed in Table 4.4-1, in that cultural resources shall be avoided to the maximum extent possible, as determined by DTSC.
- T1-22 Language has been added to the discussion under "Substantial Adverse Changes to the Topock Cultural Area," in Section 4.4.3.3, under Impact CUL-1 noting FMIT's concern for water in this more holistic context.
- T1-23 Cumulative impacts are considered in Chapter 6 of the DEIR. As noted specifically in Section 6.4.4 of the DEIR, no feasible mitigation exists for these cultural resources impacts to lessen the cumulative impact to less than significant. Mitigation Measures CUL-1a, CUL-1b, CUL-1c, CUL-2, and CUL-4 are intended to help reduce potential cumulative impacts.
- T1-24 The issue raised by the commenter references processes relevant to the National Historic Preservation Act and activities of the involved federal agencies. These processes are not subject to DTSC discretionary approvals and are outside the context of the DEIR. No further response is necessary.
- T1-25 Avoidance of identified historical resources is covered by Mitigation Measure CUL-1b and CUL-1c in Section 4.4.3.3 of the DEIR, and additional changes have been to these mitigation measures in response to stakeholder comment, as presented in Volume 2 of the FEIR. If any finds are made during the course of the implementation of the remedy, DTSC will communicate with the

involved tribes prior to determining treatment. The determination of treatment shall be part of the revised Mitigation Measure CUL-1a that is provided in Section 4.4.3.3 of Volume 2 of the FEIR (see also the response to comment T1-73 below).

- T1-26 The commenter's opinion that the DEIR does not adequately address the direct or indirect impacts for tribal cultural resources is noted. The DEIR includes an appropriate analysis of the project's potential effects on historically significant and archaeologically unique resources, including cultural concerns in Section 4.4, "Cultural Resources," of the DEIR. A more exhaustive description of the direct and indirect impacts that may affect the Topock Cultural Area has been added to Volume 2 of the FEIR in a good faith effort to be responsive to the commenter's concerns expressed on behalf of FMIT. Because visual changes, noise, lighting, and vibration effects may be perceived differently by different people, the DEIR focuses, for example, on the potential for the project to result in a substantial degradation of the existing visual character or quality of the site and its surroundings, or whether the project would result in a new source of substantial light or glare, for purposes of aesthetic impacts. Similar thresholds of significance were used for noise and vibration (see Section 4.9.3.2 of the DEIR). The DEIR nevertheless attempts to address the particularly sensitive nature of any additional disturbance in the TCA to tribal members, recognizing that "substantial" changes in the physical environment is a lower threshold for some native peoples who frequent the area than would otherwise be normally considered under CEQA.
- T1-27 The commenter suggests that the impact of visual changes, including lighting, on the project site is not adequately analyzed in the DEIR; however, consideration of aesthetic effects has been addressed in Section 4.4.3.3 of the DEIR. Additionally, aesthetic impacts on the Topock Cultural Area are addressed in Section 4.1.3.4 of the DEIR. Please also see the response to comment T1-29.
- T1-28 The analysis of the impact of the proposed project on the Topock Cultural Area, including FMIT's perspective on this area, is presented in Section 4.4.3.3 of the DEIR.
- T1-29 As outlined in the last paragraph on Section 4.1.3.4 of the DEIR, nighttime lighting may be required during construction operations for purposes of well drilling and decommissioning activities where activities cannot be deferred until day time. However, such activities should be of short duration (i.e., not permanent) and subject to additional mitigation measures outlined in Mitigation Measure CUL-1a in Volume 2 of the FEIR. A description of the level and type of lighting that is anticipated to occur can also be found in the Mitigation Measure CUL-1a in Volume 2 of the FEIR. As described in the response to comment T1-32 below, Volume 2 of the FEIR includes additional details regarding nighttime lighting.
- T1-30 The proposed project is anticipated to result in some level of short-term "glow" during nighttime well drilling activities or for emergency response associated with the continued operation of the project. Some lighting is expected to be required for the operation of the project similar to the current lighting at MW-20. Lighting associated with construction and decommissioning activities would be limited to activities that cannot be deferred to daylight hours such as continuous drilling for well installation. Lighting for these activities would be limited and would consist of fixtures facing downward with cutoff shields to reduce light diffusion. Because lighting would be downward facing and fitted with cutoff shields, a nighttime visual simulation is not necessary.

In response to the comment, Section 3.5.2.1 of the DEIR has been revised and provides clarification for lighting:

Construction of the proposed project would occur during an estimated 4 years: 3 years for constructing the remediation facilities at the onset of the proposed project and 1 year for decommissioning of the existing IM-3 Facility after final remedy is considered operating properly and successfully. The length of time required for construction is dependent on a number of factors, including the number of wells, pipelines, and other infrastructure, the geologic conditions encountered during well installation, the time required for regulatory and landowner approvals, and the availability of construction labor and materials at the time of construction. Construction would be limited to daylight hours to minimize the need for lighting and to conserve energy to the extent ~~practical~~ feasible; however, some nighttime construction efforts may be required. For example, nighttime construction activity could be required for the continuous drilling of large-diameter wells. Lighting associated with construction and decommissioning activities would be limited to active construction equipment in operation during nighttime operations and would consist of downward facing fixtures fitted with cutoff shields to reduce light diffusion. Staging areas would be located to the extent feasible in areas that are already developed or disturbed, such as within the fenced and developed areas at the compressor station. However, staging could also be located elsewhere within the project area identified on Exhibit 3-4.

Additionally, Section 4.1.3.3 (under Key View 1) of the DEIR has been changed to provide clarity in regards to lighting:

Temporary changes to the visual quality and character of the eligible scenic highway corridor area would occur during the construction and decommissioning of the proposed project. These changes would be visible to motorists traveling along I-40. These changes would include the presence of construction equipment and materials stockpiles and use of temporary erosion control features. The introduction of nighttime lighting for site security ~~and construction operations would not introduce a noticeable change to the existing visual setting, because no nighttime lighting exists in this area~~ would be restricted to secured (fenced) facilities and would not be visible from this location. Lighting associated with construction and decommissioning activities would be limited to active construction equipment in operation during nighttime operations, and would consist of downward facing fixtures fitted with cutoff shields to reduce light diffusion. Grading operations could be visually noticeable, but would not result in substantial alterations to existing landforms. Because construction and decommissioning operations are dynamic, they would have a limited effect on existing form, lines of sight, and textural pattern. Construction activities would be spread throughout the large project area. Additionally, views of construction activity would be of short duration. Because of these factors, construction and decommissioning activities would possess a weak degree of contrast and would be considered less than significant.

- T1-31 Although a specific lighting plan has not been prepared for the proposed project at this conceptual stage of the project, DTSC envisions and has included a mitigation measure (CUL 1a) that would require PG&E to consider lighting associated with the remediation facilities and for security and safety purposes during remedy design. The design will be shared with interested tribes and Consultative Workgroup members.
- T1-32 During the design process, PG&E will make the proposed lighting plan available for review by interested tribes and Consultative Workgroup members. In response to the comment, Section 4.1.3.3 (under Key View 4) of the DEIR has been revised to provide detail on the proposed nighttime lighting:

Temporary changes to the visual quality and character of the floodplain area would occur during the construction and decommissioning of the proposed project. These changes would include the presence of construction equipment and materials stockpiles and the initial removal of vegetation. The introduction of nighttime lighting for site security ~~and construction operations would introduce a noticeable change to the existing visual setting of the floodplain at large because nighttime lighting does not currently exist within the floodplain~~ would be restricted to secured (fenced) facilities and would be visible from this location. Security lighting does currently exist on the MW-20 bench, however, and additional lighting requirements in this location would pose no substantial visual change. Lighting associated with construction and decommissioning activities would be limited to active construction equipment in operation during nighttime operations, and would consist of down ward facing fixtures fitted with cutoff shields to reduce light diffusion. Grading operations and construction measures, such as erosion control features, may be visually noticeable. Because construction and decommissioning operations are dynamic, they have a limited effect on existing form, lines of sight, and textural pattern. Additionally, views of construction activity would be of short duration. Because of these factors, construction and decommissioning activities possess a weak degree of contrast and would be less than significant.

The text in Section 4.1.3.4 (under Mitigation Measure AES-3) of the DEIR has been modified as follows:

The introduction of nighttime lighting for site security ~~and construction operations would introduce a noticeable change to the existing visual setting because no nighttime lighting exists in this area~~ would be restricted to secured (fenced) facilities. Lighting associated with construction and decommissioning activities would be limited to active construction equipment in operation during nighttime operations, and would consist of downward facing fixtures fitted with cutoff shields to reduce light diffusion. Views of lighting and nighttime construction activity would be of short duration and would not include features that would create glare. Because of these factors, impacts associated with the project lighting would be considered **less than significant**.

Also, please see the response to comment T1-30.

T1-33

The construction and operational activities will include earth-disturbing construction activities such as grading, drilling, and excavation as identified in Section 4.7.3.3 of the DEIR. These activities will result in movement of surface materials and changes in local drainage patterns. The implementation of best management practices (BMPs) as identified in Mitigation Measure Hydro-1 in Section 4.7.3.3 of the DEIR would address impacts associated with construction activities. Drainage pattern alterations were discussed under Impact Hydro-2 in Section 4.7.3.3 of the DEIR, with Mitigation Measure Hydro-1 BMPs provided to address this impact. Localized surface material disturbances and drainage alterations would result from installation of impervious structures, such as well heads and vaults, remediation equipment compounds, and chemical storage areas as summarized in Section 4.7.3.3 of the DEIR. Communications and discussion with tribes regarding project design would occur as part of the Cultural Impact Mitigation Program, as discussed in Mitigation Measure CUL-1a in Volume 2 of the FEIR.

The mitigation measures presented in the DEIR are intended to reduce the potential for slope deterioration and/or slope movement or dislodgement of materials that could affect local drainages, and no further response is necessary.

- T1-34 As discussed in Section 4.4.3.3 of the DEIR, public and tribal access to the project site must consider health and safety concerns. Tribal access within the compressor station must be requested through PG&E and only after health and safety considerations. Tribal access outside of the PG&E property is subject to use guidelines established by the U.S. Department of the Interior or its respective bureaus or escort by PG&E staff. Because the final design for the remediation facilities has not yet been determined, health and safety concerns also may be associated with specific areas within its footprint, such as active well drilling locations. The limitations referenced in the mitigation are meant to ensure the safety of the tribal practitioner. A written plan to ensure Tribal members access to the project area shall be part of the Corrective Measures Implementation Workplan, and will include, when possible, protocols for tribal access to areas controlled by or in use by PG&E for the project.
- As stated in Section 4.4.3.3 of the DEIR, “Due to health and safety concerns, PG&E may exclude the Topock Compressor Station and related facilities from the area for which tribal access and use may be provided.” The FMIT, other tribes, and the public are not permitted to access the fenced compressor station area for safety reasons.
- T1-35 The proposed project and the alternatives in the DEIR did not contemplate any restrictions to access by any party. DTSC cannot impose use restrictions on properties without specific agreement with the respective landowners. This would include land owned and operated by BLM and area under control and operation by PG&E. As noted in the response to comment T1-34, health and safety concerns may limit tribal access within the fenced compressor station and other specific locations under PG&E’s control. In addition, as described in Sections 3.5.1.1, 3.5.1.2, 3.5.2.1, 3.5.2.2, and 3.5.4 of the DEIR, security fencing would be used for remediation facilities to protect project facilities such as reductant storage areas. Site security details for this project will be made available to interested tribes and Consultative Workgroup members for review during the design phase.
- T1-36 As stated in Section 3.5.4.5 of the DEIR, “IM-3 facilities that are not incorporated into the final remedial action are expected to be decommissioned following the determination that the facilities are not needed to meet remedial goals.” Key View 6, and all other simulations in Section 4.1.3.3 of the DEIR are provided to simulate views of possible infrastructures throughout the project area. These proposed remediation facilities, which may or may not be eventually located at or near the current IM-3 location, should not be considered an expansion of the IM-3 Facility because they are components of the final remedy required as part of the proposed project. The final location of all infrastructures will depend on the final design by PG&E with approval of the landowner, environmental conditions, safety, and feasibility. Key View 6 as proposed was included by PG&E as a possible design option; therefore, it is included in the EIR for impact considerations. According to PG&E, they have a specific easement with the tribe for the use of the current IM-3 Facility location, which does not necessarily restrict its use by PG&E for the purpose of the final remedy.
- T1-37 Please see the responses to comments T1-26 and T1-27.
- T1-38 Potential locations for new injection and extraction wells, reductant storage facilities, and conveyance pipelines are shown in Exhibit 3-4 in Section 3.5 of the DEIR and are described throughout Section 4.1 of the DEIR and Chapter 4 in general. As noted in response to comment T1-3, siting of facilities needed to implement the groundwater remedy will be developed during final design.
- T1-39 As stated in Section 3.5.1.1 of the DEIR, the IRZ portion of the proposed project would create a treatment zone where groundwater would be extracted and injected, and would therefore include

both injection and extraction wells. The IRZ would be constructed using a series of wells that could be used either as injection or extraction wells to circulate groundwater and distribute the reductant. The water with the reductant would be injected under pressure into the aquifer using a network of wells to form the treatment zone. The IRZ is expected to be located along a portion of National Trails Highway, as conceptually illustrated in Exhibit 3-4. As shown in Exhibit 4.1-18, in Section 4.1.3.3 of the DEIR, new injection and monitoring wells would potentially be located along the National Trails Highway. For purposes of the aesthetic analysis, locations that would involve more, rather than less, vegetative removal were considered. Siting of the final location of wells in the vicinity of the National Trails Highway will be developed during final design. The tribe's interest in having wells placed within the existing pavement, rather than near the highway, is noted. DTSC, the U.S. Department of the Interior (DOI) and PG&E must consider the historic significance of the National Trails Highway as well as the spiritual significance of the area during final design. It is DTSC's understanding from FMIT's comments that disturbed locations within the project area are still considered spiritually sacred. DTSC thanks the FMIT for clarification on the preference on use of existing roads.

Although FMIT has provided clarification from the tribe's perspective on the use of existing roads, construction of proposed wells within paved roadways is not anticipated at this time due to the potential safety issues associated with worker activities during the construction, operations, maintenance, and decommissioning of proposed wells. However, siting of the final location of wells in the vicinity of the National Trails Highway will be developed during final design.

- T1-40 The commenter's opinion that religious tribal properties should take precedence over other kinds of historic properties is noted. DTSC does note that FMIT has identified the entire project area as sacred and that drilling through the National Trails Highway and soils below would be a desecration of the area as would drilling through unpaved locations adjacent to the road. Tribes will have an opportunity to comment on the project design through those protocols developed as part of the Cultural Impact Mitigation Program, which is presented in Mitigation Measure CUL-1a of Volume 2 of the FEIR. See also response to comment T1-39 above.
- T1-41 Public Resources Code (PRC) 5097.9 states that an agency shall not interfere with the free expression or exercise of Native American religion, as provided in the United States Constitution and the California Constitution; nor cause severe or irreparable damage to, "any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, **except on a clear and convincing showing that the public interest and necessity so require** [emphasis added]." The regulatory background section of the EIR includes these statutory and regulatory requirements, with which DTSC and PG&E would comply. Because such compliance is not related to a potentially significant adverse physical effect on the environment from the project, such compliance is not required to be discussed in detail in the DEIR. The purpose and need for the proposed project, provided in Section 3.3 of the DEIR, also describes the compelling necessity and public interest of the proposed project.
- T1-42 Mitigation Measure CUL-4 in the DEIR states that the determination regarding potential discoveries of human remains during construction, "shall be made by a qualified archaeologist with skill in the identification of human osteological (bone) remains." Text has been changed in Mitigation Measure CUL-4 to clarify the nature and level of involvement by tribal monitor(s) and a qualified bone expert under this scenario. These changes are presented in Volume 2 of the FEIR.
- T1-43 Please see the response to comment T1-42.

- T1-44 Please see the response to comment T1-42 regarding the involvement of a trained osteological professional as part of the monitoring crew in addition to cultural sensitivity training proposed under the new mitigation measures.
- T1-45 In Sections 4.1 through 4.12, the DEIR addresses physical conditions that exist in the project area as required by CEQA Guidelines Section 15360. Ambient noise is described in Section 4.9, “Noise,” of the DEIR. As described in Section 4.9.1.5 of the DEIR, an ambient noise survey was conducted in the project area between December 10 and December 11, 2008; the locations of the short- and long-term noise measurements is shown on Exhibit 4.9-2. Furthermore, as stated in Section 4.9.1.5 of the DEIR, the Topock Cultural Area is considered a sensitive land use because this resource has special values for Native Americans. The DEIR also states that changes in land use and modern intrusions, including those related to noise and vibration, could affect tribal cultural values. Thus, Impact NOISE-3 evaluates the noise impact of the proposed project considering the ambient noise levels and the Topock Cultural Area. Pursuant to CEQA Guidelines Section 15064.5, historical resources are evaluated in Section 4.4.3.3 of the DEIR. Section 4.1.1.1 of the DEIR describes the Topock Maze. Exhibit 4.1-4 shows a view of Topock Maze Locus A, and the pedestrian viewer experience of the Topock Maze is described in the same DEIR section. Table 4.1-3 summarizes aesthetic impacts of the proposed project related to the key view analysis, which includes the impact on pedestrian viewers (tribal members). Lastly, Mitigation Measure AES-1 addresses the potential aesthetic impact related to views of the Topock Maze. Although the proposed project would still be visible, incorporating a facilities design as required by Mitigation Measure AES-1 would blend the proposed project into their visual setting within the floodplain and would reduce the overall contrast of the proposed project to a less-than-significant level.
- T1-46 As noted in response to comment T1-45, the DEIR provides a description of the existing physical conditions within the project area for all resource areas of consideration. Pursuant to CEQA Guidelines Section 15125, the DEIR, under Section 4.4.1.1, presents the existing environmental setting related to cultural resources, including the archaeological, ethnographic, and historical settings. The evaluation of environmental impacts and associated mitigation measures in Section 4.4.3.1 of the DEIR uses the environmental setting under Section 4.4.1.1 of the DEIR as the baseline for determining whether a potential impact of a project would be significant and adverse. Similarly, Section 4.3.1 of the DEIR presents the existing environmental setting related to biological resources. The evaluation of environmental impacts and associated mitigation measures (Section 4.3.3) uses this environmental setting as a baseline.
- The comment regarding an activity and the associated impact in an urban versus rural area is noted; however, the case cited, *Oro Fino Gold Mining Corp. v. County of El Dorado* (1990) 225 Cal.App.3d 872, involved testimony of lay persons being considered by the lead agency for purposes of requiring preparation of an EIR, rather than a mitigated negative declaration, for a use permit to conduct exploratory drilling for gold. In that case, the court was willing to treat as substantial evidence citizens’ personal nontechnical observations about how the project could affect their neighborhoods. Here, the EIR has attempted to characterize how the project could adversely affect tribal members who live and worship within the area. Determining significance, for purposes of determining whether to prepare an EIR, is different from the issue of whether substantial evidence supports the agency’s determination of the environmental setting for purposes of establishing the baseline from which to consider the potentially significant adverse impacts of a proposed project, as was done here.
- T1-47 In response to the tribal and public concerns and comments during the scoping process, the DEIR includes Section 9.1, “Environmental Justice,” and Section 9.2, “Socioeconomics.” As noted in

Section 9.2.2.2 of the DEIR, CEQA Guidelines Section 15131 “states that socioeconomic information may be included in an EIR in whatever form the agency desires; however, socioeconomic effects of a project may not be treated as significant in an EIR. CEQA notes that socioeconomic effects may only be used as a criteria to judge the significance of environmental effects, stating that, ‘economic or social effects of a project may be used to determine the significance of physical changes caused by a project.’”

T1-48 The commenter’s concern regarding avoiding and minimizing impacts on tribal cultural resources have been addressed in the DEIR and this FEIR (see Section 4.4 in Volume 2 of the FEIR), and is specifically noted for the DTSC’s consideration during review and approval of the project. As noted in Section 3.3 of the DEIR:

[T]he Final CMS/FS was evaluated by stakeholders, agencies, and tribal governments interested in the site. The CMS/FS identifies the cleanup objectives, evaluates remedial alternatives, and provides the basis for selecting a recommended alternative to address the defined objectives for the remedial action. As the lead agency under the RCRA, DTSC reviewed the alternatives considered in the Final CMS/FS and agrees with PG&E’s recommendation in the Final CMS/FS that Alternative E—In Situ Treatment with Freshwater Flushing provides the best balance within the regulatory selection criteria framework identified in the Final CMS/FS and the potential site impacts identified within this EIR.

T1-49 As noted in Section 4.4.1.3 of the DEIR, DTSC:

...respects the sovereignty of tribal governments and has solicited comments from tribal members throughout the CEQA review and administrative decision-making process. In addition to working directly with tribal governments, it is the policy of Cal/EPA [California Environmental Protection Agency] and its departments to, ‘include federally recognized and nonfederally recognized California Indian [also referred to herein as “Native American”] ~~Tribe-tribes~~ in decision-making processes that affect cultural resources’ (Cal/EPA 2009). To this end, DTSC and its consultants conducted an extensive communication program with involved tribes that included formal meetings with tribal councils, informal meetings and field visits with cultural resource personnel and other tribal members, solicitation of written comments, and the incorporation of information related to heritage resources gathered internally by involved tribes.

In addition, as noted in Section 4.4.1.3 of the DEIR:

Following the NOP process, DTSC and its consultants prepared and implemented a separate Native American Communication Plan (NACP), due in large part to traditional cultural concerns about potential impacts on the Topock Maze (a large geoglyph in the area with substantial cultural significance to some tribal members; see below for full description of this feature), the Colorado River, and the surrounding landscape. The NACP was intended to inform Native American tribal representatives about the EIR process and provide them with adequate opportunity beyond the NOP process to comment. The NACP was also meant to provide a forum to elicit sensitive and confidential information as part of the identification and evaluation of cultural resources for the EIR. Finally, the NACP provided the opportunity for tribal representatives to offer input into the evaluation of potential project impacts, cumulative impacts, and possible mitigation measures. Tribes included in the NACP were those identified early in the EIR process by the NAHC and other nearby tribes that were known historically to have concerns about the Topock region and the Colorado River.

As a public agency, DTSC remains committed to continued communication with the FMIT and other tribes and stakeholders.

- T1-50 The analysis of impacts on historical and cultural resources was not based on a percentage of a given area, but instead was consistent with CEQA Guideline Section 15064.5(b), which is referenced in Sections 4.4.2.2 and 4.4.3.2 of the DEIR.
- T1-51 Please note that Exhibit 3-2 depicts the potential physical boundaries associated with the proposed remedial alternative (Alternative E) and is not intended to represent the area of potential effects (APE) that is relevant to federal responsibilities under the National Historic Preservation Act. The commenter correctly stated that DTSC appropriately acknowledged that some environmental impacts could result in impacts outside the physical footprint depicted on Exhibit 3-2 of the DEIR and as stated in the July 6, 2010, meeting. Consideration of these impacts is addressed in Sections 4.1 and 4.9 of the DEIR for issues such as aesthetics and noise, for example. No change to the document is required.
- T1-52 Indirect impacts of the proposed project are considered, as appropriate, in Sections 4.1 through 4.12 of the DEIR. More specifically, these impacts as they relate to the Topock Cultural Area are discussed in Section 5.1.1 of the DEIR. As noted in the DEIR, “because of the introduction of additional infrastructure, ground-disturbing activity, and overall nature of modern intrusions associated with the proposed project, the changes to the character, nature, and use of the historical resource the proposed project would indirectly affect the Topock Maze and adversely affect the Topock Cultural Area.”
- T1-53 Cumulative impacts on cultural resources are presented in Section 6.4.4 of the DEIR. The analysis considers impacts on the Lower Colorado River Valley, including impacts on additional intaglios and trails.
- T1-54 The DEIR addresses PG&E’s past, current, and probable future projects at the project site as required by CEQA Guidelines Section 15065(a)(3). Table 6-3, in Section 6.3.2, of the DEIR lists projects 1A through 1O, which are specific to PG&E’s past, current, and probable future projects that are part of the cumulative analysis in Chapter 6 of the DEIR.
- T1-55 The comment is noted and DTSC acknowledges receipt and consideration of the referenced materials that have been previously provided by the commenter. This comment does not provide any specifics as to which interests have not been fully addressed; therefore, no further response is necessary.
- T1-56 As stated in Section 6.3.2 of the DEIR, a summary of the projects identified at or near the compressor station is provided in Table 6-3 and shown in Exhibit 6-1. This is not intended to be an all-inclusive list of projects in the region, but rather a list of projects near the compressor station that could possibly cause reasonably foreseeable related impacts or have some relation to the existing setting of the project and are:
- ▶ completed (past projects),
 - ▶ currently under construction or implementation or beginning construction or implementation (present projects),
 - ▶ proposed and under environmental review, or
 - ▶ reasonably foreseeable (future projects).

The analysis provided in Chapter 6 of the DEIR was developed to consider an appropriate geographic scope so that the contribution of the proposed project to cumulative effects could be addressed as required by CEQA. CEQA Guidelines Section 15130(b)(3) (cumulative impacts) requires a lead agency to provide a reasonable explanation for the geographic limitation used for purposes of the EIR's analysis. "[T]he adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project." (CEQA Guidelines, Section 15204, subd. [a].) CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters. (CEQA Guidelines, Section 15204, subd. [a].)

- T1-57 The commenter's attached "List of Topock Project Documents" is included below as comment T1-270. Mitigation measures proposed for significant adverse impacts related to the proposed project are included in Section 4.4 of Volume 2 of this FEIR. CEQA does not require lead agencies to mitigate past significant adverse impacts that may not have been mitigated at the time. Rather, mitigation measures must have a nexus and reasonable relationship to the significant impacts of the proposed project (CEQA Guidelines, Section 15126.4[a][4]). CEQA does not require a lead agency to mitigate, for example, previous projects, fact sheets, site investigations, monitoring plans and reports, and risk assessments that are not part of the proposed project or that do not involve significant adverse effects on the physical environment.
- T1-58 Impacts on historically significant resources, including those resources of cultural significance, can be found in Section 4.4 of the DEIR, with revisions incorporated in Volume 2 of this FEIR. See also the response to comment T1-26. This comment does not raise any specific issues with the environmental analysis provided in the DEIR. No further response is necessary.
- T1-59 The air quality analysis in Section 4.2.3.4 of the DEIR includes estimations of fugitive dust from both construction activities and continual construction-related activities during operations; the analysis concludes that even though the estimated emissions are below the thresholds of the Mojave Desert Air Quality Management District (MDAQMD), Rule 403 still applies, and as such, PG&E would be required to implement Mitigation Measure AIR-1. Implementing Mitigation Measure AIR-1 would further reduce fugitive dust emissions to well below the MDAQMD thresholds. The commenter does not provide substantial evidence that fugitive dust would be an impact on "particular tribal cultural sites or areas." Furthermore, the commenter does not identify specific sites or areas that may be in question.
- T1-60 Please see the response to comment T1-26. Additional mitigation has been added to compensate for the loss of plants. Despite DTSC efforts to date, tribes have not provided DTSC with information regarding ethnobotanical (including, but not limited to ceremonial or medicinal) uses of the native plants within the project area or the frequency of such use. Potential cultural impacts on the tribes are, therefore, unquantifiable. However, DTSC in a good faith effort is providing revised Mitigation Measure CUL-1a-5 to offset the loss of native plants that may have ethnobotanical use, such as mesquite. This revised mitigation measure can be found in Section 4.4.3.3 of Volume 2 of the FEIR.
- T1-61 A more exhaustive description of the direct and indirect impacts that may accrue to the Topock Cultural Area has been added to Section 4.4.3.1 of Volume 2 of the FEIR. This includes additional visual impacts that could occur from landform alterations. Mitigation Measure HYDRO-1 addresses potential erosion impacts from the proposed project.
- T1-62 The analysis performed in Section 4.1 of the DEIR was prepared to evaluate potential visual impact on the visual experience of all viewers of the proposed project equally, consistent with

CEQA requirements. Additional consideration for aesthetic effects to cultural viewers is addressed in Section 4.4 of the DEIR. Furthermore, a more comprehensive discussion of aesthetic impacts has been added to the FEIR and Mitigation Measure CUL-1a has been revised to reduce the aesthetic impacts.

- T1-63 The commenter requests the use of an exterior noise level standard for evaluating noise impacts on the Topock Cultural Area, rather than an interior standard. DTSC understands that the application of a noise standard for indoor places of worship to outdoor places of worship may not accurately portray the level of impact that may accrue to outdoor religious practitioners. However, no applicable noise standards have been adopted by any governmental entity in the area and the standards for places of worship described in the DEIR are the most conservative available. As stated in Section 4.9.3.3 of the DEIR, Impact NOISE-3, “The San Bernardino County Development Code establishes exterior noise standards (55 dB [decibels] L_{eq} [energy-equivalent noise level] daytime and 45 dB L_{eq} nighttime) for land uses designated as a place of worship.” This standard is more restrictive than the land use compatibility standard of 65 A-weighted decibels (dBA) community noise equivalent level (CNEL) as shown in Table 4.9-6 or the 70 dBA CNEL standard as shown in Table 4.9-7, in Section 4.9.2.3.
- T1-64 Mitigation measures must have a nexus to the proposed project and mitigation cannot be required for noise origins associated with recreational boating, trains, or activities at Park Moabi. A mitigation measure with a nexus to the project is provided in Section 4.9.3.3 of the DEIR. Additional mitigation with a clear nexus to the project has been added to Section 4.4.3.3 in Volume 2 of the FEIR. The effect that atmospheric conditions may have on noise levels is discussed in Section 4.9.1.1 of that volume, and an ambient noise survey was conducted to understand area conditions (as discussed in Section 4.9.1.5 of the DEIR).
- The commenter also requests the project applicant reduce existing noise levels from activities not under the control of the project applicant (e.g., boat engines, trains, helicopters, Park Moabi music); however, neither DTSC nor the project applicant can be responsible for reducing noise levels that are not associated with the project. It should be noted that measured noise levels at the Topock TCP are considered relatively low, as shown in Table 4.9-1 of the DEIR.
- Meteorological conditions are discussed under Impact Noise-3 (Section 4.9.3.3) of the DEIR. Because meteorological conditions are unpredictable, the most conservative approach was taken when predicting project noise levels and determining the noise impact significance. The cumulative analysis of noise impacts included in the DEIR (Section 6.4.10) supports the conclusion that no additional mitigation measures are warranted.
- T1-65 Impacts on visual quality, including scenic integrity, were addressed under each key view discussion beginning in Section 4.1.3.3 of the DEIR. Discussions related to air quality impacts are addressed in Section 4.2 of the DEIR, and noise-related impacts are addressed in Section 4.9 of the DEIR. The terminology in this comment relating to the potential to “diminish integrity of location, design, setting, materials, workmanship, feeling or association” is drawn from Title 36 Code of Federal Regulations (CFR) Part 60.4 (36 CFR Part 60.4), put forth the criteria for evaluation of properties for the NRHP, which is not within the jurisdiction of DTSC.
- T1-66 Please see the response to comment T1-59.
- T1-67 The comment expresses the hurtful feelings of some FMIT members to the change in landscape over time. Although DTSC acknowledges these feelings, this comment does not address the contamination at the site nor does it raise any issues with the environmental analysis provided in the DEIR; therefore, no further response is necessary.

- T1-68 Exhibit 2-1 on page 2-5 of the DEIR shows the existing utilities in the project area. The DEIR discusses the potential locations of utilities and water conveyance structures for the proposed project under Section 3.5.1.4. As noted on page 3-17 of the DEIR, main infrastructure corridors would be sited coincident with existing utility and transportation corridors where possible; north-south main alignments are expected to use existing crossings of the freeway and railroad (e.g., at National Trails Highway, through the Bat Cave Wash culvert), and east-west main connections are expected to follow alignments of existing roads (I-40, railroad, Historic Route 66, gas pipeline maintenance roads) to the extent feasible. Electric utility access vaults (with protective bollards) would likely be placed at selected points along the pipelines. As stated on page 2-2 of the DEIR, the DEIR provides a program-level analysis of construction of physical facilities for the proposed project because specific plans and designs would not be developed until a final remedy is selected and approved. Thus, the location and extent of utility connections are shown as a conceptual layout in Exhibit 3-4 of the DEIR. However, potential ground disturbing impacts on cultural resources would be addressed through implementation of Mitigation Measures CUL-1a, CUL-1b, CUL-1c, CUL-2, and CUL-4, as indicated in Section 4.4 in Volume 2 of this FEIR.
- T1-69 Spills or releases of contaminants during the project lifespan were identified as Impact HAZ-1 in Section 4.6.3.3 of the DEIR, with Mitigation Measures HAZ-1a and HAZ-1b proposed to reduce the potential impacts to a less-than-significant level. Construction activities, chemical storage areas, and staging areas for remediation equipment would be sited at locations to be protective of archaeological sites, to the extent feasible, and with input from tribal representatives during final design.
- The BMPs to reduce potential spills and to contain and cleanup potential spills are intended to be protective of site soils. The implementation of BMPs to reduce the potential for releases or spills is a proactive means to identify and address factors that could result in a spill or release. Adherence to the procedures would greatly reduce the potential for a spill or release. The project-specific hazardous materials business plan (HMBP), standard operating procedures (SOPs), and contingency plans would be developed as per Mitigation Measures HAZ-1a and HAZ-1b.
- Any spill or release of chemicals would include response actions as outlined in the HMBP and SOPs to conduct the required notifications and to contain and remediate the release by removal of the source, isolate the spill, and perform the response action. These detailed plans will be developed during final design and be made available to interested tribes and Consultative Workgroup members review and input.
- T1-70 The commenter identifies concerns with alteration of water flow and drainage and effects on biological resources of cultural value. Consistent with the response to comment T1-140, the DEIR identifies that drainage pattern as one that might be altered by the installation of well heads, vaults, staging areas for remediation equipment, and chemical storage areas, as summarized in Section 4.7.3.3 of the DEIR. Mitigation measures, consisting of BMPs, are summarized in the same section of the DEIR and are intended to minimize effects on water quality. These BMPs are for operation and contingency planning will be detailed within the Corrective Measures Implementation Workplan and design packages which will be made available to the interested tribes and Consultative Workgroup members for review and comment.
- The commenter also suggested possibility of adverse impacts on flora and fauna that plays an important role to the tribal culture. Section 4.3 of the DEIR provides an analysis of potential project impacts on biological resources. DTSC, to date, has not received comprehensive information from FMIT regarding the species of flora or fauna within the project area that are of cultural significance. DTSC understands from past tribal communication that the species of

special consideration would include mesquite, arrowweed, willow, creosote, and cottonwood. Based on this understanding, the cultural resource section (Section 4.4) of the FEIR has been updated to include impacts on these resources and mitigation measures to reduce such impacts.

- T1-71 Section 4.12.3.3 of the DEIR includes information on estimated water use for Alternative E. Table 5-6B of the Final CMS/FS report is a summary of the estimated net consumptive use during operation for Alternatives A through I. A comparison of the estimated use for each of these alternatives with PG&E's water rights, as summarized in DEIR Section 4.12.1.3 and 4.12.3.3, confirms that the net consumptive use for each alternative is well within PG&E's allocated water rights. Under Alternative E, all of the extracted water is reinjected; therefore, there is effectively no consumptive use of water during operation, except for small volumes of water associated with well maintenance and sampling. The proposed project would not adversely affect FMITs existing water rights.
- T1-72 In reviewing the Cal/EPA Tribal Policy and DTSC's current level of involvement with tribal nations, DTSC was determined to be in compliance with the provisions in the Cal/EPA Tribal Policy. DTSC will continue to actively work with tribal governments throughout the duration of this project.
- T1-73 Additional outreach and communication has taken place with the FMIT (Appendix TRI) in response to this comment. DTSC has received and reviewed the FMIT's response to DTSC's proposed mitigation measures dated November 15, 2010. After consideration of the FMIT's concerns, appropriate revisions to the mitigation measures to address tribal cultural concerns have been added. These additions can be found in Section 4.4.3.3 of Volume 2 of the FEIR.
- T1-74 The DEIR is not a joint CEQA/National Environmental Policy Act (NEPA) document. As stated in Section 2.1 of the DEIR:
- Remediation of contaminated groundwater at the compressor station is being conducted under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). Both RCRA and CERCLA are federal laws. RCRA provides a framework for the U.S. Environmental Protection Agency (EPA) to remediate hazardous waste sites in the U.S. This authority under RCRA, however, can be delegated to states. In California, DTSC implements RCRA under such delegated authority from the federal EPA through state law. The selection and approval of a final corrective action to remediate the contaminated groundwater at the compressor station is a discretionary action that will be made by DTSC.
- Only CEQA would apply to the proposed project because EPA has delegated authority to DTSC.
- Mitigation Measure CUL-1a has been reviewed and revised so that the intentions of the mitigation measures are more clear and appropriate. These changes are presented in Volume 2 of the FEIR.
- T1-75 The purpose of the cultural resource study, referenced as part of Mitigation Measure CUL-1b and CUL-1c in Section 4.4.3.3 of the DEIR, is to consider whether any new significant adverse project-level impacts could result over and above what has already been identified and considered in this program-level EIR after a final design is identified. At this point in the project, it is unknown which sites from Table 4.4-3 will be directly affected by the final design of the proposed remedy, if approved. The scope of the future analysis would include, for example walking transects in the areas identified for well placements, roads or other related infrastructure

within the project area identified as part of the final design. This could include all sites listed in Table 4.4-3, as well as any other sites discovered by tribal monitors or subsequent investigations in the area.

- T1-76 Please see the response to comment T1-73.
- T1-77 The cultural resource study would include a discussion of the Topock Cultural Area, because it is considered a historical resource for the purposes of CEQA and is considered a TCP by the DOI. Revised mitigation measures have been incorporated in this FEIR (see the response to comment T1-73) to provide ample opportunity for tribal members to communicate with DTSC about impacts on tribal cultural resources during development and implementation of the final design.
- T1-78 As acknowledged in this comment, PG&E is required to invite tribal monitors as part of the mitigation measures written in the DEIR. All instances referencing invitations in the cultural resources mitigation measures in the DEIR have been changed to “required to request” or similar language in response to this comment. These changes are presented in Volume 2 of the FEIR. Compensation and presence of monitor(s) is discussed in the revised Mitigation Measure CUL1a and CUL-4 developed as part of this response process (please also see the response to comment T1-42).
- T1-79 Language has been added to Mitigation Measure CUL-1b and CUL-1c (and carried forth as part of CUL-2) to provide for the ability of the archaeological consultant to suggest a halt construction request to the site officer. CUL-3 has been edited in response to this comment to provide the paleontologist with the same level of ability to halt work.
- T1-80 The comment provides a summary of the cost estimate provided in the Final CMS/FS for Alternative E, the proposed project. Because this comment does not address the environmental analysis provided in the DEIR no further response is necessary.
- T1-81 DTSC will require PG&E to ensure the request for participation of tribal monitors during field activities as part of the mitigation measures provided in this FEIR (see Section 4.4 in Volume 2). However, the specific terms of contractual agreements negotiated between PG&E and tribes are not subject to DTSC influence or jurisdiction.
- T1-82 The commenter states that mitigation for impacts on cultural resources should be at a scale in proportion to the substantial Project itself and meaningful to the people who have been and continue to be affected. The comment is noted. As stated in the Section 4.4 of this FEIR (see Volume 2), PG&E would be responsible for implementation of Mitigation Measures CUL-1a, CUL-1b, CUL-1c, CUL-2, CUL-3, and CUL-4. CEQA does not require, however, that the cost associated with implementation of mitigation measures be identified, or that parties perceived to be harmed by a project be fiscally compensated in proportion to the cost of the project or mitigation. All of the mitigation measures contained in the EIR are fully enforceable and would require future legal action or compliance, and evidence of compliance will be indicated through the mitigation monitoring and reporting program (MMRP) provided as Chapter 5 of this FEIR.
- T1-83 Please see the response to comment T1-73.
- T1-84 Please see the response to comment T1-73.
- T1-85 Please see the response to comment T1-73.
- T1-86 Please see the response to comment T1-73.

- T1-87 Cultural monitoring cost estimates are provided in the Final CMS/FS cost estimates in two categories: capital costs (costs during remedy construction [CH2M Hill 2009a:Section D.2.1.7]), and operation and maintenance costs. The latter category includes both costs during the operation and maintenance phase (assumed to be 29 years for Alternative E) and the long-term maintenance phase (assumed to be 10 years for Alternative E) (CH2M Hill 2009a:Section D.2.2.8). The comment is inconsistent, as it refers to the section in the Final CMS/FS (CH2M Hill 2009a) that describes the capital costs, but the annual cost cited in the comment applies to costs during the 29-year operation and maintenance phase.
- Costs estimated that are provided in the Final CMS/FS encompass a variety of cultural resources management tasks, including coordination with tribes on cultural resources issues, annual monitoring of surveyed areas, resurvey of areas that may be required during project implementation, monitoring of work to ensure protection of cultural resources, and provisions affording sufficient tribal monitors to observe ground-disturbing construction activities (as part of revised Mitigation Measure CUL-1a in Volume 2 of the FEIR).
- T1-88 Financial assurance for completion of the remediation by a responsible party is a requirement of California law as well as the RCRA. The financial assurance mechanisms applicable to PG&E for the proposed project are prescribed in Title 22, California Code of Regulations and the California Health and Safety Code. Financial assurance is required as part of final remedy and is updated annually. The public can monitor PG&E's compliance with financial assurance through public records review; however, DTSC cannot establish any advisory committee for this purpose. Mitigation measures adopted by DTSC as part of the FEIR must be implemented and tracked through the MMRP.
- T1-89 The commenter's opinion of impacts on tribal cultural resources is noted. The commenter is correct that a statement of overriding consideration will be required to approve the proposed project. If DTSC believes that the benefits of the project outweigh the significant environmental impacts, including, but not limited to, those pertaining to Impact CUL-1a, CUL-1b, CUL-1c, CUL-2, and CUL-4 a statement of overriding consideration will be prepared.
- T1-90 As required by CEQA Guidelines Section 15021, the FEIR identifies feasible mitigation to avoid or reduce impacts. While no additional feasible mitigation measures have been identified that would reduce Impacts CUL-1a, CUL-1b, CUL-1c, and CUL-2 to a less than significant level, mitigation measures for those impacts have been revised to further reduce impacts, as indicated in Section 4.4 in Volume 2 of the FEIR.
- T1-91 Please see the response to comment T1-73.
- T1-92 Please see the responses to comments T1-73, T1-94, and T1-95.
- T1-93 The cultural resources management plan (CRMP) for IM-3 has required periodic monitoring and condition assessment of archaeological or historical resources located within the expanded APE that have been listed or determined eligible for inclusion in the NRHP (Applied Earthworks 2004:16). Specifically, the CRMP outlines a program of quarterly visits to each site during the first year of the project (2005) to ensure construction activities continue to avoid historic properties, and subsequent annual visits to each site for a minimum of 4 years to monitor site conditions and disturbances, and to identify any progressive degradation of sites resulting from IM-3 project activities or other impacts. Based on the most recent monitoring in 2009, no impacts or effects have occurred at any of the monitored resources. All cultural materials and/or features, as well as all noncultural constituents located within the established boundaries of these

resources, were found to be in the same precise location and condition as when recorded initially, and as observed throughout the phases of quarterly and annual monitoring.

PG&E has advised DTSC that, based on observations, the off-road use of (and impacts on) the area has decreased significantly since the interim measure projects started. Prior to 2004, the sand dunes in the floodplain were frequently used by recreationists using dune buggies, all-terrain vehicles, and motorcycles. The uplands area bounded by National Trails Highway, Park Moabi Road, and the railroad was considered to be prime off-road territory for motorcycles, all-terrain vehicles, and four-wheel drive pickups, as evidenced by the extensive vehicle tracks throughout the area. In comparison, currently, unauthorized off-road vehicle usage in these areas is minimal.

It appears that the reduced off-road vehicle use in these two areas is related to the formal closure of the area by BLM to nonauthorized vehicles in 2006 and posted signage warning of penalties for noncompliance; outreach by PG&E and BLM to the staff at Moabi Regional Park, who now warn all park visitors that the area is off limits to off-road vehicle usage; and installation of PG&E infrastructure (especially wellhead monuments and aboveground pipelines), which are physical obstacles that dissuade off-road enthusiasts. In sum, to date remediation activities have not increased unauthorized off road vehicle use in the area, but instead, for the reasons described above, public unauthorized off-road vehicle use in the area has decreased. However, the possibility that installation of the remedy could attract additional off-road vehicle use beyond the current condition cannot be dismissed. Accordingly, Mitigation Measure CUL-1a has been developed to include actions to mitigate this potential impact (see Section 4.4.3.3 of Volume 2 of the FEIR).

- T1-94 As stated in Section 4.4.2.1 of the DEIR, “Management decisions relating to Chromium VI remediation will take into account the special status of these lands but will not preclude necessary actions to protect the Colorado River from contamination” (BLM 2006:5-117).
- Also, as stated in Section 4.3.3.3 (under Mitigation Measure BIO-3c) of the DEIR, the proposed project would not conflict with management goals for biological resources because the proposed remediation, as mitigated, would reduce the potential for long-term adverse effects on sensitive resources. Development of a management plan for the area of critical environmental concern (ACEC), and funding or contributing to the funding of the plan, as requested by the commenter, is beyond the scope of the significant adverse impacts identified in this EIR and the jurisdictional authority of DTSC. BLM is tasked with governance of the ACEC and, as such, may require PG&E to fund such a management plan.
- T1-95 Past involvement by FMIT in development of the ACEC with the federal agencies is noted. As stated in response to comment T1-94, the issue raised by the commenter references processes outside the scope of the EIR. No further response is necessary.
- T1-96 The cumulative project list presented in Table 6-3 of the DEIR and described in Section 6.3.2 was developed based on information obtained from the U.S. Bureau of Reclamation (Reclamation); BLM; USFWS; San Bernardino County and the City of Needles, California; Mohave County and Lake Havasu City, Arizona; and PG&E. The Metropolitan Water District of Southern California (MWD) was contacted for input on any potential MWD related projects to include in this DEIR. MWD indicated that no MWD projects are located in the vicinity of the project area. The San Bernardino County project that the commenter refers to regarding the expansion of Park Moabi is listed as related project 5A in Table 6-3 of the DEIR and described in Section 6.3.2.5. Associated cumulative impacts of related project 5A are discussed in the following sections of the DEIR: 6.4.1, 6.4.3, 6.4.4, 6.4.6, 6.4.8, and 6.4.9.

The private hotel development that the commenter refers to is included in Section 6.3.2.7 of Volume 2 of the FEIR, because the owner of the Topock Marina (project applicant) has provided a project site plan to the Development Services Department at Mohave County, Arizona. During preparation of the DEIR, as noted in Section 6.3.2.7, development plans were not submitted by the project applicant to Mohave County.

The updated description of the Topock Marina project is reflected in Section 6.3.2.7 (under Topock Marina Improvements) in Volume 2 of the FEIR:

Topock Marina is a 20-acre facility located along the Colorado River approximately one-half mile north of I-40. The marina owners submitted a site plan to Mohave County, in August 2010, to develop a 102-room, four-story hotel and a three-story restaurant with retail uses on approximately 5.6 acres of the site. owners are considering expanding their facilities to accommodate additional recreational vehicles spaces. At the present time, no development plans have been submitted to the county, but county staff members are expecting to receive such plans at some point in the future. At the time of the preparation of this FEIR, the project is undergoing review by Mohave County and federal agencies and the schedule for construction and operation are uncertain.

The text in Section 6.4.1 in the DEIR has been changed to reflect the proposed hotel development at the Topock Marina:

With regard to the visual experience from the Colorado River, several projects are proposed along the river that could contribute to a cumulative change in the visual experience of recreational users along the river as well as other viewer groups that might experience this visual resource. These include the Moabi Regional Park Improvements (5A), the Pirate Cove Resort (5B), and the Topock Marina Improvements (7A). The Moabi Park Improvement project would not result in significant changes in views from the river as most of the improvements are internal to the park (e.g., utility hook-ups and campsites). The Pirate Cove Resort and Topock Marina Improvements is a are significant projects when considering the views from the river, as ~~it~~ these projects introduces a new resorts at the river's edge. The improvements to the Park Moabi Marina are nominal, and would likely include minor improvements to accommodate additional recreational vehicles, but are not expected to significantly change the visual experience of the site from the river. However, Topock Marina Improvements would introduce a new hotel behind the existing dock area with two new buildings, including signage and lighting. Thus, when considering these projects, the visual experience from the Colorado River would be most affected by the Topock Marina Improvements ~~Pirate Cove Resort~~.

The proposed project could also result in negative aesthetic affects along the Colorado River through the removal of floodplain vegetation, grading operations, and overall alteration of a scenic view corridor. If these effects were to occur, recreational viewers experience of the Colorado River and the associated scenic corridor could be cumulative impacted by the overall change that this and other river development, including the Pirate Cove Resort and Topock Marina Improvements.

The conclusions of the associated cumulative impacts provided in Chapter 6 of the DEIR remain unchanged.

T1-97

As noted in Section 3.5 of the DEIR, the proposed project subject to analysis included these “worst-case” amounts of development. Please also see the response to comment T1-73.

T1-98	<p>The DEIR describes the combined program- and project-level analysis (see Section 2.1.1). Pursuant to CEQA Guidelines Section 15168, a framework for future actions under the proposed project is allowed following program-level documentation. As stated in Section 2.1.1.1 of the DEIR, DTSC shall determine whether the specific design for the final remedy (e.g., the location of new or replacement wells) is within the scope of the program EIR, pursuant to the provisions of Section 15168 of the CEQA Guidelines. If future CEQA documents are prepared, FMIT and other stakeholders would be given the opportunity to participate in accordance with CEQA Guidelines. Note that Sections 1.2.3 and 1.2.3.3 of the DEIR identify the task of replacing wells.</p>
T1-99	<p>The project is subject to 5-year reviews. If future CEQA documents are prepared, Tribal entities and other stakeholder groups will be given the opportunity to participate in accordance with CEQA. Tribal entities will also have an opportunity to communicate with PG&E throughout the design process.</p>
T1-100	<p>DTSC will be reviewing and comparing the design of the final remedy to the environmental impact assessment conducted in this EIR prior to approval of the design. Additional environmental review may be necessary if the design is substantially different or changes the impact findings in the FEIR. DTSC will continue to monitor the remedy until it is proven to be “operating properly and successfully (OPS).” This project is also subject to 5-year reviews, as identified in the response to comment T1-99 and required by Section 121 of CERCLA, after determination of OPS, at which time DTSC would review the project progress and determine whether the mitigation measures, such as Mitigation Measures AES-1, AES-2, BIO-3c, and HYDRO-1, require modification or adjustment. In addition, the success of specific mitigation measures adopted in the FEIR that require monitoring would be tracked by DTSC in compliance with the MMRP.</p> <p>PG&E would be required to develop a Cultural Impact Mitigation Program (CIMP) with input from interested tribes and submitted for DTSC’s review and approval. The CIMP will include a qualified cultural resource consultant collaborating with tribal monitors, protective devices enclosing culturally sensitive areas, discovery reporting protocol, quarterly reports, and other applicable conservation/preservation methodologies. This project is also subject to 5-year reviews after determination of OPS, at which time DTSC would review the project progress and determine whether the mitigation measures require modification or adjustment.</p>
T1-101	<p>The DEIR acknowledges this statement. As noted in Section 4.4.3.1, the impact on the Topock Cultural Area is considered to be significant and unavoidable, even after adoption of feasible mitigation measures.</p>
T1-102	<p>Please see the responses to comments T1-73 and T1-186. Communication regarding mitigating aesthetic impacts and restoration of traditionally used plant materials are part of the new mitigation measures as found in Volume 2 of this FEIR.</p>
T1-103	<p>Mitigation related to restoration is meant to apply to the entirety of the ground disturbance of the proposed project including the IM-3 facilities. These restoration requirements do not conflict with or give credit for restoration related to nonproject activities such as closure of the existing evaporation ponds, which is subject to Regional Water Quality Control Board oversight.</p>
T1-104	<p>Implementing the proposed project would require a restoration plan, as stated in Mitigation Measures BIO-1 and BIO-2c. As such, the mitigation measures would be enforceable through the MMRP to address the impacts of the proposed project and would not be “double dipping” as alleged by the commenter (see CEQA Guidelines Section 15126.4[a][2]) “mitigation measures must be fully enforceable through permit conditions, agreements, or other legally binding</p>

instruments”)). As described in the mitigation measures, a habitat restoration plan would be required and would be submitted to the California Department of Fish and Game (DFG), BLM, and USFWS for their review or, alternatively, the mitigation measure would be achieved through implementation of a habitat restoration plan consistent with the substantive policies of DFG, BLM, and USFWS. Depending on the scope of the restoration plan, DTSC may find approval of the plan subject to an exemption from CEQA.

- T1-105 The commenter claims, generally, that the DEIR text is unclear regarding how the state and federal regulatory processes and framework for the Project intersect and what to do when they are not seamless, such as designation of the No Action/No Project Alternative. The commenter’s opinion is noted. Please see the response to comment T1-108 regarding consideration of the No Action/No Project Alternative. Please see response to comment T1-106 regarding the coordinated State/Federal process.
- T1-106 The commenter refers to a prior comment requesting clarification of the coordinated state and federal processes for approval of the Project and coordination between the various agencies. As explained in the DEIR, the investigation and cleanup of contamination released from the Topock Compressor Station is subject to both the corrective action requirements of California law applicable to owners or operators of facilities that treat, store, or dispose of hazardous wastes, including through the federally delegated Resource Conservation and Recovery Act (RCRA), as well as the response action requirements of the Federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S. Code Sections 9601 et seq. Consequently, the DEIR reflects that PG&E activities are subject to oversight and approval of various federal agencies and that a final remedial action would be selected by DOI pursuant to the requirements of CERCLA as well as by DTSC acting as the state lead agency under RCRA. As the lead agencies responsible for implementation of the CERCLA response action, the federal agencies have been coordinating with DTSC to integrate CERCLA requirements and procedures with applicable state law requirements and procedures. As such, the DEIR attempts to integrate the values and analysis that could be incorporated by federal agencies in subsequent approvals while complying with CEQA. The federal approvals would include DOI’s approval, or concurrence in DTSC’s approval, of the final remedy and, ultimately, the final design. If the proposed project is approved by DTSC, a final design for the approved remedy would be prepared with project specific information. Once approved, the final design would be implemented in coordination with the federal agencies and other interested parties. DTSC, as a state lead agency, is unable to control or predict the overall process, including how the federal, responsible, or trustee agencies involved in the project may proceed or determine what is required of PG&E for their own independent decision-making processes. DTSC will continue, however, to coordinate with the tribe and other interested parties to answer specific questions regarding current and future processes to the best of its ability.
- T1-107 No portion of the DEIR states that data recovery is the only form of irreversible effect to tribal cultural resources. Please see the response to comment T1-101.
- T1-108 The commenter takes issue with the analysis of the “No Project Alternative” in footnote 12, claiming, in part, that the guidance provided to lead agencies in the CEQA Guidelines was “expressly superseded by the Settlement Agreement which requires that a January 2004 environmental baseline be used for ‘retaining any equipment or installation on the IM-3 Site.’” CEQA requires that one of the alternatives analyzed in an EIR be the so-called “No Project Alternative.” This alternative: “Shall... be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed

project. The “no project alternative” analysis is not the baseline for determining whether proposed project’s environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (see CEQA Guidelines, Section 15125, Section 15126.6, subd. (e)(1) “The ‘no project’ analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.” (CEQA Guidelines, Section 15126.6, subd. (e)(2) (emphasis added).) The use of the word “shall” exemplifies that, unlike the approach urged by the commenter, DTSC did not have discretion not to consider the existing conditions at the time of issuance of the NOP, which included IM-3. It is outside the scope of the court or any of the parties to supersede the requirements of the statute or CEQA Guidelines.

To comply with both CEQA and the provisions of the Settlement Agreement between the FMIT and DTSC, the DEIR included a dual analysis of the existing conditions at the time of the NOP and, for purposes of considering potential effects on biological and cultural resources, uses a January 2004 baseline of conditions (see Chapter 7 of the DEIR.) The dual approach taken to consider the No Project Alternative was conducted to comply with the mandatory provisions of CEQA and the Settlement Agreement and was not intended to offend any members of the FMIT.

- T1-109 RCRA standards do not require DTSC to identify applicable or relevant and appropriate requirements (ARARs). The project proponent is required to fulfill all legal requirements associated with ARARs. DTSC has included mitigation measures in the FEIR intended to avoid or substantially lessen the significant adverse environmental impacts of the proposed project, as required by CEQA. DTSC has, and will continue to, treat FMIT’s concerns seriously.
- T1-110 DTSC will continue to forward communications associated with this project to the commenter on documents subject to public notice and review process. The commenter’s request that DTSC provide a 30-day review period prior to certification of the FEIR has been forwarded for consideration. DTSC is not obligated under CEQA or the implementing Guidelines to provide FMIT with a copy of the admin FEIR, portions thereof, or responses to comments received on the DEIR prior to the final remedy decision. However, DTSC is obligated to provide written responses to any agency that submitted comments on the DEIR at least 10 days prior to certifying the FEIR (PRC, Div. 13, Chap.1, Sec. 21092.5[a]).
- DTSC will follow the CEQA Guidelines and will provide a 10-day review of the FEIR to commenting agencies and tribal governments. The commenter’s request for copies of the comment letters received on the DEIR has been fulfilled.
- T1-111 The visual analysis provided in the DEIR appropriately considered a range of residential, vehicular, recreational, and pedestrian viewers, as described Section 4.1.1.3 of the DEIR. As outlined in the first paragraph of Section 4.1.1.4 of the DEIR, it is not feasible, nor required, to analyze all views in which the proposed project would be visible (see *Association of Irrigated Residents v. County of Madera* (2003) 107 Cal. App. 4th 1383, 1396 [Madera County was not required to conduct a particular study or follow a particular methodology merely because a commenter made such a recommendation]; see also CEQA Guidelines, Section 15204, subd. (a) [same]). The views selected must represent the typical visual conditions experienced by each viewer group when considering whether the proposed project would have a substantial effect on a scenic vista, substantially damage scenic resources or substantially degrade the existing visual character or quality of the site as provided in the thresholds of significance (see also *Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal. App. 4th 477, 493-494 (where local land

use plans protected only public views, the respondent city's EIR properly found any project-related effects on private views were not potentially significant aesthetic impacts)).

Key views were selected based on public accessibility, number of viewers, and the view's ability to reflect the effects of the proposed project. Five of the 14 key views were taken from within the Topock Maze to acknowledge the concerns with this feature and its proximity to proposed project facilities. Substantial evidence supports the scope of the aesthetics analysis determined in the DEIR.

- T1-112 The subjectivity of aesthetics is acknowledged. It is for this reason that the assessment of existing conditions and analysis of the proposed project features in the DEIR (as stated in Section 4.1.3.1) were conducted using the visual assessment methodology provided by BLM's Visual Resource Management (VRM) rating system. The VRM system was chosen specifically to address the inherent subjectivity of visual assessment by applying an objective and detailed classification system in order to assess the degree of contrast potentially created by a project: visual values are assigned to a standardized set of physical attributes found within any viewshed—form, line, color, and texture.
- T1-113 The establishment of viewer groups was consistent with the general good faith effort to identify significant adverse impacts under CEQA. Substantial evidence supports the DEIR's determination of the scope and extent of aesthetic impacts of the proposed project. Recognizing individuals often perceive changes in the aesthetic environment differently, the EIR attempted to capture those concerns as they relate to the proposed project. Although the commenter takes issue with the analysis, the analysis is supported by substantial evidence (see the response to comment T1-112; see also *Bowman v. City of Berkeley* [2004] 122 Cal. App. 4th 572 [reasoning that CEQA does not mandate preparation of an EIR to study what are essentially issues of individual and potentially diverse tastes]). Viewer groups were purposely defined by the type of activity being performed while experiencing a particular view. Inherent differences exist in visual/scenic expectations, durations of view exposure, and viewer response among each view. The FMIT and other tribal representatives had expressed during scoping and other communications that all visual intrusions to the area were of concern, and this understanding was inherent in the analysis of the impacts on the Topock Cultural Area within the DEIR. Aesthetic and visual resource concerns directly related to cultural resources are addressed in Section 4.4 in Volume 2 of the FEIR (see the responses to comments T1-73 and T1-112).
- T1-114 As outlined in Section 4.1.3.1 of the DEIR, the proposed project was evaluated using the BLM VRM rating system to establish a uniform methodology for evaluating change in degree of contrast, or the level to which an element of the proposed project contrasts visually with the existing visual quality of the surrounding landscape. DTSC considered the concerns previously expressed by tribal members and their consultants when preparing the DEIR. DTSC/AECOM was not legally required, however, to consult with the FMIT or any other viewer group when deciding what conclusions to reach. Please also see the responses to comments T-112 and T1-113.
- T1-115 Chapter 4 of the DEIR specifically addresses the anticipated impacts of the proposed project on aesthetic and other resource topics. Chapter 6 of the DEIR includes a discussion of cumulative impacts, including past projects, as required by CEQA.
- T1-116 The methodology and analysis described in Section 4.1 of the DEIR were prepared to evaluate equally and objectively the potential visual impact on the visual experience of all viewers of the proposed project, consistent with CEQA requirements. Additional consideration for aesthetic

effects to cultural viewers was addressed in Section 4.4 of the DEIR (please also see the response to comment T1-73).

- T1-117 The DEIR discusses in Section 4.2.1.8 that no odor sources exist within the project area; this is based on commonly accepted odor sources. Many air districts throughout the State list specific sources that are common odor sources, such as landfills or rendering facilities; since these types of facilities do not exist in the area of the proposed project it was stated that no odor sources are in the immediate vicinity of the project site. The existing freeway and railroad in the vicinity of the proposed project are considered part of the existing setting. Odors associated with vehicles, trains, and other existing sources (such as boats on the Colorado River) would not change as a result of the proposed project, and are thus not relevant to the analysis conducted under CEQA. The compressor station is considered a minor source of odors since it periodically exhausts odorized natural gas in to the atmosphere. This discharge of exhaust gas occurs approximately 10 times a week, lasting, on average, 30 seconds for each occurrence. Given the dispersive properties of natural gas and that the nearest identified receptor is almost a mile and a half north west this potential odor source will not cause a nuisance to any of those receptors. The proposed project would include some piping and pumping associated with it, but since the materials of concern are not known to have perceptible taste or smells it can be concluded that the movement of these material through pipes and pumps will not generate nuisance odors (Groundwater Resources Association of California 2010). Odor analysis can be subjective since the degree to which a smell becomes an offensive odor varies from person to person, one method of determining if a project is considered to have odor impacts is to monitor confirmed odor complaints; however, since the proposed project would not be expected to produce odor impacts, monitoring of odor is not deemed necessary for this project.
- T1-118 Please see the response to comment T1-117. Section 4.2.2.3 of the DEIR referred to by the commenter refers generically to the MDAQMD's Rule 402 (nuisance) requirement regarding when an odor analysis is required. Here, since there are no reasonably foreseeable sources of odor that would result from the proposed project, such analysis is unwarranted.
- T1-119 Please see the responses to comments T1-117 and T1-118.
- T1-120 The project's biological resource impacts were evaluated consistent with the requirements of CEQA in Section 4.3, "Biological Resources," of the DEIR. Please see the response to comment T1-70.
- T1-121 The title of the section in the DEIR was based on CEQA Guidelines. Under CEQA, the term "historical resources" is very broadly defined and includes reference to a variety of cultural values, including those mentioned by the commenter. The section does address spiritual and other nonmaterial values associated with historical resources in the project area, as demonstrated in Section 4.4.3 and its subsections, as well as through the description of tribal comments, as presented in Section 4.4.1.3. While the authors of the DEIR agree that paleontological resources may be better addressed in "Geology and Soils," or even "Mineral Resources," CEQA Guidelines address this analysis under the heading of "Cultural Resources." Impacts on paleontological resources are therefore analyzed in Section 4.4.
- T1-122 Information related to what representatives of the tribes shared with the EIR team is presented in various places within Sections 4.4.1.3 and 4.4.2.1 of the DEIR (see also Appendix TRI). A description of the Native American Communication Plan is presented in Section 4.4.1.3. The description of the beliefs of the FMIT can be found in Section 4.4.1.3.

T1-123

The types of cultural resources mentioned by the commenter are included within the CEQA definition of “historical resources,” and are addressed in Section 4.4.1.3, “Native American Heritage Resources,” of Volume 2 of the FEIR, which provides more focus on the nonarchaeological and historical aspects of the project area. Impacts on these resources are addressed in Section 4.4.3.3 of Volume 2 of the FEIR. Unlike NEPA, CEQA does not require lead agencies to consider the potential effects of a project on a “cultural environment” as suggested by the commenter. NEPA’s focus on the human consequences of environmental effects derives from the statutory reference to the “*human environment*” (42 USC Section 4332, subd. (C) [italics added]). NEPA provides that “all agencies of the Federal Government shall ... include in (all) proposals for ... major Federal actions significantly affecting the quality of the *human environment*, a detailed statement,” or EIR. (*Ibid.* [emphasis added].) (see, e.g., *The Havasupai Tribe v. United States of America* [D. Ariz. 1990] 752 F.Supp. 1471, 1493 [“NEPA requires that the environment considered by the federal agency include not only such traditional environmental concerns as water and air quality, but also the historic cultural and natural aspects of our national heritage, in order to preserve an environment which supports diversity and variety of individual choice. 42 USC Section 4331(b)(4).”]; 42 USC Section 4331[b][4] [in carrying out NEPA responsibilities, the Federal Government must try to coordinate federal plans, laws, programs, etc., to among other things “preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice”]).

In contrast, the California Legislature specifically avoided using the term “human environment,” and instead defined “environment” to refer to “the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, noise, objects of historic or aesthetic significance.” (PRC Section 21060.5; accord CEQA Guidelines, Section 15360 [same]; *San Franciscans for Reasonable Growth v. City and County of San Francisco* [1989] 209 Cal.App.3d 1502, 1521–1522, fn. 13 [a project’s creation of demand for new housing implicated “social and economic, not environmental concerns” that were “outside the CEQA purview”]; *City of Pasadena v. State of California* [1993] 14 Cal.App.4th 810, 827–830 [relocation of a parole office to an existing building may have had some social impacts, but “CEQA does not address the purely social effects of a project” without a physical change in the environment]; *Baird v. County of Contra Costa* [1995] 32 Cal.App.4th 1464, 1469-1470, fn. 2 [“increased crime... is not a proper subject of CEQA inquiry”].) In fact, the CEQA Guidelines specifically state that social effects shall not be treated as an impact: “Economic or social effects of a project shall not be treated as significant effects on the environment” (CEQA Guidelines, Section 15131, subd. [a]).

Thus, although cultural or social effects can be used to determine whether a noise effect is significant, for example, that does not mean CEQA concerns itself independently with the social or cultural effect. The focus remains on the physical effect to the “environment” (e.g., land, air, water) (CEQA Guidelines, Section 15131, subd. (a) [“The focus of the analysis shall be on the physical change.”]).

The DEIR, therefore, was not required to consider, as a significant adverse impact under CEQA, and as urged by the commenter, the potential impacts of the project “on those aspects of the cultural environment that are neither ‘archaeological’ nor ‘historical,’ or that transcend these narrow categories.”

T1-124

The text in Section 4.4.1.2 of the DEIR provides a clear description of how and when past surveys were conducted relative to the APE. The DEIR includes the Topock Cultural Area in this APE, which is noted to potentially stretch well beyond the boundaries of the APE (see discussion under “Topock Cultural Area” in Section 4.4.3.1). It is also appropriately noted here that in its

obligations under CEQA, DTSC is not to make conclusions on the eligibility of this potentially larger resource, but to consider the potential impacts of the proposed project on historical resources and unique archaeological resources under CEQA. Please also see the response to comment A4-3 in Chapter 2, “Agency Comments and Responses,” of this FEIR.

- T1-125 What an archaeological or historical resource is, and how significance is determined, is presented in Section 4.4.2.2 of the DEIR. The inventory presented in Table 4.4-1 of the DEIR is noted to be a list of the sites revealed during the archaeological and historical investigations. Additionally, DTSC conducted a Native American Communication Plan, a key goal of which was to determine whether there are Native American tribes that recognize any cultural resources in the project area that may qualify as significant resources under CEQA; hence the delineation of the Topock Cultural Area as a historical resource.
- T1-126 The commenter is correct that prehistoric archaeological materials can be considered “Native American Heritage Resources.” The title of Section 4.4.1.3 is not meant to exclude those archaeological sites discussed in Section 4.4.1.2. Indeed, CA-SBR-219 is discussed at length in both sections. The title of Section 4.4.1.3 is meant to indicate that a designated section has been created to discuss those other aspects of cultural resources that may not be manifested archaeologically within the project site. Providing a specific section of the DEIR for this information, as opposed to interweaving it with the description of archaeological materials found during the surveys, was intended to make it easier for the lay reader to read and understand this “ethnographic” information.
- T1-127 The commenter notes information presented in the DEIR document and does not require further response.
- T1-128 The subsection “Inventory of Resources” in Section 4.4.1.3, “Native American Heritage Resources,” of the DEIR is meant to parallel the discussion under the subsection “Inventory of Resources,” in Section 4.4.1.2, “Archaeological and Historical Resources.” Because Native American Heritage Resources are presented separately (see the response to comment T1-126), it was necessary to follow the same format in both Section 4.4.1.2 and 4.4.1.3.
- At no point has any member of any tribe associated with this project directly provided a comment to the EIR team regarding the use and/or inclusion of the photograph labeled Exhibit 4.4-3.
- T1-129 Please see the response to comment A4-3 in Chapter 2, “Agency Comments and Responses,” of this FEIR. Also, a discussion of the relevance of the Topock Maze within the larger context of the area, including the area outside the area defined by archaeologists, is presented in the final paragraph of Section 4.4.1.3 of the DEIR.
- T1-130 The discussion of National Register Bulletin 38 provided in the DEIR discusses the meaning of integrity in Section 4.4.2.1. This includes a description of integrity of relationship, which references that a place “is integral and necessary to a traditional cultural group’s beliefs or specific practices.” This description also includes the description of integrity of condition, which references the requirement that a “TCP has not been altered in such a way that it no longer can serve its function for the traditional cultural group.” The integrity of the resource was evaluated by the agency based on an understanding of its integrity of relationship and condition gained through the NACP. As presented in Section 4.4.3.1 of the DEIR, the Topock Cultural Area is determined to be a historical resource under CEQA (no TCP designation is required under CEQA).

- T1-131 Please see the response to comment A4-3 in Chapter 2, “Agency Comments and Responses,” of this FEIR. Cumulative impacts on the larger landscape are presented in Chapter 6. CEQA requires that “[a]n evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible” (CEQA Guidelines, Section 15151). What is “reasonably feasible” is a function of “factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project. Lead agencies, as DTSC did here, must explain the geographic scope of the project area based on the reasonably foreseeable and potentially adverse significant impacts of the proposed project to the physical environment, including potentially significant direct and indirect effects. With respect to cumulative impacts, the EIR need only define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used (CEQA Guidelines 15130, subd. [b]). As cited above, the EIR contains an explanation of how the TCA was determined.
- T1-132 Please see the response to comment T1-26.
- T1-133 The comment notes information present in the DEIR and no further response is necessary.
- T1-134 Please see the response to comment T1-73.
- T1-135 Please see the response to comment T1-73.
- T1-136 Please see the response to comment T1-73.
- T1-137 Please see the response to comment T1-73.
- T1-138 Pursuant to CEQA Guidelines Section 15125, the DEIR, under Section 4.4.1.1, presents the existing cultural resources environmental setting, including the archaeological, ethnographic, and historical settings. All impacts associated with cultural resources have been included in Section 4.4 of the DEIR. Section 4.7 of the DEIR is focused on those issues of hydrology and water quality related to the CEQA Guidelines.
- T1-139 The commenter excerpts text from Mitigation Measure HYDRO-1, “Exceedance of Water Quality Standards,” in Section 4.7.3.3 of the DEIR.
- The full citation of this text is as follows: “The project shall implement BMPs to meet the substantive criteria of all applicable federal, state, and local permit and regulatory requirements, even if a permit is not required pursuant to CERCLA, for purposes of ensuring the protection of receiving water quality. As such, a BMP plan shall be prepared and implemented for the project prior to construction and decommissioning phase activities.”
- This mitigation measure further discusses BMPs that shall be incorporated into the plan for purposes of protecting receiving water quality (the Colorado River).
- The federal, state, and local permit and regulatory requirements could change over the duration of the project and the BMPs required for water quality protection would need to be modified to remain in compliance. A specific reference to tribal requirements was not included because the tribes have not established water quality standards under, for example, the Clean Water Act, that would otherwise be applicable to the project area. BMPs may be adjusted in response to any changes in water quality standards over the duration of the project. Protection of the receiving water (the Colorado River) through implementation of BMPs and modification of BMPs in response to changing requirements is intended to also address potential impacts on the river

through control of sediment run-off and control of potential pollutants through the implementation of the BMPs. Tribal input will be sought in selection and implementation of BMPs for protection of water quality as part of the design discussions that shall be included in the Cultural Impact Mitigation Program (see Mitigation Measure CUL-1a in Volume 2 of the FEIR).

- T1-140 The commenter references the statement from the DEIR that the project will alter local drainage patterns and states that the FMIT is likely to want to be consulted about how to implement mitigation.
- The drainage pattern alteration associated with the project would be through the installation of well heads, vaults, remediation equipment compounds, and chemical storage areas as summarized under Impact HYDRO-2, in Section 4.7.3.3 of the DEIR. Mitigation measures consisting of BMPs are also summarized in that section. Tribal consultation will be sought and tribal monitoring will be included in the process of implementing the BMPs. Communications and discussion with tribes regarding project design and compensation of tribal monitors will occur as part of the Cultural Impact Mitigation Program, as discussed in Mitigation Measure CUL-1a in Volume 2 of the FEIR.
- T1-141 Please see the response to comment T1-138.
- T1-142 The commenter suggests that the DEIR does not discuss the perception of noise from the basis of an individual. The subjective nature of noise, or sound, is discussed in Section 4.9.1.1 of the DEIR, as follows: “Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise; consequently, the perception of sound is subjective in nature, and can vary substantially from person to person.” The EIR attempts to address the particularly sensitive nature of any disturbance from noise in the TCA to Tribal members, recognizing that “substantial” changes in the physical environment is a lower threshold for some native peoples who frequent the area than would otherwise be normally considered under CEQA.
- T1-143 The commenter suggests that past and present noise impacts are required to be analyzed in the EIR with respect to the Topock Cultural Area. Existing noise levels are characterized in Section 4.9.1.5 of the EIR and under CEQA are not subject to analysis, as they represent existing conditions.
- The commenter suggests that cumulative noise impacts were not addressed in the DEIR. Cumulative noise impacts are located in Chapter 6, specifically Section 6.4.9.
- T1-144 The commenter suggests that the noise section properly identified a significant noise impact on the Topock Cultural Area, but that the DEIR was confusing by then referring readers to Section 4.4 of the DEIR. There is a cross-reference to Section 4.4, Cultural Resources, in Section 4.9.3.3 under Impact NOISE-3; however, the full discussion provides a significant conclusion with respect to noise impacts on the Topock Cultural Area. Mitigation measures are provided to reduce these potentially significant noise impacts. The cross-references between Sections 4.4 and 4.9 in the DEIR were intended to convey the relationship between these resource issues, and adequately address impacts to both Noise and Cultural Resource issues.
- T1-145 Please see the response to comment T1-143 about cumulative noise impacts. Also, please see the response to comment T1-142 for a discussion about the objectiveness of noise analysis.
- T1-146 The commenter suggests that significant spiritual events are not allowed to take place at the Topock Cultural Area due to the presence of the proposed project. However, Mitigation Measures NOISE-1 through NOISE-3 provide not only physical actions to reduce project-related noise

levels, but provide a mechanism for coordination between the Topock Cultural Area users and the project applicant. Mitigation Measure NOISE-3 states that a liaison shall be established by PG&E to coordinate with Topock Cultural Area users for timing and scheduling of project activities that may impact spiritual events. See also response to comment T1-73.

- T1-147 As stated in Section 5.1 of the DEIR, Section 5.1.1 provides a summary of significant and unavoidable impacts pursuant to CEQA Guidelines Section 15126.2(b). Section 5.1.1 provides the cultural resources impacts and mitigation measures that are presented in Section 4.4 of the DEIR because Chapter 5.0 of the DEIR summarizes chapters of the DEIR and these sections are not intended to be stand-alone sections of the EIR. Responses to comments related to Section 4.4 have been provided above; no further response to this comment is necessary.
- T1-148 Please see the response to comment T1-147.
- T1-149 CEQA Guidelines Section 15130 does not require cumulative impacts to be addressed in each environmental impact section of the EIR. Presenting cumulative impacts in a stand-alone chapter (see Chapter 6 of the DEIR) is common practice in many EIRs and complies with CEQA Guidelines Section 15130.
- T1-150 As noted in the responses to comments T1-27, T1-45, T1-62, and T1-207, consideration for aesthetic impacts on cultural viewers has been addressed in Section 4.4 of the DEIR.
- T1-151 Please see the response to comment T1-60.
- T1-152 Please see the response to comment T1-73. Additionally, Section 6.4.4 concludes that the mitigation measures proposed will reduce the level of impact, not completely mitigate the impacts, as the comment acknowledges. This section of the DEIR concludes by stating that, “no feasible mitigation exists that would reduce this impact below the level of significance.”
- T1-153 As noted in the response to comment T1-138, the analysis of hydrology and water quality in this portion of the DEIR is based on the CEQA Guidelines. The cultural significance of water and the Colorado River is discussed Section 4.4.1.3 of the DEIR. Because the concerns are sociocultural, they are not present in this more technical section, which deals specifically with environmental aspects of the resource. Cumulative cultural impacts are discussed in Section 6.4.4 of the DEIR.
- T1-154 The commenter notes information presented in the DEIR. This comment requires no response.
- T1-155 As described in the sentence identified by the commenter, the opinions related to the “sanctity” of the area were not expressed by an environmental impact analyst, but were instead, “gathered as part of this EIR through the NACP...” (see end of Section 7.3.2 of the DEIR). Regardless, a text change has been made to this section removing this assertion. This change can be found in the corresponding place in Section 7.3.2 of Volume 2 of the FEIR.
- T1-156 Comment notes information presented in the DEIR and does not require response.
- T1-157 Comment notes information presented in the DEIR and does not require response.
- T1-158 Cultural values ascribed by the FMIT and other tribes can be found in Section 4.4.1.3 of the DEIR. Additional discussion of impacts has been added to Section 4.4 in Volume 2 of the FEIR in response to various comments (see the response to comment T1-25). Cumulative impacts are assessed in Chapter 6 of the DEIR. Additional mitigation measures have been added to Section 4.4 in the FEIR (see the response to comment T1-73).

T1-159	Responses to specific comments regarding the environmental issues analysis, including the cumulative analyses are presented in responses to comments T1-112 through T1-157 above. Due to the nonspecific nature of the comment, no further response is necessary.
T1-160	Tribal values are presented in Section 4.4.1.3 of the DEIR. Please also see the responses to comments T1-158.
T1-161	Please see the response to comment T1-73.
T1-162	Please see the responses to comments and T1-73 and T1-111 through T1-161 above.
T1-163	Section 4.4.3.3 of the DEIR provides a description and analysis of impacts on cultural values, and in the corresponding sections of Volume 2 of the FEIR the description and analysis have been expanded to address a larger area and more inclusive context (including landforms, water, plants, animals, and religious beliefs). Additional impact discussion has been added to Section 4.4.3.3 of Volume 2 of the FEIR, to make the analysis clearer in the same regard. See also the response to comment T1-25.
T1-164	Please see the response to comment T1-121. The issue raised by the commenter references processes outside of the DEIR. No further response is necessary.
T1-165	The issue raised by the commenter largely references processes outside of the DEIR. No further response is necessary. It should be noted that Cal/EPA has adopted a Native American communication protocol of its own; the Cal/EPA Policy Memorandum (Cal/EPA 2009) is discussed in Section 4.4.2.2 of the DEIR, and DTSC understands its obligation to reach independent and objective conclusions as required by CEQA.
T1-166	The commenter describes his experience and credentials that makes him qualified to review the DEIR and provide comments on behalf of the FMIT. This comment is noted and acknowledged, but does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
T1-167	Institutional controls are described in Section 1.2.3.5 of the DEIR and are part of the proposed project. These controls are intended to contribute to the success of the groundwater remedy and ensure that no exposure to contaminated groundwater occurs. These controls cannot be instituted until a remedy is selected.
T1-168	The commenter asks whether PG&E ran “any scenarios about the degree & type of interference due to hypothetical pumping scenarios, particularly at Park Moabi?” The groundwater model used to develop the remedial alternatives in the CMS/FS report (Appendix CMS to the DEIR) included the current pumping from Park Moabi well PM03, but did not attempt to evaluate any hypothetical pumping scenarios involving changes to current Park Moabi pumping locations and rates because there is no substantial evidence rendering any such changes reasonably foreseeable. Specifically, DTSC is not aware of any proposed new water supply well(s) in the Park Moabi vicinity, or any changes in pumping that would be of sufficient capacity to represent a potential detrimental effect on Alternative E hydraulic performance. There could be an infinite number of hypothetical scenarios associated with potential future well locations and pumping rates and as such, any modeling would be speculative and is not required by CEQA. (CEQA Guidelines, § 15204, subd. (a); see also subd. (c) (“[r]eviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments”).

The freshwater injection wells in the conceptual configuration of Alternative E are located between the chromium plume and Park Moabi (CH2M Hill 2009a:Figure 5-7A and Figure 5-7B). The conceptual freshwater injection rate for Alternative E is 500 gallons per minute (Section 3.5.1.2 of the DEIR). The estimated annual average pumping rate from Park Moabi is about 3 gallons per minute (6 acre feet per year [CH2M Hill 2006:2-13]). Even if Park Moabi were to increase its water use 10 fold, it would still be a small rate (an order of magnitude lower) compared to the proposed Alternative E freshwater injection rate of 500 gallons per minute. Even though none of the freshwater injection well locations in the conceptual design of Alternative E were chosen specifically for the purpose of mitigating hypothetical future Park Moabi pumping, the hydraulic influence of those wells could be employed as a hydraulic barrier to mitigate any effects of pumping from the Park Moabi area. In the event of proposed future development of new supply wells in an area near the site, the effect of such development would be assessed at that time in consideration of the institutional controls described in Section 3.5.1.5 of the DEIR.

- T1-169 As noted by the commenter, Tables 1-1 and 4.3-4 of the DEIR are best estimates of proposed project features, including replacement wells. In addition, Exhibit 3-4 of the DEIR provides a conceptual layout of the proposed remediation facilities and is not intended for final design and location purposes (see also Section 3.5.1.1). As stated in Section 3.5 of the DEIR, “The ultimate number and specific locations of the elements that make up the proposed project (e.g., remediation wells, monitoring wells, pipelines, freshwater intake locations, and associated infrastructure) have not been determined at this time and are dependent on the final remediation system design and changes to the design during construction and implementation.” The DEIR describes the combined program- and project-level analysis that is presented in the DEIR (see Sections 2.1.1 and 2.1.1.1). Pursuant to CEQA Guidelines Section 15168, a framework for future actions under the proposed project is allowed following program-level documentation. As stated in Section 2.1.1.1 of the DEIR, DTSC shall determine whether the specific design for the final remedy is within the scope of the program EIR, pursuant to the provisions of Section 15168 of the CEQA Guidelines.
- T1-170 Section 6.3.2.1 of the DEIR describes previous characterization studies, interim measures, and anticipated soil investigation and remediation activities. In particular, the soil remediation project, listed as project 1D in Table 6-3 and described in Section 6.3.2.1 of the DEIR, is considered a reasonably foreseeable future project, which is required for the cumulative analysis in CEQA documents. As stated in Section 15130(b) of the CEQA Guidelines:
- The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.
- At this time, sufficient detail of the future soil remediation project (project 1D in Chapter 6 of the DEIR) is known to be included in the cumulative analysis as required by CEQA Guidelines Section 15065(a)(3).
- T1-171 As stated in Section 3.5.4.5 of the DEIR, “IM-3 facilities that are not incorporated into the final remedial action are expected to be decommissioned following the determination that the facilities are not needed to meet remedial goals.” Proposed project features may include new injection and extraction wells, reductant storage facilities, and conveyance pipelines near the existing IM-3 Facility. These proposed remediation facilities would not be an expansion of the IM-3 Facility,

but rather required as part of the proposed project. Furthermore, the final location of new injection and extraction wells, reductant storage facilities, and conveyance pipelines would depend on final design, landownership, environmental conditions, safety, and feasibility. Exhibit 3-4 of the DEIR portrays a conceptual layout of the proposed remediation facilities for the proposed project and is not intended for final design and location purposes. Please also see response to T1-73 concerning Tribal participation during the final design process.

T1-172 The plan for abandonment of remedial facilities was discussed in Sections 1.2.4 and 3.5.4 (Decommissioning of the Proposed Project) within the DEIR.

The FMIT is correct that there are state regulations, guidelines, and standards in place for groundwater well decommissioning. The regulations are applicable to all groundwater wells onsite, but may differ from one well to another due to well type, construction design, etc. No operating wells are currently planned for removal. Assessment for well decommissioning will not begin until after the remedy is up and running. This would ensure that existing well(s) would be considered and utilized as an alternative to installation of new wells. Installation and decommissioning activities are described in Section 3.5.4.1 of the DEIR and its associated environmental impacts are included throughout the impact analysis in Chapter 4 (see Sections 4.1.3.3, 4.2.3.4, 4.3.3.3, 4.4.3.3, 4.5.3.3, 4.6.3.3, 4.7.3.3, 4.8.3.3, 4.9.3.3, 4.10.3.3, 4.11.3.2, and 4.12.3.3 in Volume 2 of the FEIR). Discussions with tribes regarding well decommissioning have occurred since the public notice period and additional discussion to address tribal concerns are planned.

T1-173 DTSC confirmed with PG&E that the well replacement estimates were appropriate as described in the DEIR and the Final CMS/FS. The actual number of replacement wells that will eventually be required depends on a number of factors that cannot be fully predicted at this time.

Information regarding operation and maintenance of replacement wells is included in the DEIR (Section 3.5.3) and in the Final CMS/FS (CH2M HILL 2009a:Section D.2.2.4, page D-50.). Replacement wells are wells installed during the groundwater remedy operation and maintenance period to replace wells that may become inoperable over time, such as through clogging or damage.

Injection wells, extraction wells, IRZ wells, and monitoring wells are key project features of the proposed project and are listed as such in Table 1.1 of the DEIR. Fouling of wells, particularly injection wells, through scaling, biological growth, corrosion, or gas entrapment would be anticipated to occur as wells are operated over the lifetime of the proposed project. Routine maintenance and periodic replacement of wells would be required to maintain functioning wells.

Well Rehabilitation

Preventative maintenance would be applied from the beginning of the life cycle of a well system to control the processes that can result in well performance deterioration. Processes leading to performance deterioration include scaling, biological growth, corrosion of well materials, deterioration or damage of well seals, and gas entrapment. At the compressor station, decreased performance of injection wells has been observed in injection wells used to reinject treated water from IM-3 and has been attributed to the precipitation of manganese oxides and gas entrapment.

Depending on the type of fouling encountered, a variety of mechanical and chemical rehabilitation options may be implemented. These treatment options, including the use of specialty chemicals, are included in the DEIR description of operation and maintenance in Section 3.5.3 and in the DEIR analysis of hazards in Section 4.6.

Replacement Wells

The DEIR assumes that all types of wells (i.e., injection wells, extraction wells, IRZ wells, and monitoring wells) would require replacement during the lifetime of the proposed project (see Sections 3.5, 3.5.1.1, 3.5.1.3, and 3.5.3). There are different options for well replacement, depending on the type and state of the well:

Replacement of entire well: The existing well would be abandoned and replaced with an entirely new well. The new well would be located close to existing well, within the areas currently designated in the EIR (see Exhibit 3-4). Unless the new well encountered different geologic conditions and/or has significantly smaller capacity than the well that it replaced, there would be no net change in the total number of existing wells. If the new well has significantly smaller capacity, it might be necessary to replace an existing well with two new wells under certain conditions.

Replacement of the well screen and filter pack: Wells may be designed with an inner and outer well casing that allows for removal of the screen assembly and replacement of the gravel pack. The screen would be pulled from the well, and the fouled gravel pack along with a few inches of the borehole wall would be drilled out using an underreaming drill bit. The gravel pack would be replaced and the screen would be cleaned and reused or replaced.

PG&E has assured DTSC that wells will be constructed and operated according to industry best practices to maximize well lifetime, which will limit the number of replacement wells required. Site experience with reinjection wells for treated effluent from IM-3 have shown deterioration in injection capacity over time likely due to chemical precipitation or air entrainment, with projected lifetimes on the order of 10 years. Extraction and monitoring wells will be less susceptible to fouling, and it is anticipated that they would require less frequent replacement. IRZ injection wells are likely more prone to fouling given the biological growth and changes in geochemistry (e.g., increased alkalinity and potential for reduced sulfide precipitation) induced by organic carbon injections and these wells may require more frequent replacement. Collectively, this site- and function-specific information will affect the number of wells to be replaced during the operation and maintenance period of the project. Therefore, DTSC has used PG&E's best and reasonable estimates on the number of replacement wells needed for analysis in the EIR.

- T1-174 Alternative E incorporates a series of extraction wells located near the Colorado River that will be designed to prevent the flux of potentially contaminated water to the river and assist in moving contaminated groundwater through the IRZ treatment zone planned along National Trails Highway. Extracted water may be amended with carbon substrate or other reductants and would be reinjected in the western portion of the plume to induce a hydraulic gradient to accelerate the rate of cleanup (see Section 3.5.1.1 of the DEIR). Even after the removal of Cr(VI) in floodplain groundwater, continued extraction is planned to enhance groundwater flow through the IRZ and thereby would still be beneficial by inducing a hydraulic gradient to reduce the cleanup timeframes. However, based on operational needs the extraction of these wells may not be necessary in the future and will be evaluated as part of the remedy review process.
- T1-175 The remedy was designed to be realistic and achieve cleanup within a reasonable time frame. In addition, concerns exist with contaminants flowing toward the Colorado River without safety measures to protect the beneficial uses of this valuable resource. For Alternative E, time to complete the cleanup is a function of the speed in which all the contaminant passes through the IRZ. For purposes of the Final CMS/FS and this EIR scenarios modeling intermittent pumping of the extraction wells was not deemed necessary. Concerns with reducing pumping and/or

eliminating the extraction wells and its affect on cleanup times can be assessed during remedy design.

In *Dry Creek Citizens Coalition v. County of Tulare* (1999) 70 Cal. App. 4th 20, 25, for example, petitioners claimed that “only precise engineering designs provide the necessary detail to analyze the environmental consequences of the entire project under CEQA.” (*Id.* at page 27.) The court rejected this claim, reasoning that CEQA only requires “a ‘general description’ of a project’s technical characteristics.” (*Id.* at page 28.) In reaching the conclusion that engineering plans were not required for the diversion channel, the court stated that such plans would likely include “extensive detail beyond that needed for evaluation and review of the environmental impact,” possibly in violation of CEQA Guidelines section 15124. (*Id.* at page 36.) The court advised that an “EIR must achieve a balance between technical accuracy and public understanding.” *Id.* at page 28 (citing discussion following CEQA Guidelines, Section 15147).

T1-176 Although the DEIR contains detailed conceptualizations of the proposed remedy that illustrate the design concepts and provide a basis for cost estimating, PG&E has not yet provided details regarding well installations. These details will be known when the final design is completed (and may also change during installation to reflect various factors). Changes in the actual number, location, and configuration of the extraction wells may occur to enhance performance of the remedy to attain the cleanup goals and to respond to site conditions and performance issues. Extraction well locations also will be determined in consideration of treatment efficiency, accessibility for construction, sustainable flow rates, operation and maintenance, topography, sensitive cultural and biological resources, and existing infrastructure. Extraction well target intervals will be selected based on lithology and observed Cr(VI) and byproduct distribution.

Extraction well construction details will be included in future design reports/work plans that will be available to FMIT for review and input as part of the Cultural Impact Mitigation Program, which is part of Mitigation Measure CUL-1a in Volume 2 of the FEIR.

T1-177 The potential extraction well configurations have the dual purpose of groundwater remediation and protection of the Colorado River. The upcoming phase of East Ravine groundwater characterization will provide additional data on the nature and extent of groundwater contamination and the data will be used to refine the conceptual extraction well configurations provided in the Final CMS/FS and DEIR. The design will balance the water quality protection needs with potential impacts associated with the remedy. The environmental impacts associated with these wells were addressed in Chapter 4 of the DEIR. See also the response to comment T1-176 above and response to comment I1-9 in Chapter 3, “Individual Comments and Responses,” of this FEIR.

T1-178 Although it is possible to perform groundwater extraction in the alluvial materials adjacent to the bedrock contamination in the East Ravine, data collected to date suggest that such pumping would be an inefficient means of capturing the chromium in groundwater contained within the bedrock formation. PG&E indicates that because of the low permeability of the bedrock, groundwater movement toward the alluvial wells would be very slow and it would likely take several years for chromium concentrations in bedrock to be affected by pumping in the alluvium. Groundwater model simulations for Alternative E suggest that it would take several decades for East Ravine bedrock groundwater to migrate to the nearby alluvial wells. As described in Section 3.5.1 of the DEIR, hydraulic control within the bedrock is proposed to be provided by a series of wells pumping within the bedrock, rather than in the alluvium. Details of well placement will be discussed during remedy design. Also see the response to comment T1-179 and response to comment I1-9 in Chapter 3, “Individual Comments and Responses,” of this FEIR.

- T1-179 As noted in response to T1-178, above, capture of the chromium plume in shallow bedrock by pumping from wells in the nearby alluvium may be an inefficient means of remediating chromium within the bedrock. Even if capture could be achieved by pumping from the alluvium, it may require a long time for the chromium in bedrock to be flushed through to the pumping wells due to the slow movement of groundwater in the bedrock.
- However, it may be possible to examine the effect of alluvial pumping directly by adopting a phased approach to the installation of bedrock wells. Such an approach would likely be developed during the remedial design phase, allowing sufficient time following the installation, testing and pumping of alluvial wells (near MW-59) to allow the drawdown to stabilize before assessing the hydraulic impact on bedrock groundwater. In the event that those alluvial extraction wells exert a sufficient degree of influence on bedrock groundwater, the phasing approach would represent a means to avoid further impacts from drilling extraction wells within the bedrock.
- T1-180 DTSC envisions the use of the same technologies as studied in the Final CMS/FS for the design of the final East Ravine groundwater remedy. Unless the remedial design causes impacts beyond those evaluated in the EIR, no additional administrative procedure is required beyond the review and approval of the design plans. The remedial design will be made available to the consultative working group members for review and comment prior to approval. Please also see response to comment I1-9 in Chapter 3, "Individual Comments and Responses," of this FEIR.
- T1-181 Section 3.5.4.1 of the DEIR details the procedures for well decommissioning under the San Bernardino County and the California Water Resources Department requirements. The procedures described in this section pertain to all types of wells. In addition to the techniques described in this section, overdrilling could also be used to decommission all types of wells including multiple completion and slant holes. Section 3.5.4.1 of the FEIR has been revised to include a description of the following:
- Standard well decommissioning procedures required by San Bernardino County and the California Water Resources Department would be followed for the decommissioning of all wells (including remediation and monitoring). This would ~~typically~~ generally include either perforating the well casing and filling the well with cement grout or overdrilling the well. With overdrilling, a drill rig (e.g., roto sonic, hollow stem auger, mud rotary) is used to drill out the entire length of well casing and associated well materials such as cement grout, bentonite seal, and filter pack sand. The diameter of the drill string is usually a couple inches greater than the original borehole to ensure all well materials are removed by this technique. The open borehole created by overdrilling is backfilled with sealing materials, typically cement grout, to effectively seal the hole and complete the decommissioning process. A support truck is required to supply the drill rig with necessary materials, including lengths of drill casing. Typically, the top 5 feet of casing (including the concrete vault, any above-grade monument or concrete pad and protective bollards) is removed during decommissioning, usually by excavating an area large enough and deep enough to allow workers to enter the excavation. The surficial soil excavated from the hole would typically be placed back in the hole shallow excavation as backfill; imported fill or other appropriate material would be added to the excavation to reach existing grade. The maximum area around a well that may be disturbed for excavation and restoration activities is estimated to be approximately 50 feet in diameter.
- Typical equipment that may be used for decommissioning injection and extraction wells includes drill rigs, support vehicles, backhoes, dump trucks, front loaders, cement trucks or trailers, and/or pump service trucks. The length of time required to decommission the

injection and extraction wells is anticipated to be between 1 day and 2 weeks per well depending on the location, depth, and size of the well. Some vegetation clearance may be necessary to accommodate equipment for the decommissioning activities.

IDW materials that would be generated during well decommissioning may include incidental trash, ~~the 5-foot-long~~ sections of steel or PVC casing that would be ~~cut off the top of the well~~ removed from the borehole, other well materials as described above, soils and some amount of groundwater mixed with cement residue. Incidental trash typically includes excess cement, empty cement and sand bags, pallets, empty drink and food containers, plastic sheeting, and other disposables associated with construction work. Incidental trash would typically be collected at the end of each shift and either hauled off at the end of the day or placed in dumpsters or roll-off bins that would be hauled off-site periodically by truck to an appropriate disposal or recycling facility. Piping and instruments in ~~the~~ well vaults would be decontaminated as appropriate and reused or disposed of as nonhazardous waste along with the additional incidental waste, or sold to a salvage company. Decontamination water or groundwater generated during the decommissioning operation would likely be processed on-site at the groundwater treatment facility and reinjected into the aquifer or transported off-site for processing to an appropriate waste receiving facility. The off-site facility likely would be in the Phoenix or Los Angeles areas, based on the disposal activities conducted to date at the Station. The concrete vault would be either removed intact or broken into pieces for subsequent disposal. The amount of investigation-derived waste materials that may be generated per well range from 5 to 20 cubic yards of solid waste, ~~and~~ up to 2,000 gallons of water. The volume of soil/grout cuttings when overdrilling is needed for well decommissioning would depend on the length of the well. The deepest existing monitoring well (MW-24BR, which has a total borehole depth of 442 feet) would generate approximately 11.5 cubic yards of waste materials and 2,300 gallons of water assuming a 12-inch overdrill. If drilling mud is used, it would also have to be appropriately handled and disposed.

These clarifications to the well decommissioning process do not alter the environmental analysis provided in the DEIR.

Discussions with the FMIT and Hualapai tribes regarding well decommissioning have occurred since the public notice period and additional discussion to address tribal concerns are planned. These tribes have requested that alternative well decommissioning techniques including the use of local soils be considered to address Tribal concerns.

- T1-182 Currently, there are no plans to decommission specific wells in the existing well network. In addition to their current use, the existing wells may potentially be useful for monitoring during implementation of the proposed remedy. Groundwater monitoring wells would be decommissioned following the determination that additional information from the wells would not be needed to evaluate attainment of the cleanup goals, which could occur prior to completion of the remedy at individual wells.
- T1-183 Please see the response to comment T1-182. To the extent feasible, the existing network of wells would be incorporated into the proposed remedy; however, if existing wells are not located in the proper location or configuration, new wells would be constructed for the final remedy, as described in Volume 2, Chapter 3.
- T1-184 The commenter is correct that the decommissioning of the interim measures, including IM-3, would be dependent on the successful construction and operation of the final remedy rather than a

subjective date. DTSC must be certain that there is no credible risk of contamination reaching the Colorado River before IM-3 can be decommissioned. DTSC understands the desire of the commenter that IM-3 be closed as soon as possible, and will do so once the protection of beneficial uses of the Colorado River can be assured.

- T1-185 DTSC agrees that a decommission plan for the IM-3 treatment plant can be prepared independent of the remedy construction and operation process. A work plan for the decommissioning and removal of IM-3 shall be a part of the Cultural Impact Mitigation Program, which will be part of the final Remedial Design Plan (see Mitigation Measure CUL-1a in Volume 2 of the FEIR).
- T1-186 Tribal input will be valuable in developing and implementing the IM-3 restoration and will be part of the Cultural Impact Mitigation Program, which is presented as Chapter 5 in Volume 2 of the FEIR. Simulation images identified by the commenter may be incorporated in this process. The potential schedule would follow the preparation of the draft decommissioning and restoration plan and occur prior to implementation of the decommissioning which would not occur until the remedy has demonstrated hydraulic control and confirmed that IM-3 is no longer needed. Please see the response to comment T1-184.
- T1-187 The suitability of incorporating existing IM-3 facilities apart from the treatment plant for use as components of the final remedy will be evaluated in the design phase of the remedy. Existing IM-3 facilities that are not to be incorporated in the final remedy will be available for decommissioning and removal upon the permanent shutdown of IM-3. Please also see the responses to comments T1-182 and T1-184.
- T1-188 The commenter summarizes the cost estimates provided in the Final CMS/FS for the proposed project and requests the opportunity to discuss the details of the estimates. As noted in the response to comment T1-186, DTSC anticipates that details regarding the final design for decommissioning and restoration of IM-3, along with associated costs, will be available to FMIT for review and input. Because this comment does not address the environmental analysis provided in the DEIR, no further response is necessary.
- T1-189 Please see the response to comment T1-26.
- T1-190 The involvement of tribal monitors as described in the DEIR has been modified in the additional mitigation measures developed as part of CUL-1a in Volume 2 of the FEIR (see detail on the Cultural Impact Mitigation Program). Please see the responses to comments T1-73 and T1-79.
- T1-191 The comment provides a summary of mitigation measures in Section 4.3 of the DEIR. The FMIT's concern over wildlife and vegetation are noted in Section 4.4 of the EIR and will be considered by DTSC during the decision-making process. No further response is necessary.
- T1-192 The comment does not raise any issues with the environmental analysis provided in the DEIR. No further response is necessary. The Cultural Impact Mitigation Program, which is part of Mitigation Measure CUL-1a in Volume 2 of the FEIR, includes the development of protocols to notify tribes in advance of out-of-character activities, which may include biological surveys. The Program may also include provisions affording tribal monitors to participate in scientific surveying that may occur in preparation for construction activities.
- T1-193 The commenter notes damage to areas by past and ongoing activities. In the comment, legal and illegal off-road transportation attracted to the area is cited as one factor which resulted in the damage. The damage by past illegal access to the area is beyond the control of DTSC. During recent years, illegal access has been curtailed through a variety of methods; however, neither

DTSC nor PG&E have the ability or authority to control access to the public lands surrounding the compressor station. The mitigation measures in the DEIR are intended to reduce construction-related impacts on soils to a level of less than significant. These measures apply to the construction, operations and maintenance, and decommissioning phases of the project. See also the responses to comments T1-25 and T1-94.

- T1-194 DTSC will continue to engage the tribes through the current CWG, Technical Working Group (TWG), Topock Leadership Partnership meetings and periodic project updates with the tribes. Tribal monitors will continue to be requested to participate in field activities, as discussed in the response to comments T1-73 and T1-192.
- T1-195 The commenter correctly notes that the BMPs and mitigation measures provided in Section 4.6 of the DEIR address regulatory standards and not the “desecration of sacred lands.” Section 4.4 of the DEIR describes these values within the project area, and provides mitigation measures intended to address related impacts. Employment of materials handling and spill prevention BMPs for hazardous materials are intended to limit impacts to all resources, including cultural and historic resources.
- T1-196 The commenter reiterates the planning and implementation of BMPs which will mitigate the potential for runoff, erosion, and siltation, as noted in Section 4.7 of the DEIR.
- T1-197 Please see the response to comment T1-194.
- T1-198 Section 4.9 of the DEIR addresses project-related changes to existing noise environment; in addition, Section 6.4.9 notes the cumulative noise impacts of past projects. Conflicts between the proposed project and existing Topock Cultural Area were identified in the DEIR, in Section 4.4.3.3 under Impact CUL-1a, relative to construction activities creating a noise impact on users of the Topock Cultural Area. Mitigation Measure NOISE-2 provides physical actions that would reduce noise levels attributable to the proposed project through the use of temporary barriers and best managing practices for the operation of construction equipment. Mitigation Measure NOISE-3 also provides a mechanism to promote effective communication between the project applicant and the Topock Cultural Area users. The purpose of Mitigation Measure NOISE-3 is to coordinate a mutually agreeable solution to the Topock Cultural Area users on days when spiritually significant events are scheduled to take place. The solution may take the form of work stoppage until the spiritual event is completed or by implementing temporary barriers for the reduction of construction noise levels.
- T1-199 During the preparation of this FEIR, PG&E provided supplemental information on the sources of electricity for the proposed project. Potential sources of electricity for the project would be supplemental power from the compressor station, small solar panels, or a dedicated portable diesel fuel or natural gas generator (approximately 320 kW). These sources of electricity may be used either individually or in combination to meet the electrical demands of the project when the City is unable to accommodate the additional demand (e.g., the interim period when IM-3 and Alternative E both remain operational and, particularly, during the summer months when electrical demand peaks or after storm events when electrical supply could be interrupted). Based on this information Chapter 3, Sections 4.2, 4.4, 4.9 and 4.11, and Chapter 6 have been revised in Volume 2 of this FEIR. Thus, there will not be any additional potential ground disturbing impacts on cultural resources from the placement of new permanent power poles. The DEIR has been revised accordingly.
- Section 3.5.1.4 of Volume 2 of the FEIR has been revised to include the use of generators as alternate sources of electricity:

Electric conduit and cable would be installed to supply communication and power to pumps and instrumentation and would typically be installed underground in the same location as piping. Wherever feasible, trenches would be dug to place utility connections underground, which would reduce wear from weather and vandalism. As with pipelines, a maximum of 50,000 linear feet of electrical and signal communications is expected to be required for project implementation. Wireless transmitters and receivers, like cellular or radio devices, may be used to communicate to remote areas that have little power demand, thereby reducing the amount of trenching required to install communications-related equipment. Small solar panels may be installed to provide supplemental power, or as a primary power source for a lower power demand, such as for instrumentation and communication systems (Exhibit 3-9). Using solar panels would minimize the need for conduit and pipeline to serve the electrical demands of smaller ancillary facilities. Other potential sources of electricity for the project may include supplemental power from the compressor station. Other sources also include a dedicated portable generator using diesel fuel or natural gas (approximately 320 kW) of similar size and model to the existing emergency backup generator used for IM-3 (Isuzu Model 6WG1X). These sources of electricity may be used either individually or in combination to meet the electrical demands of the project, particularly during peak demand periods when the City's electrical supply is interrupted by storm events or is at maximum production. This EIR assumes PG&E will continue to rely on the existing backup generator for IM-3, which was used for approximately 119 hours in 2009. This EIR also assumes that PG&E will rent an additional generator to serve both IM-3 and Alternative E during peak demand periods when the two may be required to operate, at least in part, simultaneously until Alternative E is proven effective and use of IM-3 is reduced and eventually taken offline and decommissioned. Because it is unclear at this time how soon Alternative E would become effective and IM-3 decommissioned, this EIR assumes use of the second backup generator for up to 4,700 hours per year at 190 kW demand. Once IM-3 is decommissioned, PG&E will continue to retain one backup generator on-site for use during any future interruption of the City's power caused by storm or other events.

A road network for accessing the existing network of monitoring wells runs throughout the project area. This road network would be used where feasible for construction and operation of the proposed project; however, additional roads would be required. A maximum of 6,000 linear feet of new roads could be needed throughout the project area, for both construction and long-term operation and maintenance of the proposed project. An access road would be required to provide service to each well. At some wells, a vehicle turnaround would be required. For wells where a turnaround is needed, the final disturbed area at each wellhead would be approximately 3,000 square feet. For wells located along an access road where no turnaround is needed, the disturbed area would be approximately 1,000 square feet. Access roads would be graded to create a smooth surface and proper drainage and would be routed with topographical and built structures and would consider sensitive natural resources. The roads would be maintained throughout the operation and maintenance period of the proposed project. Depending on their location, condition, frequency of use, and purpose, roads may be paved with asphalt, covered in gravel, or left unpaved. Following determination that the remedial or monitoring structure is no longer needed, the road would be closed and restored to preproject conditions. Proposed access routes and temporary staging areas for monitoring well areas within the East Ravine area are included in Figure 2 of the ERGI/TCS Addendum Work Plan and included in the refined proposed project. The access routes follow existing access areas and right of ways within the existing site. (See Exhibit 3-5 of this EIR and Figure 2 of Appendix ER) All but Investigation Site H in Figure 2 of the

ERGI/TCS Addendum are within previously disturbed areas. Site H would be located in a previously undisturbed portion of the East Ravine wash, which contains sparse vegetation and no identified historically significant resources despite additional surveys. The East Ravine investigation and monitoring activities will commence in the first half of 2011.

Section 4.2.1.6 (under Existing Sources of TACs) of Volume 2 of the FEIR has been revised to include this information related to generator use:

A rented generator (Isuzu Model 6WG1X) is used at the site of IM-3 for backup electricity and is permitted as California portable equipment through the MDAQMD (CH2M Hill 2006:1-4). The generator was used in 2009 for approximately 119 hours.

Table 4.2-7 of Volume 2 of the FEIR has been revised to present Stationary Source emissions and revised emissions for Total Unmitigated Emissions—2011:

Table 4.2-7 Operations-Related Regional Emissions of Criteria Air Pollutants				
Source	Emissions			
	ROG (TPY)	NO _x (TPY)	PM ₁₀ (TPY)	PM _{2.5} (TPY)
Mobile Sources	0.1	0.1	0.0	0.0
Stationary Sources	<u>0.70</u>	<u>9.27</u>	<u>.27</u>	<u>0.25</u>
Total Unmitigated Emissions—2011	<u>0.8</u>	<u>9.37</u>	<u>0.27</u>	<u>0.25</u>
MDAQMD Threshold of Significance	25 TPY	25 TPY	15 TPY	15 TPY
Notes: NO _x = oxides of nitrogen; PM _{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM ₁₀ = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; ROG = reactive organic gases; MDAQMD = Mojave Desert Air Quality Management District; lb/day= pounds per day; TPY = tons per year. Totals may not add up due to rounding. Refer to Appendix AQ for detailed assumptions and modeling output files. Source: Data modeled by AECOM 2010.				

Section 4.2.3.4 (under Stationary-Source Emissions) of Volume 2 of the FEIR has been revised to include this description:

The permit process would assure that all project-related stationary sources would be equipped with the required emission controls including approved BACT, and that, individually; these sources would not cause a significant environmental impact. The emissions from these sources would be additive to the estimated nominal mobile-source emissions discussed above. The project will include a single new primary 320 kW generator, of similar make and model of the existing generator (Isuzu Model 6WG1X). The generator is assumed to operate at 100% load (320 kW) for up to 5,700 hours per year to meet the additional interim power demands of the project during peak periods (primarily during the summer months), when the City's electrical supply system cannot provide the additional power required to implement Alternative E while IM-3 continues to operate or be phased out. Because it is unclear when, exactly, IM-3 will be taken offline, this analysis assumes a worst-case use of the generator at 5,700 hours per year for

both IM-3 and Alternative E until the remedy has proven effective and use of IM-3 Facilities is decreased until decommissioning occurs.

The emissions were estimated using the URBEMIS computer model and are presented in Table 4.2-7. At the time this document was prepared, the generator was to be rented from within California and will have emissions rates at or below than those presented in Table 4.2-7 as certified by ARB. Based on the fact that in order to receive a permit, stationary sources must meet applicable standards and the fact that mobile sources would be well below applicable thresholds (see Table 4.2-7); mobile and stationary operation-related activities would not result in project-generated emissions of criteria pollutants and ozone precursors that exceed the applicable thresholds. Thus, the proposed project would not violate or contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with air quality planning efforts. As a result, this impact would be less than significant. No mitigation would be required.

Section 4.4.3.3 of Volume 2 of the FEIR has been revised to include this description of potential ground disturbing activities:

Substantial adverse changes to archaeological, historical, and paleontological resources could result from ground disturbing activities necessary to construct, operate, or decommission the proposed project. Such activities may include but are not limited to:

- ▶ the installation, maintenance, and/or replacement of wells (injection, extraction, and construction of the IRZ), ~~the installation and maintenance of wells (injection, extraction, and construction of the IRZ);~~
- ▶ construction and maintenance of water conveyance pipelines and power lines, placement and maintenance of reductant storage facilities, and the presence of electrical generators.

Section 4.9.3.1 of Volume 2 of the FEIR has been revised to include the use of generators in this description of analysis methodology:

Potential noise impacts from long-term nontransportation (i.e., stationary) sources were assessed based on existing documentation (e.g., equipment noise levels) and site reconnaissance data. This analysis also included an evaluation of the proposed noise-generating uses that could affect sensitive receptors near the project site, including from the use of generators as described in Section 4.11 “Utilities and Service Systems”.

Section 4.9.3.3 of Volume 2 of the FEIR has been revised to expand the discussion of long-term operational-related nontransportation noise impacts:

The addition of one new 320 kW generator, as required by UTIL-1 for the interim period of potential cooperation of IM-3 and Alternative E, would also generate noise as a stationary equipment source. The new generator would be sited either within the Topock Compressor Station footprint or, if necessary, within other areas of the Topock Cultural Area including potentially within the IM-3 footprint (although the IM-3 footprint would be avoided if feasible out of respect to tribal members who frequent the area). The generator would be small enough to be shielded by on-site structures, natural topography, or permanent noise enclosures to reduce visual and noise effects on receptors. The existing generator (Isuzu model 6WGIX) can generate noise up to 74 dB(A) at 23 feet

and 68 dB(A) at 46 feet. The new generator would be the same or similar model and would generate the same noise levels. These noise levels are lower than the typical noise levels from construction-related generators, as indicated in Table 4.9-12 (81 dB[A]), and the generators are not anticipated to result in a significant adverse impact on the nearest sensitive receptor because of the distance between the potential locations of the generator and receptors (e.g., single-family residence in Arizona). Noise from localized point sources typically decrease by 6 dB to 7.5 dB with each doubling of distance from source to receptor when propagated over land and by 5 dB to 6 dB with each doubling of distance from source to receptor when propagated over water. Although tribal members who frequent the area and recreationalists on the river could potentially notice the additional noise from the generator, the impact would not be significant. Thus, operation of water filtration facilities, generators or wells within the project area would not result in a permanent increase in ambient noise levels relative to existing sensitive receptors in the project area above levels existing without the project or consequently expose persons to or generate noise levels in excess of applicable standards. As a result, this impact would be less than significant.

Section 4.11.1.2 of Volume 2 of the FEIR has been revised to address action taken to compensate for electrical outages at the IM-3 Facility:

Natural gas used at the compressor station is drawn from the pipeline itself. The IM-3 Facility does not currently use natural gas. ~~Southwest Gas Company would serve the IM-3 Facility if gas were required and has existing lines adjacent to the compressor station (Russell, pers. comm., 2009).~~ IM-3 has experienced periodic electrical outages using the City's distribution system, primarily during lightening storms and secondarily from equipment failure. While the electrical outages are infrequent, IM-3 is configured with a diesel-fueled emergency generator, which provides sufficient electricity to continue the operation of IM-3 during an outage. In 2009, PG&E used the existing backup generator approximately 119 hours. PG&E plans to continue to maintain an emergency generator for IM-3 during the operation of the proposed project (PG&E 2010).

Section 4.11.3.2 of Volume 2 of the FEIR has been revised to reflect changes due to the addition of a generator:

IMPACT UTIL-1

Potential to Require or Result in the Construction of New Facilities for the Generation or Transmission of Electrical Power That Would Have Significant Environmental Effects.

*Operation of the proposed project would require up to 1.6 million kilowatt-hours of electricity annually. This electricity would ~~either be generated on-site using a dedicated portable diesel-fuel generator or in combination with supplemental power from the compressor station and/or small solar panels~~ would be provided by the electrical supply and delivery system for the City of Needles. Because the source of electricity ~~and delivery system~~ for the proposed project has ~~not~~ been identified, impacts associated with the proposed project's electrical demand would be **potentially less than significant**.*

Operation of the proposed project (primarily energy needed to move water through the remediation system) would require up to 1.6 million kilowatt-hours of electricity annually. The City of Needles currently supplies the compressor station and IM-3 Facility with electricity via its electrical distribution system. PG&E is a commercial customer. During the past year, the compressor station and the IM-3 Facility required approximately 1.8 million total kilowatt-hours. According to the City, although the line operates at one-third capacity in cooler months, during the hotter months, when electrical

demand is at a peak (4 to 5 months of the year), the line operates at maximum capacity and becomes unreliable. The City has stated that the existing electrical line would not be able to accommodate up to 1.6 million additional kilowatt-hours that could be required for the proposed project, if, for example, energy use from the IM-3 Facility cannot be immediately reduced during operation of the proposed project. DTSC has determined that an interim monitoring period will be required to ensure the effectiveness of the proposed Alternative E remedy, during which time IM-3 will be required to continue operating in some capacity. Once the remedy has proved effective, DTSC will direct PG&E to begin decommissioning of the IM-3 Facility. Currently, the City does not have plans to upgrade or expand its electrical facilities (Lindley, pers. comm. 2010).

During the preparation of the EIR, PG&E provided supplemental information on how electricity would be supplied for the 1.6 million additional kilowatt-hours needed to serve the proposed remedy while IM-3 continues operating. Potential sources of electricity for the proposed project would be supplemental power from the compressor station, a dedicated portable diesel fuel generator (approximately 320 kW), or small solar panels. These sources of electricity would be used either individually or in combination to meet the electrical demands of the project (PG&E 2010). Therefore, because PG&E has adequate sources of electricity available from on-site sources, the impacts would be less than significant. No mitigation is required.

~~It is possible that the proposed project would generate electricity on site using natural gas fired generators that would draw fuel from the existing gas pipeline. If it is determined that the construction of new gas fired generators on site is necessary, they would be located within the project boundary. It is also possible that the proposed project could have an electric demand greater than what can be produced on site, thereby requiring additional electric supply from the City of Needles. The amount of energy that would be supplied by the City of Needles, if any, is unknown at this time. However, if the demand is great enough, the system may require upgrades to improve reliability or expand capacity (generate additional electricity) from the City of Needles, which may result in environmental impacts. Because the final remedy, engineering details and implementation schedule associated with the final remedy have yet to be identified and adopted (and because the effectiveness of the proposed project and continued need for IM 3 is uncertain at this time), selection of the source of electricity for the proposed project and the delivery system has not been made. The specific environmental impacts associated with the proposed project's demand for electricity therefore remain undetermined. Because the extent of demand is not known, impacts related to energy demand are considered **potentially significant. (Impact UTIL-1)**~~

Mitigation Measure UTIL-1: Potential to Require or Result in the Construction of New Facilities for the Generation or Transmission of Electrical Power That Would Have Significant Environmental Effects.

~~The proposed project would require additional electrical power. If it is determined that the proposed project would require additional off site electrical supply, the project applicant shall coordinate with the City of Needles to provide for the continued maintenance, development, or expansion of electric systems to the project site necessary to accommodate the project demand, which is estimated at 1.6 million kilowatt hours of electricity annually for the proposed project, in combination with the 1.8 million kilowatts used to power the IM 3 Facility, for a total of approximately 3.4 million kilowatts of electricity annually until IM 3 is decommissioned or significantly reduced. If~~

~~it is feasible to reduce reliance on the IM-3 Facility and thereby reduce its associated energy demands, while phasing implementation of the final remedy, the additional energy demands of the project could possibly be met through on-site generation.~~

~~Timing: During design and prior to construction, provide funding for the development or expansion of electric systems from the City of Needles if required to implement the final remedy.~~

~~Responsibility: PG&E shall be responsible for the implementation of this mitigation measure. DTSC would be responsible for ensuring compliance.~~

~~Significance after Mitigation: This impact would be reduced to **less than significant** after mitigation because sufficient energy supplies would be fulfilled through either phasing of remedial activities and on-site electrical generation or negotiated with the City of Needles prior to the construction and implementation of the proposed project.~~

Table 6-4 of Volume 2 of the FEIR has been revised to include stationary-source emissions and other changes:

Table 6-4 Summary of Modeled Greenhouse Gas (CO₂e) Emissions	
Source	CO ₂ e Emissions
Direct and Indirect Operational Emissions	metric tons/year¹
Mobile-Source Emissions	23
<u>Stationary Source²</u>	<u>1131</u>
Energy Consumption ³	585
Total Annual Emissions	<u>1739</u>

Section 6.4.2.3 of Volume 2 of the FEIR has been revised with an expanded discussion of climate change and the potential effect of an additional generator:

Local Regulations

San Bernardino County has adopted a series of policies designed to achieve a balance between development and environmental stewardship called Green County San Bernardino. Two of the policies include use of renewable energy and resource conservation. The San Bernardino policies are written to achieve, and if possible exceed, the measures proposed in AB 32.

As shown in Table 6-4 above, emissions from new mobile and stationary sources of GHG's associated with the proposed project would be ~~well below~~ adopted most of the proposed GHG significance thresholds (~~see-discussed~~ above). The existing and proposed standards and thresholds are presented above to help build a better understanding of where the various regulatory agencies are regarding regulations and guidance of GHG emissions. If a threshold from an air district were to be used by the MDAQMD, the most applicable would be the SCAQMD is part of San Bernardino County is within the jurisdiction of this adjoining air district, and the County policies have been developed to participate in the regional compliance with AB-32. The proposed project is being

implemented to remove Chromium VI from groundwater. This is consistent with San Bernardino County's policy to achieve compliance with AB 32 through resource conservation as remediation of the existing groundwater would potentially avail the groundwater for other uses in the future. Generally, it is important to note that 19% of the total energy consumed in the State of California is used to move water, maximizing the geographic range over which freshwater can be found for use in the state minimizes the need to move more water over greater distances. PG&E anticipates being able to offset some of the energy demands of the project with solar panels; however, to be conservative, this EIR did not assume use of solar panels when calculating the potential air emissions from the project. PG&E's intent to use solar panels would be consistent with County policy. The GHG emissions are below the existing adopted applicable thresholds. The BAAQMD operational threshold of 1,100 MT CO₂e/yr for development projects does not apply to the proposed remediation project.

The GHG emissions from the proposed project would add to the overall GHG emissions for the state and the planet as a whole. As identified in Section 4.2, ("Air Quality") and under a worst-case scenario, the proposed project, including the use of an additional generator for up to 5,700 hours per year at 320 kW (to serve Alternative E during peak electrical demand periods and when the IM-3 Facility is still in use), would not generate GHG emissions (either direct or indirect) in such quantities as to result in a significant adverse impact on global climate change. Because it is unclear at this time how long Alternative E and the IM-3 Facility would need to be operational, this DEIR has conservatively assumed 5,700 hours per year of generator use throughout the life of the project. Therefore, implementation of the proposed project would not result in a substantial net increase of short-term construction or long-term operation-related GHG emissions from mobile or stationary sources. Thus, project-generated emissions would not result in a cumulatively considerable net increase of GHGs. This cumulative impact would be less than significant.

The following paragraph of Section 6.4.11 of Volume 2 of the FEIR has been significantly revised to include the operation of the generator:

An estimated 1.8 million kilowatts are consumed by the compressor station and the IM-3 Facility. The City of Needles currently supplies the IM-3 Facility (1L) with electricity via their electrical distribution system. PG&E is a commercial customer. A rented generator (Isuzu Model 6WG1X) is used at the site of IM-3 for backup electricity and is permitted as California portable equipment through the MDAQMD (CH2M Hill 2006:1-4). The generator was used in 2009 for approximately 119 hours. During preparation of the FEIR, PG&E provided supplemental information on how electricity would be supplied for the 1.6 million additional kilowatt-hours needed to serve the proposed remedy while IM-3 continues operating. Potential sources of electricity for the proposed project would be supplemental power from the compressor station, a dedicated portable diesel-fuel generator (approximately 320 kW), small solar panels, or a combination thereof. These sources of electricity would be used either individually or in combination to meet the electrical demands of the project (PG&E 2010). Therefore, because existing and proposed sources can meet the cumulative electricity demand of the overall project, impacts would be less than significant to existing infrastructure. ~~With regard to electricity, operation of the proposed project (primarily energy needed to move water through the remediation system) would require up to 1.6 million kilowatt hours annually, in combination with the estimated 1.8 million kilowatts that are consumed with the past project IM-3 Facility. The City of Needles currently supplies the IM-3 Facility (1L) with~~

~~electricity via their electrical distribution system. PG&E is a commercial customer. It is possible that the proposed project would generate electricity on-site using natural gas-fired generators that would draw fuel from the existing gas pipeline. If it is determined that the construction of new gas-fired generators on-site is necessary, they would be located within the project boundary. It is also possible that the proposed project could have an electric demand greater than what can be produced on-site, thereby requiring additional electric supply from the City of Needles. The amount of energy that would be supplied by the City of Needles, if any, is unknown at this time. However, if the demand is great enough, the system may require upgrades to improve reliability or expand capacity (generate additional electricity) from the City of Needles, which may result in environmental impacts. These impacts would need to be considered in light of anticipated projects that are expected to be served by the City of Needles. Because the extent of demand is not known, impacts related to electrical generation are considered potentially significant. Mitigation Measure UTIL-1 would reduce this potentially significant impact to a less than significant level~~

- T1-200 The comment does not raise any issues with the environmental analysis provided in the DEIR. No further response is necessary. Tribal input on the design and implementation of the final remedy will be part of the Cultural Impact Mitigation Program, which is part of Mitigation Measure CUL-1a in Volume 2 of the FEIR.
- T1-201 As discussed in response to comment T1-199, PG&E would provide on-site electricity for the proposed project. Implementation of the proposed project would not result in primary or secondary environmental effects related to additional growth.
- T1-202 DTSC is not aware of any proposed private well development at this time, at Park Moabi or elsewhere, that would provide the basis for any assessment of interference from other wells; such interference is necessarily dependent on the location and capacity of any proposed well, and there are no specific proposals that form a basis for such analysis. There could be an infinite number of scenarios associated with potential future well locations and pumping rates and as such, any modeling would be speculative and without a realistic basis on potential future private well development. As discussed in response to comment T1-168, the groundwater model used to develop the remedial alternatives in the Final CMS/FS report did include the current pumping from Park Moabi well PM03, but it did not attempt to evaluate any hypothetical pumping scenarios, as the lack of any known plans to develop additional wells prevents the derivation of necessary input for any modeled assessment. Further, as discussed in response to comment T1-168, it is unlikely that the volume of water pumped for domestic supply at Park Moabi would be large enough to affect the performance of Alternative E. The estimated annual average pumping rate from Park Moabi is about 3 gallons per minute (6 acre feet per year [CH2M Hill 2006:2-13]). Even if Park Moabi were to increase its water use 10 fold, it would still be a small rate (an order of magnitude lower) compared to the proposed Alternative E freshwater injection rate of 500 gallons per minute (CH2M Hill 2009a:5-31). Even though none of the freshwater injection well locations in the conceptual design of Alternative E were chosen specifically for the purpose of mitigating hypothetical future Park Moabi pumping, the hydraulic influence of those wells could be employed as a hydraulic barrier to mitigate any effects of pumping from the Park Moabi area. In the event of proposed future development of new supply wells in the area near the site, the effect of such development can be assessed at that time.
- T1-203 The substantive language suggested by the commenter has been added into the text in the appropriate locations in Section 4.4 and in other areas in the document that reference Section 4.4. These changes are presented in Volume 2 of the FEIR.

- T1-204 The commenter's opinion regarding the implication of the term "physical improvements" is noted and will be considered during the decision making process for the proposed project. The comment does not raise any specific concerns with the environmental analysis provided in the DEIR. No further response is necessary.
- T1-205 Impacts on the cultural landscape within the Topock Cultural Area are addressed under Impact CUL-1 in Section 4.4.3.3 of the DEIR. The "previously disturbed" areas are considered to be those areas disturbed prior to the issuance of the NOP. Ultimate project siting will utilize previously disturbed areas to the maximum extent possible, but it is not the intention that all previously disturbed areas will host project facilities by virtue of the areas being disturbed; only those facilities necessary for remediation will be constructed and installed. A restoration plan associated with decommissioning is part of the additional cultural resources mitigation measures (see the response to comment T1-73).
- T1-206 As stated at the beginning of Section 2.1 of the DEIR:
- Remediation of contaminated groundwater at the compressor station is being conducted under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). Both RCRA and CERCLA are federal laws. RCRA provides a framework for the U.S. Environmental Protection Agency (EPA) to remediate hazardous waste sites in the U.S. This authority under RCRA, however, can be delegated to states. In California, DTSC implements RCRA under such delegated authority from the federal EPA through state law. The selection and approval of a final corrective action to remediate the contaminated groundwater at the compressor station is a discretionary action that will be made by DTSC.
- CERCLA Section 121 requires cleanups to meet ARARs: any "legally applicable or relevant and appropriate standard, requirement, criteria or limitation" that has been promulgated under federal or state environmental laws. The ARARs include such things as the federal and State "Safe Drinking Water Act" and the Solid Waste Control Act's land disposal restrictions. The mitigation measures in the EIR note the CERCLA process, since DTSC is delegated the authority from the federal EPA through State law to implement the clean up at the project site.
- T1-207 As described under Impact Noise-3 in Section 4.9.3.3 of the DEIR, the noise impact on the Topock Cultural Area is considered to remain significant and unavoidable after mitigation. The project's aesthetic resource impacts were evaluated consistent with the requirements of CEQA in Section 4.1, "Aesthetics," of the DEIR. Aesthetic impacts regarding their relevance to cultural resources (including the Topock Cultural Area) have been added to Section 4.4.3.3 in Volume 2 of the FEIR. Please also see the responses to comments T1-25 and T1-73.
- T1-208 As part of the development of additional mitigation measures (see the response to comment T1-73), a more formalized monitoring protocol has been developed for tribal involvement in project implementation.
- T1-209 The proposed project's direct, indirect, and cumulative impacts, as well as those of the project alternatives described in Chapter 8 of the DEIR, are evaluated based on the best available data, modeling, and level of infrastructure that was included in the Final CMS/FS (Appendix CMS of the DEIR). The cost estimates that were included in the Final CMS/FS were not used in the DEIR because they do not influence the environmental analysis required by CEQA and the CEQA Guidelines; however, the costs were considered by DTSC for feasibility of project implementation.

When DTSC evaluated the range of possible Alternatives A through I, it determined that Alternative A: “No Action” was not an acceptable remedy based on California regulatory requirements or CERCLA criteria because DTSC could not approve an alternative that would result in the current groundwater remedy being turned off and contaminants being allowed to begin migrating towards the Colorado River. Thus, it was removed from the list of possible alternatives analyzed in the DEIR. Further, for analytical purposes, Alternative A was also considered not representative of existing environmental conditions as the commenter suggests. As stated in the DEIR, Section 15125 requires an EIR to include a description of the physical environmental conditions in the vicinity of the project as they exist at the time the NOP is published. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. In this case, that baseline is the current operation of IM-3 activities.

Further, consistent with CEQA, the DEIR examined possible alternatives to the project above and beyond those proposed by PG&E in the list of Alternatives A through I (with A being rejected for the reasons stated above), and provided an evaluation of a “No Project” alternative that addresses impacts of DTSC not approving any of the proposed alternatives. In this scenario, this meant continuing baseline environmental conditions that included IM-3 activities. Under CEQA, one of the alternatives required to be analyzed in an EIR must be the so-called “no project alternative.” This alternative: “Shall... be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether proposed project’s environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline” (CEQA Guidelines, Section 15126.6, subd. [e][1]) (see also CEQA Guidelines, Section 15125).

“The ‘no project’ analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services” (CEQA Guidelines, Section 15126.6, subd. [e][2]). The approach used above in the EIR is considered consistent with CEQA, the implementing Guidelines and established case law. (see *Dusek v. Anaheim Redevelopment Agency* (1986) 173 Cal. App. 3d 1029 [upholding the no project alternative analysis despite technical defects because the public had not in any way been misled or defrauded; the decision makers had not been deprived of any information; and adverse environmental effects had not been ignored, misstated, or underestimated])

DTSC disagrees with the statement that this approach does not account for the pre-2004 baseline and does not comply with the terms of the Settlement Agreement between the FMIT and DTSC. As stated above, the DEIR evaluated the impacts of the project on environmental conditions existing at the time the NOP was issued as provided by CEQA above. Regarding the settlement agreement, DTSC feels the analysis of pre-2004 conditions contained in Chapter 7 of the DEIR meets the intent and spirit of that Agreement (see Section 7.2, “Biological Resources Analysis,” and Section 7.3, “Cultural Resources Analysis”). (See Settlement Agreement, page 5 [“In the event that the proposed final remedy for the Topock Site includes locating or retaining any equipment or installation on the IM-3 Site, DTSC will, in exercising its discretion regarding any such equipment or installation, and in compliance with applicable laws and regulations, including but not limited to CEQA, evaluate the significant environmental effects on cultural and biological

resources on the IM-3 Site based upon the environmental setting as of January 2004, to the maximum extent permitted by CEQA”].)

T1-211

The “significant change” referred to in this comment is not clear to DTSC. The assumptions underlying the conceptual design and implementation of the proposed project are presented in Section 3 of the DEIR. The project description was provided to tribes over a conference call, before issuance of the DEIR, on April 15, 2010. The DEIR was also provided to tribes approximately 1 month before the official beginning of the public comment period so that additional clarifications could be made for tribes prior to the beginning of the public comment period. Environmental justice is generally defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. Meaningful involvement means: (1) potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health; (2) the public’s contribution can influence the regulatory agency’s decision; (3) the concerns of all participants involved will be considered in the decision making process; and (4) the decision makers seek out and facilitate the involvement of those potentially affected. (see <http://www.epa.gov/compliance/resources/policies/ej/ej-toolkit.pdf>, November, 2004; see also California Government Code, Section 65040.12.)

Environmental justice is not an impact on the physical environment because that term is defined under CEQA (CEQA Guidelines, Section 15360):

“Environment” means the physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance...The “environment” includes both natural and man-made conditions.

To the extent the commenter implies there has not been full compliance with the concerns of the tribes and that this is an environmental justice issue, DTSC disagrees. However, significant and unavoidable environmental impacts are identified in Section 9.1.3.2 of the DEIR, which are considered environmental justice impacts as they disproportionately accrue to Native American stakeholders in the region.

T1-212

The spread of estimated costs shown in Table D-6 of the Final CMS/FS report encompasses the specified range of cost uncertainty. As identified in this table, the estimated present value of Alternative E is \$132 million, with a low range estimate of \$92 million and a high range estimate of \$198 million. The low to high range corresponds to the -30% to +50% uncertainty range. The \$184 million value noted in the full text of comment T1-212 is the nominal cost, which is an undiscounted summation of project costs. This comment addresses details of the proposed project and not environmental analysis contained in the DEIR. No further response is necessary.

T1-213

The cost estimates as presented in Appendix D to the Final CMS/FS report are based on the operation and maintenance periods outlined in Table D-25, which correspond to the “mid range” estimates of cleanup times as described in Appendix G to the Final CMS/FS report, followed by a long-term monitoring period. This comment does not address the environmental analysis provided in the DEIR, no further response is necessary.

- T1-214 The comment provides a summary of the years for various phases of the proposed project. The comment does not raise any specific concerns with the environmental analysis provided in the DEIR. No further response is necessary.
- T1-215 The duration of each phase of the proposed project is considered throughout the environmental impact analysis and required mitigation measures that are found in the DEIR. Implementing the proposed project would require the mitigation measures in the FEIR be enforceable through the MMRP. As stated in CEQA Guidelines Section 15126.4(a)(2), “mitigation measures must be fully enforceable through permit conditions, agreements, or other legally binding instruments.” Thus, if the project is approved by DTSC, the MMRP would assist DTSC in its duty to legally enforce the required mitigation measures throughout the lifetime of the project, as appropriate.
- T1-216 The Remedial Action Objectives (RAOs) identified in the Final CMS/FS (CH2M Hill 2009a:3-7) and in the DEIR (Section 1.2.2) do not include direct reference to “reasonable time frame”; however, California State Water Resources Board Resolution 92-49 is an *Action Specific ARAR* (CH2M Hill 2009a:3-5 and Table 5-5). The “reasonable time frame” identified in California State Water Resources Board Resolution 92-49 III. A. to achieve RAOs must be considered in the comparative analysis of alternatives. As noted in the comment, this is also noted in the DEIR under Sections 1.2 and 8.7. The estimated durations to achieve the RAOs under Alternative B, Monitored Natural Attenuation of approximately 540 years (5 pore volumes) and up to 2,200 years (20 pore volumes) are not consistent with the ‘reasonable time frame’ requirement of Resolution 92-49 and thus Alternative B was rejected in the Final CMS/FS evaluation and in the DEIR evaluation.
- T1-217 Monitored Natural Attenuation (MNA) was rejected as a stand-alone remedy (Alternative B) based on a range of factors, as summarized in the Final CMS/FS Section 5 (CH2M Hill 2009a:Table 5-5), which include time to reach RAOs, short-term effectiveness as well as the reliance on the naturally reducing conditions in the fluvial materials along and beneath the Colorado River. The extent and reductive capacity of these naturally occurring organic-rich reductive materials remain an estimate. These naturally occurring organic-rich reductive materials are not present throughout the project area and, therefore, migration of the contaminated groundwater to the naturally occurring reductive zone is necessary for conversion of Cr(VI) to Cr(III). The long-term interval for migration of the Cr(VI)-affected groundwater results in an estimated 220 to 2,200 years to reach the RAOs.
- Inclusion of MNA as a component to Alternative E, as described in Chapter 3, “Individual Comments and Responses,” of the DEIR, allows for incorporation of the naturally occurring reductive zone to supplement the engineered components of the IRZ and floodplain extraction well network. The engineered solution, supported by MNA, reduces the estimated duration to reach RAOs to a period of 10 to 110 years.
- MNA may aid in the remediation of locally recalcitrant areas where local hydrogeologic conditions may limit reductant delivery and distribution. MNA plays a key role within the naturally occurring reductive zone.
- Inclusion of MNA as a remedy component does not necessarily indicate that the timeframe to reach RAOs would extend beyond a reasonable timeframe. Inclusion of MNA is a common remedial strategy to supplement the engineered alternative both during operation and after shut-down of the engineered alternative during the postremediation monitoring. The operation of the engineered alternative is intended for factors such as hydraulic control and/or mass removal in order to be protective of sensitive receptors and to reduce the duration of cleanup.

- T1-218 Please see the response to comment T1-217 describing why MNA was rejected as a stand-alone remedy, which also applies to the cleanup of the groundwater in the East Ravine.
- T1-219 The commenter identifies herself as the FMIT Project Manager for the Topock Remediation Project, and offers these comments on behalf of the Aha Makav Cultural Society. The comment does not raise any issues with the environmental analysis provided in the DEIR. No further response is necessary.
- T1-220 The commenter states “that the DTSC, Federal representatives and PG&E will need to make amends” for the destruction of the FMIT religious landscape. DTSC endeavors to protect human health and the environment without discrimination through our actions while respecting all peoples’ beliefs. The comment does not raise any issues with the environmental analysis provided in the DEIR. No further response is necessary.
- T1- 221 DEIR includes a discussion of FMIT values with regard to the proposed project area. For example, please see Section 4.4.1.3, under “Fort Mojave Indian Tribe,” and Section 4.4.3.1 under “Topock Cultural Area.”
- T1-222 Information presenting tribal viewpoints from the FMIT are presented in Section 4.4.1.3. The natural healing powers of the area are also discussed in Section 4.4.1.3, specifically under “Fort Mojave Indian Tribe.”
- T1-223 DTSC acknowledges receipt of these additional materials and addresses them below in the responses to comment T1-227. The comment does not raise any issues with the environmental analysis provided in the DEIR. No further response is necessary.
- T1-224 The area surrounding the project location has been determined to be a historical resource under CEQA, acknowledging the tribal viewpoints presented in Section 4.4.1.3 of the DEIR, as well as the tribal viewpoints referenced in Section 4.4.3.1. The impact to this resource has been determined as significant and unavoidable as described in Section 4.4.3.3.
- T1-225 Please see the response to comment T1-73. While a two-page (not one-page) transmission of information was originally made on July 20, 2009, FMIT made it clear that additional information from the DEIR would be necessary to provide adequate comment. Additional information was provided to FMIT on October 6, 2010. This information was considered adequate by FMIT for comment. Indeed, comment letter T2 provides comments on this DEIR information.
- T1-226 Please see the response to comment T1-73.
- NOTE:** The April 16, 2010, letter from Nora McDowell-Antone, included in letter T1 between comments T1-226 and T1-227, is responded to as T2 below.*
- T1-227 DTSC appreciates the historical and ethnohistorical background included in this comment and is, along with other public comments, adding it to the EIR record. With regard to cumulative impacts, an analysis of cumulative impacts is addressed in Chapter 6 of the DEIR. Regarding the request for additional mitigation measures, the EIR team has made revisions to Mitigation Measure CUL-1a, requiring additional Tribal review of design documents, monitoring provisions, and funds for continued tribal involvement in the final remedy design. These additional measures can be found in Volume 2 of the FEIR.
- T1-228 The commenters state their affiliation with the FMIT and that they have been offering comments via several different venues. The commenters express concern that Topock project would impose on the practice of their religion and the desecration of their sacred lands. DTSC recognizes and appreciates the commenters’ input in the public participation process. DTSC endeavors to protect

human health and the environment without discrimination through our actions while respecting all peoples' beliefs.

- T1-229 The comment does not raise any issues with the environmental analysis provided in the DEIR. However, similar values have been presented in the DEIR in Section 4.4.1.3, as well as in Section 4.4.3.1. Cumulative impacts are presented in Chapter 6 of the DEIR.
- T1-230 Cumulative impacts, including the impact of these past projects within the project area, are addressed in Chapter 6 of the DEIR, and in particular in Section 6.4 as they relate to impacts on the Topock Cultural Area.
- T1-231 Please see the response to comment T1-73.
- T1-232 The comment does not raise any issues with the environmental analysis provided in the DEIR. However, similar values have been presented in the DEIR in Section 4.4.1.3, as well as in Section 4.4.3.1.
- T1-233 Please see the response to comment T1-73.
- T1-234 This comment is a signature sheet for Topock DEIR comments. The comment does not raise any issues with the environmental analysis provided in the DEIR. No further response is necessary.
- T1-235 The commenter identifies themselves as the Fort Mojave Vocational Rehabilitation Director. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- T1- 236 The commenter's request for MNA (Alternative B) to be approved is noted. Please see the response to comment T1-217 describing why MNA was rejected as a stand-alone remedy.
- T1-237 It is the belief of DTSC that the impacts associated with the proposed remedy will not infringe on any of the rights referenced in the cited excerpt from the *United Nations Declaration on the Rights of Indigenous Peoples*. The preservation of Tribal access to the area surrounding the project is addressed in Mitigation Measure CUL-1a, in Section 4.4.3.3 of the DEIR. Additional mitigation measures have been developed regarding tribal access (see the response to comment T1-73).
- T1-238 The comment does not raise any issues with the environmental analysis provided in the DEIR. No further response is necessary.
- T1-239 The commenter opposes Alternative E as the proposed remedy but does not raise any issues with the environmental analysis provided in the DEIR. As noted in the response to comment T1-217, natural attenuation, relied on by itself, is not responsive to the purpose and need of the project.
- T1-240 The commenter opposes Alternative E as the proposed remedy but does not raise any issues with the environmental analysis provided in the DEIR. As noted in the response to comment T1-217, natural attenuation, relied on by itself, is not responsive to the purpose and need of the project.
- T1-241 The commenter opposes Alternative E as the proposed remedy but does not raise any issues with the environmental analysis provided in the DEIR. Natural attenuation, relied on by itself, is not responsive to the purpose and need.
- T1-242 The commenter states that the purpose of this letter is to summarize the issues of concern raised during the May 27, 2010, meeting at Fort Mojave Indian Tribal Council in Needles, California.

This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.

- T1-243 Please see the responses to comments T1-173 and T3-3 regarding replacement wells
- T1-244 The DEIR provides a sufficient representation of visual simulations considering the potential aesthetic impacts of the proposed project and the conceptual site plan (see Exhibit 3-4 and Exhibit 4.1-7). Additional visual simulations are not deemed necessary, since the 14 key views, as shown on Exhibit 4.1-7, are representative of the required infrastructure for the proposed project.
- T1-245 Consideration for aesthetic effects to cultural viewers has been addressed in Sections 4.1 and 4.4 in Volume 2 of the FEIR.
- T1-246 While CEQA does not consider an “area of potential effects,” a term used in federal processes, the project area presented in Exhibit 3-4 is considered to be the area properly encompassing impacts on cultural resources described in Section 4.4 of the DEIR. Please see the response to comment T1-126.
- T1-247 Please see the response to comment T1-39 regarding construction of wells in the rights-of-way of the roads surrounding the project site. Please see the response to comment T1-244 regarding visual simulations. Cultural mitigation measures have been revised in the FEIR to address tribal cultural concerns; however, performance standards are not included in the cultural resources mitigation measures, since they are not applicable to these particular mitigation measures. These revisions can be found in Section 4.4.3.3 in Volume 2, of the FEIR.
- T1-248 The importance of the water to the FMIT and the FMIT’s preference for Alternative B—Monitored Natural Attenuation are noted; these opinions will be considered during DTSC’s decision making process for the project.
- T1-249 DTSC acknowledges the tribal members’ view regarding any disturbance as hurtful and affecting a sacred site. As a participant on the Cal/EPA Native American Advisory Committee, DTSC will continue to assist in the development of policies that can be used as guidance to its boards, departments, and offices on cultural resource impact thresholds and how sacred sites are generally treated for projects subject to their approval.
- T1-250 The “holes” presented on the project footprint in Exhibit 3-4 are not meant to imply that only certain archaeological locations are considered “important,” but merely indicate the areas where proposed remediation facilities may be located under a final design.
- T1-251 Please refer to the response to comment T1-95 regarding a management plan for ACECs.
- T1-252 Please see the response to comment T1-73. As part of the Cultural Impact Mitigation Program, culturally appropriate methods to reduce out-of-character noise impacts shall be included. Please see the revised Mitigation Measure CUL-1a in Volume 2 of the FEIR.
- T1-253 The related projects that were considered for the cumulative noise analysis are described in Section 6.4.9 of the DEIR. The assessment of cumulative noise impacts was performed at a local scale. Noise is generated from an activity that is in turn experienced by receptors close to the noise source. In the case of the compressor station, noise from the plant is experienced in the immediate vicinity of the plant. Noise from the compressor station activities comprises a component of the overall noise environment in combination with other noise sources in the area, such as traffic noise from I-40 and train operations on the Burlington Northern and Santa Fe railway line.

As described in Table 6-3 of the DEIR, projects that would be situated in the vicinity of the compressor station are evaluated as part of the cumulative noise analysis. This includes PG&E projects at the station (1A, 1B, 1D, and 1E), Quarry Operations (2C), and the improvements projects at Moabi Regional Park Improvements (5A), Topock Marina (7A), Pirate Cove Resort (5B), and the cathodic protection system (9A). These projects all have the potential to generate noise in the vicinity of the compressor station.

- T1-254 Please see the response to comment T1-73.
- T1-255 DTSC will require an updated cost estimate from PG&E for financial assurance as part of the final remedy design. However, PG&E cannot provide a detailed cost estimate until the mitigation measures are stipulated and in place for the final remedy.
- T1-256 Please see the response to comment T1-73.
- T1-257 Details concerning mitigation and future tribal monitoring relevant to the impacts of the proposed project have been added to Section 4.4 in Volume 2 of the FEIR (please see the response to comment T1-73).
- T1-258 Assembly Bill 2641 amends PRC 5097.91 and 5097.98. PRC 5097.9, which includes these PRC sections, is described in Section 4.4.2.2 of the DEIR. Additional information referencing the PRC 5097.91 and 5097.98 has been added to Section 4.4.2.2, Volume 2 of the FEIR.
- T1-259 Please see the response to comment T1-73.
- T1-260 “Fair Share” fees were considered while formulating additional mitigation measures (see the response to comment T1-73). However, it was ultimately decided that mitigation measures with a clear nexus to environmental changes brought about by the proposed project were more appropriate in this case and established a stronger precedent for similar projects affecting eligible historical resources under CEQA.
- T1-261 The comment reiterates the concern voiced by the tribal members’ present at the meeting on May 27, 2010, that Alternative I conflicts with the provisions of the Settlement Agreement. The concern is noted and has been considered by DTSC and AECOM staff. As the tribe is aware, the Settlement Agreement between the tribe and DTSC (December 2006) provides (Settlement Agreement, page 5, subd. II[C].):
- In the event that the proposed final remedy for the Topock Site includes locating or retaining any equipment or installation on the IM-3 Site, DTSC will, in exercising its discretion regarding any such equipment or installation, and in compliance with applicable laws and regulations, including but not limited to CEQA, evaluate the significant environmental effects on cultural and biological resources on the IM-3 Site based upon the environmental setting as of January 2004, to the maximum extent permitted by CEQA.

As explained more thoroughly in Response to Comment T1-108 above, the EIR’s consideration of Alternative I (No Project Alternative/Continued Operation of Interim Measure) was required to include a description of the existing environment at the time of the NOP under CEQA. (See CEQA Guidelines, Section 15125, Section 15126.6, subd. [e][1] “The ‘no project’ analysis *shall* discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services” (CEQA

Guidelines, Section 15126.6, subd. [e][2]). Regarding the analysis of the proposed project (Alternative E) the analysis contained within the DEIR assumes a pre-IM-3 baseline for biological and cultural resources consistent with the terms of the Settlement Agreement (Section 7 of DEIR).

- T1-262 Please see response to comment T1-261 above.
- T1-263 The commenter expresses concern over the range of the cost estimates provided in the Final CMS/FS for the alternatives, because there is no final design for project remedy. The comment does not raise any specific concerns with the environmental analysis provided in the DEIR. No further response is necessary. Please see response to comment T1-255.
- T1-264 Any facilities added to the approximately 100-acre IM-3 parcel in conjunction with the final remedy would be installed and constructed in compliance with the easement granted to PG&E for the construction and operation of remediation facilities on that parcel. The easement is provided for by the agreement to transfer ownership of the IM-3 parcel to the FMIT, which in turn is incorporated in the Settlement Agreement. The Cultural Impact Mitigation Program, which is part of Mitigation Measure CUL-1a in Volume 2 of the FEIR, will include protocols for the involvement of tribes (including, presumably, FMIT) during the project design.
- T1-265 DTSC is not obligated under CEQA or the implementing guidelines to provide FMIT with a copy of the admin FEIR, portions thereof, or responses to comments received on the DEIR prior to the final remedy decision. However, DTSC is obligated to provide written responses to any agency that submitted comments on the DEIR at least 10 days prior to certifying the FEIR (PRC, Div. 13, Chap.1, Sec. 21092.5(a)).
- T1-266 The commenter states that the dialogue with FMIT will continue with a meeting July 6, 2010. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- T1-267 This comment is a letter from DOI to Courtney Ann Coyle responding to her October 6, 2009, correspondence to the NRHP eligibility of the Topock Maze. This comment does not address specifically the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- T1-268 The environmental documents, public agreements, and memorandum of agreements referenced in this comment have been consulted and additional mitigation measures have been developed when a clear nexus with the proposed project can be established. Please see the response to comment T1-73.
- T1-269 This comment is presented in support of comment T1-15. Please see the response to comment T1-15.
- T1-270 This list of documents associated with the proposed project is presented in support of the previous comments in letter T1 and does not raise any issues with the environmental analysis provided in the DEIR. No further response is necessary.

FMIT (revised based on conference call of March 11, 2010)

Ethnographic Literature

The Mojave are a Yuman-speaking people whose core territory, according to the ethnographic literature, included a main settlement area centered on the Colorado River corridor north of the Bill Williams River. While their main settlements were in the Mojave Valley north of present-day Needles, they travelled widely across the desert and had place names for locations from as far east as Prescott Valley into the Los Angeles basin. According to Kroeber (1959), the region of core Mojave occupation extended on both sides of the lower Colorado River from south of Davis Dam to Topock. By the mid-19th century, however, Mojave settlements had extended both north and south, including Cottonwood Island to the north, and the Chemehuevi and Colorado valleys to the south (Stewart 1969:265–286). The historical record suggests the Mojave were encountered by the Juan de Onate Spanish expedition as far south as the present Colorado River Indian Reservation in 1604 (Stewart 1969), and intermittently controlled areas as far south as Palo Verde (Kroeber 1959). Modern Mojave consultants indicate that three somewhat distinct geographic groupings of clans were recognized: a northern group in the Davis Dam vicinity, a middle group in the Mojave Valley, and a southern group south of Needles. Sherer (1965:8) describes their settlement area thusly:

Their river holdings stretched from Black Canyon, where the tall pillars of First House of *Mutavilya* loomed above the river, past *Avi kwame* or Spirit Mountain, the center of spiritual things, to the Quechan Valley, where the lands of the Indians began. Translated into present landmarks, their lands began in the north at Hoover Dam and ended about one hundred miles below Parker Dam. Their tribal name was *Aha macave*, meaning the people who lived along the water (the river).

Habitation patterns and types ~~duringat~~ the ~~ethnographic past~~time of contact with Europeans typically consisted of flat-topped shade structures during the summer months and low, rectangular, sand-covered structures during the winter months. The roofs were typically covered with arrowweed thatch, upon which a thick layer of muddy sand was created for insulation (Kroeber 1925:731–735). T2-1

Subsistence for the Mojave was dependent partially on agriculture, with crops such as maize, tepary beans, pumpkins, and melons forming the foundation of the diet. Maize was by far the most principal of all the crops, however, with a family typically clearing between 1 and 2 acres. Silt deposited by river overflows fertilized the fields, while women did most of the planting and cultivation (Stewart 1983:58). Wild plant gathering augmented agriculture production, with women gathering cactus, wild seeds, and screwbean. Fish was the most important protein source for the Mojave, with dip nets, drag nets, traps, and large basketlike scoops used to catch fish out of the river (Stewart 1957).

The Mojave successfully resisted Spanish attempts at colonization and maintained traditional lifeways and political systems until the U.S. military gained control of the area in the 1850s. A group of Mojaves moved south of Parker in 1859 and additional Mojave settled there when the Colorado River Indian T2-2
1

Tribes Reservation was founded in 1865. Many Mojave though remained in Mojave Valley. The Fort Mojave Reservation was founded there in 1870.

T2-2
con't.

The Mojave religion ~~placed~~ places special emphasis on the experience of and interpretation of dreams, with dreams affecting nearly all facets of life and behavior. Stewart (1983:65) states:

T2-3

Mohave religion featured an unusual conception of dreaming, which was in fact a pivotal concept in their culture as a whole, permeating almost every phase of Mohave thought and endeavor. All special talents and skills, and all noteworthy successes in life, whether in warfare, lovemaking, gambling, or as a shaman, were believed to be dependent upon proper dreaming.

Kroeber (1925) noted that dreams often were experienced in close connection with tribal history and mythological traditions. *Kroeber (1963) stated that,

T2-4

There is the further peculiarity in Mohave-Yuman narratives that the stories and songs are first dreamed, and it is the dreamer who then sings and tells his dream, and in this way his listeners learn the songs and at least parts of the narrative. . . . It is reserved to these Colorado River peoples to dream their entire literary corpus. To them, dreaming is moving back in time and in understanding to the beginnings of things when gods walked the new earth. They participate in the events and feelings and beliefs of those days by way of the dream, so that even the creation of the world may become part of the dreamer's own experience . . .

T2-5

It is possible - it has been done - to pinpoint on a modern geodetic map of the Colorado River area of California and Arizona the villages, the scenes of wars, the mountains, the passes, the springs, and the desert washes which are named and described in such a dreamed myth, even to tracing in detail the routes of long migrations made in mythical times . . .

This accuracy, this lingering and savoring of place and event in story is, of course, something the Mohave like to do today next best to actually travelling to familiar but distant places within their own land . . .

Oral traditions for the Mojave people are generally rich with detail, with mythical occurrences commonly associated with identifiable places and landmarks. Mojave stories typically recount journeys and/or the transformation of mythical persons into animals or landmarks (Stewart 1983). Many stories are part of traditional song cycles, and the landmarks identified in the stories include those within traditional Mojave territory as well as places in the surrounding region (Kroeber 1925). Additionally, Mojave tradition involves the naming of clans. Clan names were given by *Mutavilya*, The Creator, based on aspects of the natural world, including (but not limited to) the sun, rain, small birds, the coyote, prickly pear cactus, and the frog. According to oral tradition, each clan went in different directions from *Avi kwami* (Spirit Mountain) after receiving their name. Each clan has a song commemorating the journey and various encounters experienced during that journey. According to Kroeber (1925) Mojave traditional culture is extraordinarily shaped by the tribe's historical narratives.

~~The Mojave resisted successfully resisted Spanish attempts at colonization and maintained traditional lifeways and political systems until the U.S. military gained control of the area in the 1850s. A group of Mojaves moved south of Parker in 1859 and additional Mojave settled there when the Colorado River Indian Tribes Reservation was founded in 1865. Many Mojave, though remained in Mojave Valley. The Fort Mojave Reservation was founded there in 1870.~~

T2-6

Literature Regarding the Topock Maze Area

A very significant place within the project area is the Topock Maze and the surrounding landscape. According to Earle (2005), the Topock Maze—also referred to historically by non-Indians as “Mystic Maze”—is a large geoglyph of piled gravel windrows of dark desert-pavement terraces, approximately 13 miles southeast of Needles, California, to the west and northwest of the PG&E Station. The windrows are made of large pieces of gravel that are typically darkly stained by “desert-varnish,” which is a naturally occurring chemical transformation of exposed rock surfaces that largely depends on geological and atmospheric factors. Each windrow is comprised of piled gravel. The maze is comprised of a series of parallel rows, some of which may intersect and curve slightly across the landscape, spanning minor drainages. As stated above, the Topock Maze is not physically a maze at all, as it does not have a beginning, end, or “solution” per se.

The Topock Maze is ~~currently comprised of~~viewed by non-tribal archaeologists as comprising three separate locations, typically referred to by archaeologists as Loci A, B, and C. Locus A is the largest of the loci (17.7 acres) and is located west of the Station, south of Interstate 40. Loci B (9 acres) and C (6 acres) are located north of the Station near the Interim Measure 3 (IM-3) Groundwater Extraction and Treatment Facility (IM-3 Facility), on the east and west sides of Bat Cave Wash, respectively. Locus A is thought by archaeologists to contain the best preserved rows. Historical testimony suggests that a large, anthropomorphic geoglyph, as well as a cairn shrine, were part of a complex of cultural features in the vicinity of Locus A at Topock. Loci B and C are smaller and have experienced a higher level of disturbance than Locus A, but windrows are still visible in these areas. According to the draft report by Earle (2005), the rows at Locus B show more variation in their alignments than at Locus A, while some rows at Locus C are almost completely gone, leaving only the faintest hint that rows once existed. The evidence suggests , and interviews with the Mojave confirm, that all maze loci and nearby geoglyphs form a complex suite of an associated cultural complex that has been ~~partially destroyed~~disturbed to varying degrees by the construction of the railroad, interstate, ~~and~~ various other linear features in the area, and by ORV activity. As discussed below, members of the Fort Mojave Indian Tribe indicate that the maze as understood by archaeologists is only part of the maze as they understand and value it; the tribally valued property includes the disturbed inter-locus areas as well as surrounding lands, and is linked conceptually and spiritually to other landforms in the area.

T2-7

T2-8

T2-9

T2-10

T2-11

The origin of the Topock Maze has been disputed by some, with arguments supporting a Native American origin, while others have suggested that the maze is a byproduct of railroad construction between 1888 and 1893 (cite SBCM report). There is also disagreement as to its age or how it was created. Those arguing for an origin related to the construction of the railroad typically cite a single

T2-12

T2-13

memo from a railroad engineer in 1891 that describes the collection of gravel into windrows by Mojave workers, prior to the gravel being hauled and used to support a bridge caisson. Photographic evidence of the bridge construction, interviews with railroad workers from the time, and statements from Needles residents present at the time of the bridge construction all suggest, however, that the maze was present prior to bridge construction, even if portions of it were later collected for ballast or support (cite SBCM report and Earle).

Interviews conducted by Kroeber with Mojave tribal members in the early 20th Century did not highlight a strong cultural interest in the Topock Maze, but these interviews cannot be considered definitive. At least one observer suggested that the origin might be attributed to a tribe that had lived in the area prior to the Mojave, perhaps the Maricopa (Earle 2005). Other interviewees, however, suggested that the Mojave would use the maze (regardless of its ultimate prehistoric origin) to purify themselves by running through the maze or by navigating through the maze without walking over a windrow, leaving evil spirits or ghosts in the maze. (There are also ethnographic reports that reference the sending of tribal decedents down the River and through the Maze area). Interviews conducted with Fort Mojave Indian Tribe representatives for this EIR as part of the NACP suggest that it would not be proper for them to say who made the maze. Earle indicates that the ultimate constructors of the maze are unknown to him, as there are no known his research did not identify stories, songs, or tales that relate directly to its construction; however, Tribal interviewees believed believe that the maze is of ancient origin and of deep cultural importance to the Mojave people People.

Regardless of its origin or age, the Topock area and the many other intaglios and geoglyphs in the region (including those within the project site area) seem to be an integral part of the Mojave worldview. Earle (2005) outlines the many other intaglios in the region, as well as many Mojave song cycles that speak of the Topock area (though not necessarily of the maze itself), and concludes that the Topock area is a key location for supernatural events and mythical feats for the Mojave. Despite an unclear apparent variances in the ethnographic record, the there is no dispute that Topock Maze is believed to form part of a geoglyph tradition for the lower Colorado River valley that has "its origin in the sacred song and story traditions of the prehistoric and historic Yuman-speaking cultures of the region" (Earle 2005).

Information Provided by the Fort Mojave Tribe

The following information was provided to the EIR team, either in correspondence from the Tribe or through meeting with designated tribal representatives:

- The FMIT has cultural resources affiliation with an expansive traditional territory extending from north of Las Vegas to the south as far as the Phoenix area, and East into Kingman, and as far West as Santa Barbara. The Tribe has lived within this area since time immemorial, and although Tribal lands are now confined to Reservations within the states of AZ, CA, and NV, the Tribe still has very strong cultural affiliation with their entire traditional territory.

- The FMIT has concerns about many areas of cultural and spiritual connection along the Colorado River valley. The Tribe's traditional beliefs about these areas are very important in defining tribal identity and are critical to how the Tribe continues to exist as a people.
- The Tribe is affiliated deeply with the land, plants and animals, air, and water of the region. The Tribe feels it has a duty or responsibility to be stewards of the historical land and the environment of the region. The tribe respects the land and the spirit of the place. They were put there by the Creator for a purpose. They've never severed their relationship with the land and the entire environment. T2-21
- The Tribe did not create and had no power to stop the contamination of the Topock area by others, but now it has to live with the consequences of that. The Tribe's religious and traditional beliefs are uniquely affected by the continued efforts to remediate the contamination. The Tribe is also uniquely affected in that it is the nearest tribe to the site and has reservation and fee lands in the area. T2-22
T2-23
- The protection of the Colorado River is the primary responsibility and concern to the Tribe, as well as downstream tribes, but the clean-up process should minimize impacts to traditional cultural resources. Residual data gaps may be acceptable to the Tribe, and decisions regarding the need for additional data acquisition should must be balanced by decision makers against further impacts on cultural resources, Tribal members and legal obligations to prevent or minimize such impacts. T2-24
T2-25
T2-26
- The Tribe has strong cultural ties to the Topock area. The Tribe's traditional songs are tied to the land on and surrounding the project site. The songs describe the Tribe's creation and history and provide guidance about the Creator's commandments about how to live life.
- Specifically, the area of the proposed project -- including but not limited to the "Topock Maze" as it is understood by archaeologists -- is critical to tribal cultural beliefs, especially those beliefs related to the afterlife, and the area should be treated with respect and acknowledged as sacred despite previous impacts and desecrations to the area. The Tribe still reveres the area today and wants to be able to conduct traditional religious activities in the area. T2-27
- According to Fort Mojave Indian Tribe representatives, the Topock Maze -- including the disturbed inter-locus areas as well as surrounding lands -- is the area where the spirits of the deceased ~~spirits~~ go to pass on to the next world. ~~It is also a~~ The Tribe has done as best it can to adequately describe the importance of this area in order to try and protect it, while acknowledging respecting the fact that it is culturally disrespectful to speak of the dead. There are impacts to the People, their spirits and their connection to their relatives when projects come into this area. T2-28
T2-29
T2-30
- The Tribe has expressed concerns that the project has and will continue to impact the burial practices, ceremonies and passage of Tribal members to the afterlife. T2-31
- The Topock Maze area is also a place to go for purification, for instance after engaging in warfare or in more modern times for other types of spiritual healing and strength. It is also a T2-32

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| <p><u>teaching area for Tribal youth. The Tribe has done as best it can to adequately describe the importance of this area in order to try and protect it, while respecting private matters. There are impacts to the People and their lifeways when projects come into this area.</u></p> | <p>T2-32
con't.</p> |
| <ul style="list-style-type: none"> • <u>The Tribe has expressed concerns that the project has and will continue to impact the Tribe's transmission of its cultural values to its youth.</u> | <p>T2-33</p> |
| <ul style="list-style-type: none"> • <u>The Maze area cannot be moved and the roles it plays cannot be bestowed upon some other location. The Creator put it here and it is not for us to change or move it.</u> | <p>T2-34</p> |
| <ul style="list-style-type: none"> • The approach to cultural resource management must fully consider the cultural value attributed by the Tribe to the entire landscape and its constituent parts (landforms, water, plants, animals, spiritual qualities, etc.), and not focus merely on the research value of specific sites that are of interest to archaeologists. | |
| <ul style="list-style-type: none"> • <u>The Tribe asserts believes that the entire Topock area is a traditional cultural property (TCP) that deserves protection. The TCP includes essentially the entire area under consideration in selecting the final remedy. —The Tribe</u> | <p>T2-35
T2-36</p> |
| <ul style="list-style-type: none"> • <u>The Tribe is also concerned about a larger scale cultural landscape along the Colorado River corridor from the Colorado River delta at least as far upstream as Hoover Dam.</u> | <p>T2-37</p> |
| <ul style="list-style-type: none"> • <u>The Tribe also believes an area larger than that which has already been listed on the National Register since 1978 is eligible for listing on the National Register of Historic Places and the California Register. To the Tribe, the Maze area is not just the three loci that are visible to archaeologists. But rather, a larger area that includes the spaces between the loci, the areas where the Maze physically once was and associated intaglios, both those still visible and those no longer present. The Tribe's view is that these areas within the larger landscape are interconnected. If you impact or sever one area, that it affects the whole. Like cutting off a limb, it can affect your well being and cannot be recreated. —The TCP includes essentially the entire area under consideration in selecting the final remedy.</u> | <p>T2-38
T2-39</p> |
| <ul style="list-style-type: none"> • Lithic scatters at Topock are important to the Tribe. There is an overwhelming sense of connection there. These sites are markers of what is still there, what remains of their ancestors. These sites deserve to be protected. | |
| <ul style="list-style-type: none"> • <u>The Tribe is concerned about a cultural landscape along the Colorado River corridor from the Colorado River delta at least as far upstream as Hoover Dam.</u> | <p>T2-40</p> |
| <ul style="list-style-type: none"> • <u>Tribal monitors continue to identify previously unrecorded archaeological sites and archaeological material in the field in and around the Topock remediation area. This indicates the potential need for additional cultural surveys with qualified Tribal monitors as the remediation project progresses.</u> | <p>T2-41</p> |

- Based on the importance placed on Topock as described above, this entire area is considered to be integral to the Tribe's traditional culture. If a desecration occurs to this area, there is no remedy that can fully mitigate it or fully undo that desecration. T2-41
- The Tribe expects that impacts in this area be as limited as possible. The Tribe believes that some groundwater and soil remediation technologies are more damaging than others and has and will comment on the alternatives. A ~~complete~~proper analysis of alternatives must include Tribal views on the relative impacts. Consultation between DTSC, its consultants, and the ~~tribe~~Tribe should occur regarding each and every alternative prior to the finalization of the EIR, as different alternatives may affect cultural resources differently. T2-42
T2-43
T2-44
- Consultation between DTSC, its consultants, and the Tribe should occur during remedy design and implementation and monitoring phases, as different project designs or refinements may affect cultural resources and the Tribe differently. T2-45
- The Tribe is concerned about ~~potential~~existing and additional visual impacts not only from the viewpoints of the general public but also from that of a Tribal person looking out from and toward the Topock Maze mesas while carrying out spiritual activities. The Tribe is also concerned about impacts on views of the river, the mountains, and other features of the landscape, which create a context for spiritual experiences. T2-46
T2-47
- The Tribe is concerned about ~~potential~~existing and additional noise impacts to the Topock TCP. The EIR should include an assessment of impacts of existing and expected noise sources on human receptors, including Tribal members who may be in the area engaging in cultural or spiritual activities. T2-48
- The EIR should contain a thorough assessment of the cumulative impacts on the Topock area TCP, which is considered to be a cultural and ethnographic landscape. The Tribe is very concerned about the impacts of the remedial investigations and interim measures that already have been installed at Topock, and thus, the cumulative impacts analysis should include any impacts since at least January 2004 that have occurred due to the groundwater and soils investigations and clean-up. Cumulative impacts would also include the development, operation, maintenance and repair of pipelines that took place in the past or are ongoing in the present, any plans related to the past or future construction or relocation of facilities at the PG&E Compressor station, power lines, highways, the railroad, ~~and~~ farming operations, urbanization, and recreational facilities and ~~uses~~uses, including the potential expansion of Park Moabi and the development of the Naked Pirate Cove Bar and Grill. T2-49
T2-50
T2-51
T2-52
T2-53
T2-54
- The Tribe has noticed that project operations have attracted people to the area which has caused environmental harm to resources. The Tribe is concerned about additional project operations further attracting more people into the area increasing the illegal OHV activity and trespassing. T2-55

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|---|-------|
| <ul style="list-style-type: none">• <u>The Tribe is concerned about having the capacity (staff, consultants and equipment) to sustain its level of involvement in project tracking, monitoring and making technical and policy input into the project for the life of the project which could be thirty years or more. The Tribe would also like to formally train Tribal members in such fields as hydrology, hydrogeology, cultural resource management, language and environmental sciences to help strengthen its in-house capacity.</u> | T2-56 |
| <ul style="list-style-type: none">• <u>The Tribe is concerned that open consultation did not occur regarding the cultural resource and related sections of the DEIR (i.e., impact determinations, mitigation measures) in that drafts of all the relevant sections were not provided to the Tribe for its review despite several requests by the Tribe. The Tribe is concerned that this could result in unnecessary delay in the DEIR review process.</u> | T2-57 |
| <ul style="list-style-type: none">• <u>The Tribe is concerned that the Earle report, commissioned by PG&E for a limited purpose yet cited many places in the DEIR text, is not authoritative, is a draft report only, and was written without benefit of interviewing the Mojave Tribal Council, the Ahamakav Cultural Society or other qualified Tribal members.</u> | T2-58 |
| <ul style="list-style-type: none">• <u>The Tribe does not believe ethnographic reports need to be done or referred to - that the agencies must trust the Tribe and take its beliefs as the authoritative view. In any case, the Tribe feels that the Ethnographic Literature sections as presented to them from the DEIR are not complete and do not reflect a comprehensive ethnographic report.</u> | T2-59 |
| <ul style="list-style-type: none">• <u>The Tribe is surprised and disappointed that no effort has been made to date as part of the final remedy by the lead agencies to consult with it on potential mitigation measures for the project's direct, indirect and cumulative impacts, despite the ongoing effort to draft a Cultural Resources Programmatic Agreement for the final remedy and subsequent design and operation. The Tribe is concerned this failure to timely consult could result in otherwise unnecessary project delays as these issues must then be addressed through the public review period. Because of the severe impacts this project has had and continues to have on the Tribe's sacred landscape and People, "standard" or "boilerplate" CEQA EIR mitigation measures alone will not be sufficient.</u> | T2-60 |
| <ul style="list-style-type: none">• <u>The Tribe is very concerned that despite its prioritization of this issue and settlement terms, that there appears to be no schedule or criteria established for decommissioning and removal of the IM3 treatment plant as part of the final remedy or its DEIR. Until it is removed, there will certainly be significant, continuing impacts to the Tribe that will require mitigation that must be addressed in the EIR.</u> | T2-61 |
| <ul style="list-style-type: none">• <u>The Tribe is especially concerned as DTSC repeatedly said that Tribal concerns would be thoroughly addressed in the DEIR. That is the reason they gave the Tribe for not fully or more directly addressing the Tribe's concerns earlier during the RI/RFI, CMS/FS and various work plans.</u> | T2-62 |

- Regulatory agencies are required under federal law and the recent settlement agreement to consult with the ~~tribe~~Tribe. Consultation must be understood to involve a direct discussion of issues and concerns of the Tribe, for the purpose of resolving such issues and concerns in a mutually agreeable way, and it must lead either to a documented agreement or formal disagreement that informs final agency decisions. T2-63
- The ~~tribe~~Tribe will be hosting a forum for tribal members to discuss the project. The ~~tribe~~Tribe would like the comments to be incorporated into the NOP process and to inform the EIR. T2-64
- All efforts must be made to avoid and minimize impacts on the cultural and spiritual values the ~~tribe~~Tribe ascribes to the landscape, air, and water subject to effect. T2-65
- The Tribe may prefer, if a choice must be made for project component location, for infrastructure to be placed within historic road instead of other previously disturbed locations or native soils. T2-66
- All efforts must be made to correct, restore and compensate for the damage that has already been sustained and the ~~tribe~~Tribe must be timely and meaningfully consulted on such matters. T2-67
T2-68
- The EIR must be consistent with the settlement agreement in *Fort Mojave Indian Tribe v. Department of Toxic Substances Control, et al.*, Sacramento Superior Court Case No. 05CS00437.
- The project must be consistent with, and the EIR must fully evaluate, Public Resources Code Sections 5097.9 and 5097.97 on project design and impacts on both state and federal lands.
- The Tribe wants ~~it in the admin~~DEIR, maps and the administrative record to reflect that the IM-3 facility parcel has been repatriated recently to FMIT ownership. This repatriation reflects the high value the Tribe places on this land area to its people. The Tribe believes that having cultural lands in Tribal ownership and/or management supports traditional cultural values and strengthens the Tribe. T2-69
T2-70
- The DEIR must be relevant for the People in the future. If it's a thirty year project, this EIR, its impacts analysis and mitigation measures should strive to be comprehensive and adequate for the time period of the remedy activities. T2-71

*(Theodora Kroeber, The Inland Whale, University of California Press, 1963, pages 193-194).

Nora McDowell-Antone suggested various revisions to the DEIR on behalf of the FMIT, labeled letter T2 herein, with the latest suggested changes made after a conference call on March 11, 2010. DTSC responds to FMIT's suggested revisions as follows:

- T2-1 The commenter suggests an appropriate grammatical change. This comment has been included in the DEIR and the change is presented in Section 4.4.1.1 of Volume 2 of the FEIR. This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-2 DTSC does not agree with the proposed movement of this paragraph to this location in the EIR because each of the other ethnographic descriptions closes with information regarding the establishment of tribal reservations. While the comment is grammatical, it neither adds nor detracts from the environmental analysis, and does not require further response.
- T2-3 The commenter suggests an appropriate grammatical change. This comment has been included in the DEIR and is presented in Section 4.4.1.1 of Volume 2 of the FEIR. This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-4 The commenter suggests an appropriate addition to the ethnographic information presented in this section. This comment has been included in the DEIR and the change is presented in Section 4.4.1.1 of Volume 2 of the FEIR. This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-5 The commenter suggests an appropriate addition to the ethnographic information presented in this section. This comment has been included in the DEIR and the change is presented in Section 4.4.1.1 of Volume 2 of the FEIR. This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-6 Please see the response to comment T2-2.
- T2-7 The commenter suggests an appropriate clarification on the perspectives of the Topock Maze. The spirit of the comment has been included and is presented in Section 4.4.1.3 of Volume 2 of the FEIR.
- T2-8 The commenter suggests an appropriate clarification. A similar clarification is already presented in Section 4.4.1.3 of the DEIR. The comment has not been adopted.
- T2-9 The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under "Inventory of Resources." This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-10 The commenter suggests an appropriate grammatical change. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under "Inventory of Resources." This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.

T2-11	The commenter suggests an appropriate clarification. A similar clarification is already present previously in Section 4.4, “Cultural Resources,” in the DEIR. The comment has not been adopted.
T2-12	While the comment is grammatical, it neither adds nor detracts from the environmental analysis and has not been adopted. However, please see the changes that have been made to this text in Section 4.4.1.3 of Volume 2 of the FEIR, under “Inventory of Resources.”
T2-13	The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Inventory of Resources.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-14	The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
T2-15	The commenter suggests an appropriate addition. A similar change to the text has been made and is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Inventory of Resources.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-16	The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
T2-17	The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
T2-18	The commenter suggests a clarification that is contrary to the established style guide. The comment has not been adopted.
T2-19	The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
T2-20	The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
T2-21	The commenter suggests an appropriate grammatical change. A similar change is already present in the DEIR. The comment has not been adopted.
T2-22	The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-23	The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-24	The commenter suggests an appropriate clarification. A similar clarification is already present previously in Section 4.4, “Cultural Resources,” in the DEIR. The comment has not been adopted.

T2-25	The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-26	The commenter suggests an appropriate clarification. A similar clarification is already present previously in Section 4.4, “Cultural Resources,” in the DEIR. The comment has not been adopted.
T2-27	The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-28	The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-29	The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-30	The commenter suggests an appropriate clarification. This comment has been substantively included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-31	The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-32	The commenter suggests an appropriate clarification. A change to the text has been made; however, some of the edits suggested are redundant and have not been included. This change has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-33	The commenter suggests an appropriate addition. This comment has been substantively included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-34	The commenter suggests an appropriate addition. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-35	The commenter suggests an appropriate addition. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave

Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.

- T2-36 The commenter suggests an appropriate clarification. A similar clarification is already present previously in Section 4.4 of the DEIR. The comment has not been adopted.
- T2-37 The commenter suggests an appropriate addition. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-38 The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-39 The commenter suggests an appropriate clarification. A change to the text has been made; however, some of the edits suggested are redundant and have not been included. This change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-40 The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
- T2-41 The commenter suggests an appropriate addition, as tribal monitors have reportedly discovered archaeological materials while overseeing other work conducted by PG&E in the area. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-42 The commenter suggests an appropriate clarification. This comment has been substantively included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-43 The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-44 The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-45 The commenter suggests an appropriate addition which has been substantively incorporated into the mitigation measures for the EIR (see Mitigation Measure CUL-1a). This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.

T2-46	The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.”
T2-47	The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-48	The commenter suggests an appropriate clarification. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-49	The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
T2-50	The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
T2-51	The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
T2-52	The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
T2-53	The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
T2-54	The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
T2-55	The comment regarding past project operations attracting additional people to the area is substantively included along with FMIT’s concern that future project implementation will also attract more people to the area. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-56	The commenter suggests an appropriate addition. This comment has been included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
T2-57	The insertion references the DEIR development process and does not present a concern about the overall environmental analytical approach. Please see the response to comments T1-73 and T1-224.
T2-58	The insertion references the DEIR development process and does not present a concern about the overall environmental analytical approach. Please see the response to comment T1-20.

- T2-59 The commenter suggests an appropriate addition. This comment has been substantively included in the DEIR and the change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-60 The insertion references the DEIR development process and does not present a concern about the overall environmental analytical approach. Please see the response to comment T1-73.
- T2-61 The insertion references the DEIR development process and does not present a concern about the overall environmental analytical approach. Please see the response to comment T1-73.
- T2-62 The insertion references the DEIR development process and does not present a concern about the overall environmental analytical approach. Please see the response to comment T1-73.
- T2-63 The commenter suggests that federal law and the settlement agreement requires resolution of FMIT’s concerns in a mutually agreeable way, which must lead to either a documented agreement or formal disagreement that informs final agency decisions. The comment is noted.
- T2-64 The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
- T2-65 The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
- T2-66 The commenter suggests an appropriate addition. This comment has been substantively included in the DEIR and is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-67 The referenced sentence has been deleted, and thus this comment no longer applies. The comment has not been adopted.
- T2-68 Please see the response to comment T1-73.
- T2-69 The commenter suggests an appropriate addition. This comment has been included in the DEIR and this change is presented in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-70 The commenter suggests an appropriate addition. This comment has been included in the DEIR and this change in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.
- T2-71 The commenter suggests an appropriate addition. This comment has been substantively included in the DEIR and this change in Section 4.4.1.3 of Volume 2 of the FEIR, under “Fort Mojave Indian Tribe.” This change does not alter the conclusions of the analysis in the DEIR and no further response is needed.

Letter
T3

- | | |
|--|------|
| 1. Don't you think the Cr-6 might have actually reached the river, but it was diluted by the large river volumes? If Cr-6 gets into the Colorado River, and the concentrations are below the 11 ppb standard, is that acceptable to DTSC or DOI? Is it acceptable to the Tribes? Is it a desecration to the river? Is it acceptable to the public? | T3-1 |
| 2. Stay away from the organic layer near the river. If you poke holes in it, and the Cr-6 goes through the organic layer, you really will have Cr-6 in the river. | T3-2 |
| 3. What will happen when the wells become clogged with calcite? Will you drill more wells? How many more? 300, 400, 500 wells – when will it end? Why not use the wells you already have, why drill more? Will you inject acid into the wells when they clog? Do the Council members feel that acid injections are a desecration? | T3-3 |
| 4. What do you mean by hypothetical future groundwater users? If institutional controls are placed on the land, there should not be any future groundwater users. | T3-4 |
| 5. Did the risk assessment consider Cr-6 uptake by plants and animals? The plants and animals are sacred to the Hualapai, and the plants are used in ceremonies. What are the Cr-6 concentrations in plants at the site compared to background? | T3-5 |
| 6. When Cr-6 is converted to Cr-3, arsenic, iron, and manganese will take the place of Cr-6. Do you know how much arsenic, iron, and manganese will be there? What about your hypothetical future groundwater users, won't they be exposed to arsenic, iron, and manganese? | T3-6 |
| 7. When the work is completed, how will you reclaim the land? How will you reclaim 400 drill holes into the ground? This is important to the Hualapai Tribe, and has not been discussed at all. | T3-7 |

- T3-1 As summarized in Section 4.7.1.2 of the DEIR, between July 1997 and October 2007 more than 700 surface water samples were collected from 43 locations as part of the activities for the RFI/RI (CH2M Hill 2009b:10-4), and surface water sampling has been, and is, continuing. Only one Cr(VI) detection (0.23 micrograms per liter [$\mu\text{g/l}$] in sample R-23; subsequently renamed SW-1) has occurred during this extensive surface water sampling program. This detection occurred in September 2008 at location SW-1 and was below the 11 $\mu\text{g/l}$ ARAR for protection of freshwater aquatic life (CH2M Hill 2009b: Table 3-1 [Federal Water Pollution Control Act (33 USC Sections 1251-1387, 40 CFR 131.38); Section 3.4 of the DEIR). The data collected from the other monitoring location along and downstream of the groundwater plume area also do not provide evidence of Cr(VI) migration into the river, or that there has been dilution by the Colorado River as suggested by the commenter.
- The 2009 monitoring of surface water in the Colorado River also did not detect Cr(VI) or total chromium [Cr(T)] in any surface water samples (CH2M Hill 2010:3-9). For 2010, quarterly surface water sampling is being conducted at 10 instream, four shoreline, and two additional locations concurrent with the groundwater monitoring events; a sampling event during a low-river stage will also be conducted between November 2010 and January 2011 (CH2M Hill 2010:3-10).
- DTSC and the DOI would be concerned about detection of Cr(VI) in the Colorado River at levels below the 11 $\mu\text{g/l}$ ARAR depending upon the distribution of detections, temporal persistence of impacts, and concentration trends. An isolated detection at a very low concentration, such as the single detection of 0.23 $\mu\text{g/l}$ in September 2008 at location SW-1/R-23, does not raise the level of concern that would exist if detections at multiple monitoring locations persisted over multiple monitoring events, particularly if concentrations were to increase in subsequent samples. The comprehensive groundwater risk assessment (GWRA) prepared for the proposed project also evaluated whether there could be significant transport of site-related constituents in groundwater to surface water via the alluvial aquifer. The GWRA concluded that the potential transport of constituents in groundwater to the Colorado River does not represent a potentially significant threat to human health as a transport pathway. (see page 10-1; see also Appendix K of GWRA)
- DTSC and DOI would be concerned if persistent or widespread Cr(VI) were detected in surface waters of the Colorado River. The proposed final remedy would reduce the potential for Cr(VI) in the groundwater plume at Topock to mix with the river.
- Please also see the response to comment I1-1 in Chapter 3, "Individual Comments and Responses," of this FEIR.
- T3-2 See the response to comment T7-7 regarding concerns that installation of wells within the fluvial organic-rich materials along the river would disrupt the organic layers and allow for migration of Cr(VI) into the river.
- T3-3 The potential for calcite precipitation to affect wells is discussed in the response to comment T7-12 and is summarized here.

As noted in Section 3.5.3 of the DEIR, routine maintenance and periodic well replacement would be required to maintain functioning wells for optimum remedial performance. Well rehabilitation activities include a range of mechanical and chemical treatments. For those wells that may be affected by calcite precipitation or other performance issues, combinations of brushing, surging, swabbing, pumping, and jetting used in conjunction with injections of hydrochloric, phosphatic, hydroxyacetic, or citric acids may be employed to remove the mineral deposits within the well and in its immediate vicinity. Procedures typically used in rehabilitation of wells, and which have been utilized in IM-3 well rehabilitation (CH2M Hill 2005), include:

- ▶ disassembling the wellhead and removing downhole equipment;
- ▶ collecting fouling deposits;
- ▶ video surveying the well prior to treatment to document the condition of the screen and casing;
- ▶ evaluating initial capacity of the well (e.g., through a slug or pumping test);
- ▶ mechanically cleaning the well and removing dislodged sediment/deposits;
- ▶ chemically cleaning the well and surging (typically chemicals are left in the well for 24 hours);
- ▶ bailing, surging, and pumping to remove solids and chemical reagents;
- ▶ neutralizing and disposing of cleaning fluids removed from well; and
- ▶ reevaluating the capacity of the well.

The Alternative E water injection would use water at the same ionic strength and pH of the groundwater at the injection well locations; therefore, minimal dissolution of calcite would occur, thus limiting any calcite transport and reprecipitation that could lead to well scaling and aquifer obstruction. Acid injections that have been necessary for maintenance of the IM-3 wells focus on issues related to the IM-3 treatment process. At IM-3, dissolved gasses become entrained in the aquifer as a result of the pump-and-treat process, decreasing the ability of the aquifer to accommodate water adjacent to the injection well and unrelated to the groundwater geochemistry. Because the water to be injected with the proposed project would use water with the same chemistry as the groundwater at the injection well locations, a lesser degree of acid injection is anticipated for Alternative E than is used in the maintenance of IM-3 wells. The potential use of acid as part of Alternative E well rehabilitation would create conditions that can dissolve mineral phases within the well bore and filter pack; however, the low pH would not persist for any significant distance away from the injection well and would be rapidly neutralized. Injected acid is recovered in a process that removes any chemical reagents that have not reacted from the aquifer. Mineral precipitates would be locally redistributed, but the net effect would negate any accumulation of precipitates in the immediate vicinity of the well.

The Final CMS/FS and DEIR (Exhibit 3-4) identify preliminary estimates for the number of remediation wells for Alternative E at approximately 18 dipolar-type IRZ wells, 9 extraction wells in the floodplain and northeast of the compressor station, approximately 15 bedrock groundwater extraction wells in the East Ravine, approximately 1 off-site freshwater production well, approximate 4 carbon-amended water injection wells, and approximately 4 freshwater injection wells. The DEIR acknowledges (under Section 3.5 and 3.51) that the number of wells to

enhance performance and the response to site conditions and performance issues has the potential to change (CH2M Hill 2009a:5-31). The DEIR (Sections 1.2.3.1, 1.2.3.3, 3.5, and 3.5.1.1) identifies and evaluates the upper limit of remediation wells and monitoring wells, excluding replacement wells, which is estimated at 110 remediation wells and 60 monitoring wells. Replacement remediation wells were estimated to consist of 10% of the wells per year (CH2M Hill 2009b:Appendix B, Table D-6). The upper limit of replacement wells may be approximately 5 to 11 remediation wells depending on whether the preliminary estimate or maximum estimate of wells is installed. The operation and maintenance phase accounts for replacement wells, as stated in Section 3.5.3 of the DEIR and further clarified in Volume 2 of this FEIR. In addition, the impact analyses sections in Chapter 4 account for replacement wells through evaluation of the operation and maintenance phase.

Well rehabilitation actions as summarized above would be conducted to extend the operational life of wells to the extent feasible. The analysis in the DEIR assumed that all well types of Alternative E (monitoring wells, injection wells, extraction wells, and IRZ wells) would require replacement during the lifetime of the proposed project (Sections 3.5.1.1, 3.5.1.3, and 3.5.3). The well replacement options include replacing the well screen and filter pack for wells that may be designed for this type of replacement, overdrilling and reinstalling the well in the same well bore (thereby avoiding the need to drill new replacement wells), or decommissioning the existing well and installing the replacement well at a nearby location. Potential impacts associated with well rehabilitation and replacement activities are consistent with the construction and operations and maintenance impacts evaluated in the DEIR analysis. As noted in Mitigation Measure CUL-1a provided in Volume 2 of the FEIR, the project will prioritize well replacement and rehabilitation in existing/disturbed locations. No additional analysis is necessary.

The DEIR identifies that existing wells and infrastructure will be used to the extent feasible. Thus, existing monitoring wells would be used to assess remedial performance and additional wells would likely be installed where the current network of monitoring wells do not provide sufficient coverage for evaluating remedial performance.

T3-4 The groundwater risk assessment (GWRA) prepared for the project (Arcadis 2009) evaluated the potential exposure of a hypothetical future groundwater user to the affected groundwater at the site in accordance with USEPA risk assessment methods. This is a typical and conservative risk assessment practice to assess potential carcinogenic and noncarcinogenic health risks posed by contaminants in groundwater to a hypothetical future groundwater user, assumed to use the groundwater daily for an uninterrupted 30-year period, even though such a residential groundwater user does not exist and likely will not exist given the current nonresidential uses within the project area. The analysis conducted for the GWRA, therefore, is unique to health risk assessments for remediation projects like the one at issue, and is not what is typically required for purposes of considering a reasonably foreseeable significant adverse impact under CEQA.

The resulting health risk estimates are used to identify constituents of concern, evaluate remedial alternatives, and identify remediation goals, including risk-based cleanup goals. The commenter correctly states that no future groundwater users are reasonably foreseeable because institutional controls, such as restrictions on groundwater development as a potable water supply within the project area, will be implemented during the final design, including limitations on the installation of any new water supply wells. See Sections 1.2.3.5 and 2.2.5 of the DEIR

T3-5 The GWRA (Arcadis 2009) concluded that no current direct or indirect complete exposure pathways for contact with site groundwater exist and no human or ecological populations are currently at risk of adverse health effects caused by groundwater at the Topock site. As such, it is not reasonably foreseeable that plants or animals within the project area would pose an adverse

health risk to humans. In fact, the GWRA found that plants within the project area are unlikely to be in contact with the deeper plume, which contains the hexavalent chromium (see Arcadis 2009). As explained in the GWRA, significant health risk of human exposure to contaminated groundwater is generally from direct exposure routes, including ingestion and dermal contact.

In addition to the GWRA, DTSC's Human Ecological Risk Division (HERD) conducted an additional analysis concerning: any potential Cr(VI) uptake in plants at the site and any potential Cr(VI) concentrations in plants caused by Cr(VI) uptake that could result in exposure to humans during ceremonial use of plants. The full response is presented in a September 28, 2010, memorandum to Aaron Yue from J. Michael Eichelberger, Ph.D., Staff Toxicologist (see Appendix PLM). Dr. Eichelberger's analysis is summarized below.

HERD conducted a literature review to evaluate chromium uptake into roots followed by translocation and partitioning to shoots and leaves. Factors influencing uptake are the soil/water chemistry and bioavailability based on chromium solubility as well as ability of a plant to hyperaccumulate, or take up inordinately high, concentrations of chromium. Four desert plant species known or expected to occur at the site and that are chromium hyperaccumulators are creosote, honey mesquite, screw bean mesquite, and Russian thistle.

Cr(III) more readily absorbs to soils or precipitate as insoluble mineral forms while Cr(VI) tends to remain in the dissolved phase. This favors potential Cr(VI) uptake in plants over Cr(III) uptake. However, transformation of Cr(VI) to Cr(III) occurs within plant roots. This transformation to Cr(III) in the roots of plants leads to uptake of Cr(III) into the shoots and leaves. Studies cited in the HERD memo identified much higher Cr(VI) in roots than in shoots and leaves due, in part, to this transformation to Cr(III).

Cr(III) and Cr(VI) are present in site soils (CH2M Hill 2007:Table 4-1) and additional risk assessment of soils data will be performed after the data are collected and compiled. The transformation of Cr(VI) to Cr(III) within the plant roots and resulting uptake of Cr(III) into leaves and shoots results in the far less toxic form of chromium, which is an essential micronutrient, in these materials. There is no evidence in the record indicating that chromium in plants poses a potentially significant adverse affect to human health.

See also response to comment T7-4.

T3-6

The commenter notes that when Cr(VI) is converted to Cr(III), arsenic, iron, and manganese take the place of Cr(VI). During the reductive process that transforms Cr(VI) to Cr(III), arsenic, iron, and manganese are reduced to more soluble forms of the respective metals. As summarized under Impact HYDRO-1 in Section 4.7.3.3 of the DEIR, the IRZ pilot testing identified the range of elevated concentrations of arsenic, iron, and manganese concentrations resulting from the pilot testing, identified that these elevated metal concentrations occurred in localized areas near the injection well, and identified that concentrations decreased after carbon amendments ceased (CH2M Hill 2009a: 32, 34, and 37 of Appendix G). The concentrations of these metals decreased with distance from the injection wells and the elevation of these three metals is a short-term byproduct of the reductive process used to convert the Cr(VI) to Cr(III).

The monitoring and operations and maintenance activities that would be performed during the implementation of Alternative E would include sampling for arsenic, iron, and manganese in addition to Cr(VI) to evaluate the byproduct generation and persistence. Modifications to the treatment program such as changes in carbon dose, duration of injection, and periods between injections may be made to optimize Cr(VI) treatment and to further control byproduct generation, as discussed under Impact HYDRO-1 in Section 4.7.3.3 of the DEIR.

Because these byproducts are generated within the IRZ and do not persist beyond the IRZ, they are not expected to reach groundwater production wells or enter areas that would affect the theoretical groundwater user. Groundwater production wells would not be built in locations near the treatment areas where the short-term elevation of arsenic, iron, and manganese would occur.

T3-7

Following completion of the remedial action, the facilities associated with the proposed project (e.g., in situ reductant storage and delivery systems, foundation material, process controls/instrumentation systems) would be deconstructed and decommissioned. A discussion of the decommissioning procedures, including those for drilled wells, is found in Chapter 3, "Project Description," of the DEIR (specifically Section 3.5.4). In addition, specific mitigation (Mitigation Measure BIO-2c) describing how special-status species and their habitat would be protected during decommissioning activities and restored is presented in Section 4.3.3.3. As noted in the response to comment T1-186, DTSC anticipates that details regarding the final design for decommissioning and restoration of IM-3 will be available to all tribes for review and input.



COLORADO RIVER INDIAN TRIBES
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Letter
T4

July 19, 2010

Aaron Yue
Topock Remediation Project Manager,
California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630-9938

Dear Mr. Yue,

The Colorado River Indian Tribes would like to provide the following comments on the Department's Statement of Basis, the Draft Environmental Impact Report, and the Department of the Interior's Proposed Plan, for the Topock Remediation Project.

The Tribes appreciate the opportunity to provide these comments, and hope that they help to guide the Project to a successful remediation of the contamination of the groundwater at the Topock Compressor Station site.

**Recommended Modifications to the Department of the Interior's
Proposed Plan for the Topock Remediation Project:**

**I. Quarterly Sampling of Colorado River Surface Water at Chemehevi
and Colorado River Indian Reservations.**

Groundwater contamination at Topock has created a negative public perception of Colorado River water quality and therefore places an undue economic burden upon the Tribes for actions that were, and largely still are not within our control. In order to alleviate these impacts, we strongly advocate incorporating quarterly sampling and analyses for hexavalent chromium of surface and groundwater at both the Chemehuevi and Colorado River Indian Tribes' Reservations into the Topock Remediation Project ("Project") monitoring schedule. This groundwater sampling should be conducted by independent

T4-1

laboratories, and funding should also be provided for the Tribes themselves to conduct parallel sampling to assure their membership, and the public at large, that the Colorado River remains uncontaminated downstream from the Topock Remediation Project site. Quarterly sampling of our waters that provides clear evidence to the public that our waters are not contaminated with hexavalent chromium will greatly lessen economic impacts as well as alleviate water quality concerns among Tribal members.

T4-1
con't.

II. Monitor Project-area Shoreline Recreational Activities, and Mitigate Adverse Impacts to Religious/Spiritual Access and Usage.

Shoreline in the Project area invites recreational usage. While the Tribes recognize this as a natural human impulse, that impulse may be monitored, and where appropriate, its adverse effects reasonably mitigated to balance the multiplicity of interests interacting along the River at the site of the Topock Remediation Project. Just as Tribal peoples would not be welcome to throw a party at Stonehenge or in the Sistine Chapel, we ask that the same respect be shown for our sacred sites. The Colorado River Indian Tribes therefore recommend that a process of monitoring shoreline usage be incorporated into the overall Proposed Plan for the Project. The purpose of the shoreline monitoring process shall be to minimize the incidence of and mitigate adverse impacts to religious and spiritual access and, or, usage by area Tribal peoples.

T4-2

Comments on the Draft Environmental Impact Report for the Topock Compressor Station Groundwater Remediation Project

1. Table 1-1: The Table should include, and clearly define the term "Replacement Wells," as used in the text of the E.I.R.

T4-3

2. Section 2.1. p. 2-2, 1st Complete Paragraph, Lines 4-6; Section 2.1.1, p. 2-3, 1st Paragraph; and Section 3.5, p. 3-8, 4th Paragraph, Lines 6-8: On p. 2-2 it is

T4-4

stated “After a remedy concept is selected and approved, a Corrective Measures Implementation Workplan, followed by design plans for facility siting and operation and maintenance activities, will be prepared”. The Corrective Measures Implementation Workplan is also mentioned on p 2-3 where it is stated that “When PG&E reduces the proposed final remedy to specific designs with a discrete footprint within the project area, DTSC shall review these plans which would include the Corrective Measures Implementation Workplan and subsequent design”. In the same paragraph it is stated “... DTSC shall determine whether the specific design for the final remedy is within the scope of the program EIR, pursuant to the provisions of Section 15168 of the CEQA Guidelines.” On p. 3-8 it is stated “Following final design, an assessment of potential environmental impacts would be reviewed to ensure that the impacts would be consistent with the analysis presented in this EIR, or if additional analysis is required”. After the indicated lines on p. 2-2 and possibly at all three indicated sections, it should be stated what the procedure is if the remedy design is substantively different than described in this EIR. In a telephone consultation between CRIT representatives and Pam Innis (DOI EPC), Carrie Marr (USFWS), and Rick Newill (DOI Consultant) that occurred on April 15, 2010, the question was posed by CRIT representatives, “If there are significant changes to Revised Alt. E after it is approved, what is the process to handle it?” In response, it was stated that there are 3 ways to handle it. One method described minor changes and two described significant changes. CERCLA Section 117 and 40 CFR § 300.435(c)(2) were provided as references. Under 40 CFR § 300.435(c)(2) it is stated “After the adoption of the ROD, if the remedial action or enforcement action taken, or the settlement or consent decree entered into, differs significantly from the remedy selected in the ROD with respect to scope, performance, or cost, the lead agency shall consult with the support agency, as appropriate, and shall either: (i) Publish an explanation of significant differences when the differences in the remedial or enforcement action, settlement, or consent decree significantly change but do not fundamentally alter the remedy selected in the ROD with regard to scope, performance, or cost...or (ii) Propose an amendment to the ROD if the

T4-4
con't.

differences in the remedial or enforcement action, settlement, or consent decree fundamentally alter the basic features of the selected remedy with respect to scope, performance, or cost”. These are the two methods to address significant changes. In addition to an explanation of these procedures to be included at the aforementioned places in Chapters 2 and 3 of the DEIR, we also strongly recommend that the terms “significant” and “fundamentally alter” be clearly defined. We suggest the use of a quantitative threshold in combination with any necessary verbal description(s). For example:

T4-4
con't.

A significant difference is defined as an amount, or action equal to or greater than 20% increase in the numbers, size, area, length, and/or capacity of the maximum estimate of numbers, size, area, length, and capacity of any infrastructure feature described in the EIR or the use of remediation methodology not specified in the EIR”.

A description of the procedures amending the ROD, a clear understanding of what would trigger an amendment and assurances that the remediation procedures would not be drastically altered without additional consultation would, in our opinion, alleviate concerns that opportunities for participation in remedy design and selection would be eliminated and/or reduced after EIR finalization.

T4-5

3. **Section 4.3.3, p. 4.3-30, Next to Last Line:** This line states “Avoidance is the most common fish response to increases in turbidity and sedimentation.” This may not be the case with some native fish species such as the razorback sucker (*Xyrauchen texanus*). These species evolved in a turbid environment (the Colorado River before the construction of the current system of dams). Native fish species may actually be attracted to or benefit from turbid waters.

T4-6

4. **Section 9.2.1.1, pp. 9-13 through 9-27:** The “Employment” and “Income” sections fail to adequately describe present and likely future impacts on employment and income on the Colorado River Indian Reservation (“CRIR”). The Tribal economy is, we believe, already being impacted by the public


T4-7

perception that the Colorado River and associated groundwater is, or may be contaminated. For example, the third paragraph on p. 9-20, the Draft E.I.R. states that “[i]ndustries among the communities and Native American reservations within the ROI are typically concentrated in the arts, entertainment, recreation, accommodation, and food service.” While this may be true for the broad 5-county area encompassed by the ROI, as regards the economy of the Colorado River Indian Reservation, the statement quoted above starkly mischaracterizes the specific economies of our community. It is inevitable that area industries experience negative impacts from public concerns about water contamination. However, here at the CRIR, the agricultural industry is the largest economic generator on the Reservation and in the whole of La Paz County. Here in our community, agriculture far outstrips all other economic generators, and accounts for a majority of all Tribal income. The quality and purity of the water upon which that agricultural industry depends is critical to the survival of our community. The Draft Environmental Impact Report for the Topock Remediation Project does not accurately reflect these important facts as written, and must be corrected, or refined to distinguish the disparate impact on the communities most immediately, and profoundly affected by contamination of upstream aquifers.

T4-7
con't.

Again, the Tribes appreciate this opportunity to comment on this important project, and remain ready to provide any further information that will further the interests of clean water and a safe, secure future for our people.

Sincerely,



Eldred Enas, Tribal Council Chairman
Colorado River Indian Tribes

cc: Pamela Innis, Department of the Interior, Office of Environmental Policy
and Compliance, Topock Project Manager

Tribal Council, Colorado River Indian Tribes

Ramone McCoy, Bureau of Land Management, Lake Havasu Field Office
Manager

Eric N. Shepard, Attorney General, Colorado River Indian Tribes

- T4-1 The water quality in the Colorado River has not been affected by the Cr(VI) release and contamination found at the PG&E Topock Compressor Station. Expanded sampling downstream of the project area, including quarterly sampling within the Chemehuevi and Colorado River Indian Tribes' reservations, is problematic because the sampling conducted to date demonstrates that contamination is not migrating downstream or otherwise indicated to be within the areas suggested for additional sampling and monitoring by the commenter; thus, the evidence does not warrant the additional sampling requested. This is especially true if, as indicated by the comment, the goal is to assure visitors (or would be visitors), that the water is not contaminated, thereby offsetting the alleged economic impacts experienced by the tribes. Years of sampling have demonstrated that water quality within the Colorado River has not been degraded by the existing project area conditions; therefore, DTSC does not have the jurisdiction to require PG&E to sample outside of the area of potential influence or to require payment for such sampling.
- T4-2 DTSC understands that many tribal members object to the use of the area by nontribal people. The existing shoreline and river use by the public, however, is outside of DTSC's jurisdiction and not part of the proposed project. No work that would increase access to the beaches or shoreline is planned as part of the proposed remediation under the proposed project or alternatives. Because of the heavy vegetation along the river, the new extraction well infrastructure proposed to be installed near the river is expected to be screened from the shoreline. Implementing Mitigation Measure AES-2 would reduce the visual impact along the river through protection of existing mature vegetation and revegetation of disturbed areas (see Section 4.1.3.4 of the DEIR). Mitigation Measure CUL-1a would also serve to reduce additional outside visitors to the site. As such, the proposed project as mitigated would lessen the potential for additional public access to the project site, and the well installation would not encourage or attract increased public access or visitors. PG&E would be responsible for the infrastructure and surrounding area and would monitor their private property; however, recreational uses surrounding the compressor station cannot be limited by DTSC as part of the proposed project. The tribes should consider collaborating with stakeholders in the area to establish a shoreline monitoring program, including DOI and BLM. The effort might also involve urging other stakeholders, including the Avi Resort & Casino, not to promote establishments such as the Pirate Cove Resort which presumably facilitates some of the uninvited recreational use of the project area (see www.avi-casino.com ["Don't Forget to Visit Pirate Cove Resort!"]).
- T4-3 Please see the response to comment T1-173.
- T4-4 Changes to a project after approval and certification of an EIR under CEQA are described below.
- PRC Section 21166 and Section 15162 of the CEQA Guidelines requires a subsequent EIR for a project when an EIR has already been prepared and certified only if one or more of the following conditions occur:
- ▶ substantial changes are proposed in the project which will require major revisions to the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified effects;

- ▶ substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions to the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- ▶ new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, becomes available and shows either: (1) the project will have one or more significant effects not discussed in the prior EIR; (2) significant effects previously examined would be substantially more severe; (3) mitigation measures or alternatives previously found infeasible would in fact be feasible and would substantially reduce one or more significant effects of the project but the project proponents decline to adopt the alternative or measure; or (4) mitigation measures or alternatives which are considerably different from those analyzed in the prior EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the measure or alternative.

CEQA does not require, as suggested by the commenter, that subsequent lead or responsible agencies follow a quantitative threshold in making the determination that additional environmental review is or is not required. A subsequent or supplemental EIR must receive the same circulation and review as the previous EIR but need not recirculate the previous DEIR or FEIR (CEQA Guidelines, 15163[c],[d], 15162[d]). In determining whether a subsequent, supplemental, or other form of environmental review (i.e., an addendum or mitigated negative declaration) is warranted, lead agencies must prepare an initial study or similar device.

If there are substantial changes to Revised Alternative E, DTSC would have to prepare an initial study to determine what form of additional environmental review would be required as explained above. If, however, the agency moves forward with implementing Alternative E and gathering additional project specific details, it may “tier” from this programmatic EIR (PRC Sections 21093, 21094; CEQA Guidelines Sections 15152, 15165, 15168).

T4-5 The commenter requests a description of the procedures that DOI would use to amend the record of decision (ROD) if Alternative E is approved and there are changes to the alternative after approval. Because DTSC is a state agency and the DEIR is a standalone CEQA document, it is not the proper venue for DTSC to attempt to describe the procedures the federal agencies would follow should such a result occur. Therefore, a description of DOI procedures for amending the ROD is not warranted in the FEIR or response to comments. As described in the cultural resources mitigation measures, provided in Volume 2 of the FEIR, additional opportunities for input into the final design will be provided to the tribes.

T4-6 The comment references the next to last line of Section 4.3.3 of the DEIR, and states that avoiding increases in turbidity and sedimentation is not always the most common response with some native fish species, such as the razorback sucker. The comment further states that this species evolved in a turbid environment (the Colorado River before the construction of the current system of dams) and that native fish species may actually be attracted to or benefit from turbid waters.

In response to this comment, the following paragraph under Impact BIO-3 (Section 4.4.3.3) is revised in Volume 2 of the FEIR:

Avoidance is the most common fish response to increases in turbidity and sedimentation for most species. However, certain species, including the razorback sucker, have evolved in riverine conditions with naturally high turbidity levels and, as a result, may be attracted

to naturally high turbidity. Fish will not occupy areas unsuitable for survival unless they have no other option....

This revision does not change the analysis or conclusions presented in the DEIR.

T4-7

Additional information has been added to the brief description of the Colorado River Indian Tribe reservation located in Section 9.2.1.1 of the DEIR to include the agricultural activities noted by this comment. Section 9.2.1.1 is a presentation of existing conditions only, however, and no impacts are presented. This change is presented in Section 9.2.1.1 of Volume 2, of the FEIR:

The town of Parker is located near the CRIT Reservation and is the county seat of La Paz County, Arizona. The CRIT Reservation was established in 1865 for all Native Americans living along the river, which included Mojave, Chemehuevi, Navajo, and Hopi peoples. Assisted by the construction of the Grant-Dent Canal, agriculture was started on the reservation soon after. Early agricultural attempts were generally unsuccessful due to engineering and environmental challenges, and the area primarily remained a railroad stop into the 1940s when the agricultural industry began to flourish. The town of Parker was situated along the railroad line in 1909 and, by the 1950s, had emerged as a center for agricultural service and shipping. Today, the CRIT reservation is a key agricultural area in the region. The town of Parker is a home to the BlueWater Resort and Casino (on the CRIT reservation), which includes 200 rooms and a 160-dock marina (Town of Parker 2009).

The expressed concern regarding the negative public perception of groundwater contamination affecting the tribe's economy is noted. The proposed project, however, would improve the existing conditions and would therefore also be expected to improve the public's perception by demonstrating that sufficient remediation will occur.



COLORADO RIVER INDIAN TRIBES
Mohave Elders Committee

Letter
T5

ROUTE 1, BOX 23-B
PARKER, ARIZONA 85344
TELEPHONE (928) 669-9211 • FAX (928) 669-6114

July 14, 2010

Mr. Aaron Yue, Project Manager
State of California
Department of Toxic Substance Control
5796 Corporate Avenue
Cypress, CA 90630

Dear Mr. Yue:

On behalf of the Mohave Elders of the Colorado River Indian Tribes, we are requesting a 30 day extension for the comment period for the Environmental Impact Report related to the remediation process for chromium contamination caused by PG&E. In particular, we had submitted a request for a Mohave interpreter to be present at your June meeting in Parker, but none was present. I made this request so that our elders would be able to comprehend what is involved in this process so that they could fully participate. A Fort Mojave elder had made a similar request for an interpreter to be present at both the Parker and Lake Havasu meetings. She was also concerned that none was available and believed this created the circumstances, which allowed for minimal participation. In fact, we had only one tribal member present at the Parker meeting because of the minimal outreach effort to our community. We have repeatedly expressed our concern that information from your office was not reaching the tribal community and the minimal meeting participation to date reflects the veracity of my concern here.

T5-1

Something that has not been expressed but has been an ever present limitation to us has been the vast amounts of technical data that we have to be able to comprehend and analyze in order to make comment. We have not had any assistance in this respect from the lead agencies or PG&E and this has had a serious impact on our ability to formally participate in this process. This needs to be a consideration in our request for an extension.

T5-2

Also, if the deadline is extended we would request another session to make comment and for the full community at CRIT to participate. We believe this would provide you with valuable and insightful information as to our real concerns without the filter of local governments. We offer our assistance in planning and hosting a successful session with your agency that includes a Mohave interpreter.

T5-3

Thanking you in advance for your kind consideration of our formal request to your agency.

Sincerely,

COLORADO RIVER INDIAN TRIBES

Daphne Hill-Poolaw, Chairperson
Mohave Elders

- T5-1 DTSC did receive a request from Ms. Maryetta Patch on June 9, 2010, for a Mojave interpreter for the Open House and Public Hearings scheduled on June 22 and June 23 at Parker and Lake Havasu City, respectively. In response, DTSC actively sought an interpreter speaking the local native language and offered compensation for such services through both the CRIT Office of the Attorneys' General and the project manager for the FMIT. Unfortunately neither tribe was successful at providing an interpreter. Please also see the response to comment I1-63 in Chapter 3, "Individual Comments and Responses," of this FEIR.
- Furthermore, DTSC provided notice above and beyond the legal requirement by also providing notice via direct mailings, newspaper, and local flyers on this before the public hearing. Therefore, DTSC does not agree with the rationale for extending the comment period. Beyond the traditional notification of the general public via advertisement in the local newspaper, radio and cable television broadcast, distribution of fact sheets, internal postings, the www.dtsc-topock.com website; DTSC also placed posters and flyers at various locations around the CRIT community including the CRIT library and Parker library. DTSC, in a letter dated March 26, 2010, to Mr. Eric Shepard and copied to Chairman Eldred Enas and several other members of the CRIT council, offered to provide a verbal advance preview of the proposed cleanup plan during the period of April 12–16, 2010. This letter was also followed up by and e-mail on March 23, 2010, to Doug Bonamici of the CRIT Attorneys General office offering the verbal advance preview of the proposed remedy. DTSC did provide an advanced review of the proposed Statement of Basis and DEIR during the period of April 27, 2010, to June 3, 2010, with invitation for a briefing to the CRIT during this period. DTSC did not receive any request in response to its offer for a briefing but did provide the documents to the CRIT Tribal Council. DTSC does not agree that any particular interested group was deliberately excluded from this process and we explained in a letter to the commenter dated July 19, 2010.
- T5-2 Consistent with DTSC's historic outreach efforts (see Tribal Communication Summary, Appendix TRI), DTSC offered to hold individual conference calls with all tribes to describe the proposed project and alternatives. Please see the response to comment T5-1. Furthermore, all tribes, including the Colorado River Indian Tribe, were given an extended comment period, which started April 28, 2010, 38 days before the June 4, 2010, start date of the public comment period that was included on the notice of availability for the proposed project. Throughout the process, information on the proposed project and alternatives have been available for Tribal members to gather, including but not limited to, a Community meeting organized with the CRIT to provide information regarding the project held in Parker on July 28, 2009; a meeting with the CRIT Tribal Council and CRIT Community Workshop held on September 1, 2009, and a special room set aside at the River Tribal Gathering sponsored by CRIT on October 26, 2009, that included information on the CEQA process, the groundwater contamination, and the proposed alternatives in the Final CMS/FS. Information has been shared with all involved stakeholders at quarterly Consultative Working Group meetings, of which representatives of the Colorado River Tribe have been a part.
- T5-3 Please see the response to comment T5-1.

TOPOCK COMPRESSOR STATION GROUNDWATER REMEDIATION PROJECT

Draft Statement of Basis, Draft Environmental Impact Report (EIR) and Proposed Plan

Letter
T6

The California Department of Toxic Substances Control (DTSC) and the Department of Interior (DOI) are gathering comments on the draft Statement of Basis, draft EIR, and Proposed Plan. Please use this card to submit comments on these draft documents during the 45-day comment period from June 4 to July 19, 2010. This card can be directly mailed to DTSC. Send additional comments on the draft documents, with the subject line "Topock EIR Comment(s)," postmarked/dated no later than July 19, 2010, to: Aaron Yue, Project Manager, DTSC, 5796 Corporate Avenue, Cypress, CA 90630; email: Ayue@dtsc.ca.gov; Fax: 714-484-5411

COMMENTS

Please send any information or any up date
on any project up date on PE + E

To:

Ms. Daphane Hill Poshlaw - Chair woman for:
% CRIT. Dept. ^{2nd Ave.} Mohave Rd. / Mohave Elders Committee
Parker Az. 85344 / who work for CRIT Tribal Council.

T6-1

July 8 2010

**Letter
T6
Response**

Colorado River Indian Tribe
Daphne Hill-Poolaw
July 16, 2010

T6-1 The commenter's address has been included on DTSC's project mailing list. This comment does not address the environmental analysis provided in the DEIR; therefore, no further response is necessary.

The Hualapai Tribe considers the Topock Maze and surrounding landscape to be of great importance to their heritage. The air, the earth's surface, and the subsurface of the landscape are all part of a sacred continuum. Wells, buried pipes, and soil samples are intrusions and desecrations, especially near the Topock Maze. Regardless of the intrusions already carried out and the further intrusions to implement Alternative E, the Hualapai have deep connections with the Colorado River, and recognize that it is important to keep the river clean.

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HUALAPAI TRIBE OFFICE OF THE CHAIRMAN

Wilfred Whatoname, Sr.
Chairman

P.O. Box 179 • Peach Springs, Arizona 86434 • (928) 769-2216
1-888-769-2221

Richard Walema, Sr.
Vice Chairman

July 16, 2010

Aron Yue, Senior Hazardous Substances Engineer
California Department of Toxic Substances Control (DTSC)
5796 Corporate AV., Cypress, CA 90630

Subject: Review of "Draft Environmental Impact Report for the Topock Compressor Station Groundwater Remediation Project," by AECOM, Prepared for California Department of Toxic Substances Control, April 14, 2010

The Hualapai Tribe considers the Topock Maze and surrounding landscape to be of great importance to their heritage. The air, the earth's surface, and the subsurface of the landscape are all part of a sacred continuum. Wells, buried pipes, and soil samples are intrusions and desecrations, especially near the Topock Maze. Regardless of the intrusions already carried out and the further intrusions to implement Alternative E, the Hualapai have deep connections with the Colorado River, and recognize that it is important to keep the river clean.

T7-1

Regarding chromium contamination at the PG&E Topock Compressor Station, the preference of the Tribe would be no more drilling or intrusions into the landscape. However, this may not be possible given the current regulatory setting. Therefore, if the work must be done, the Tribe wants to protect cultural resources as much as possible. During on-the-ground activities, monitoring of cultural sites must be done, and a recognition of the importance of cultural sites must be emphasized. After the work has been completed, the landscape must be returned to its original condition. Following are topics that need to be addressed before remediation begins:

T7-2

Reduce Impacts to Cultural Resources

Of primary importance to the Hualapai Tribe are the efforts to minimize impacts to cultural resources. More wells will be drilled, pipes will be laid, and monitoring studies will be done. One idea to reduce impacts to ancient cultural artifacts is to conduct alluvial sediment age dating. The ravines and washes may have aggraded since existence of the Topock Compressor Station, where younger sediments overlie older ravine sediments. Artifacts and

T7-3

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Letter
T7

remains may be buried in the older ravine sediments. This method could also be helpful in areas already disturbed by man's activities.

T7-3
cont.

Question: Would it be useful to determine the age of soils and sediments using lead-210 methods, then make every attempt to not disturb the older sediments that may contain cultural artifacts?

Chromium in Plants

The Hualapai Tribe believe that the plants are sacred. Willows are still used as materials for basket making by members of the Hualapai Tribe, where willow stems are split with the teeth. Plants and wild flowers are collected for ceremonies. There has been no characterization of chromium concentrations in plants at the Topock site. The risk assessment studies focused on surface water or groundwater as the transport mechanism for contaminant dispersal; however, plants were not considered in the risk assessment.

T7-4

Question: Do the willows, plants, and wild flowers take up chromium? What are the chromium concentrations in plants at the Topock site?

Colloidal Transport of Chromium

As the chromium-6 is reduced to chromium-3 by the carbon-amended injection water, the chromium-3 will precipitate or adsorb onto aquifer sediments and suspended aquifer colloids. It has been shown that aquifer colloids are responsible for transport of contaminants and bacteria (Hornberger and others, 1992; Kearn and Roemer, 1998). Colloids could transport chromium-3 into oxidizing zones where the chromium-3 could then be oxidized back to chromium-6, and the colloids could be transported to the Colorado River. Borehole scopes are available that record videos of colloid movement in groundwater monitoring wells (<http://www.aquavisionenv.com/>). From borescope videos, colloid concentrations, groundwater flow direction, and groundwater velocity can be documented. Background colloid chemistry and concentrations need to be described, and the colloidal transport of chromium needs to be monitored during remediation.

T7-5

Question: Will you monitor aquifer colloid chemistry during remediation?

Groundwater Injections and Mounding

The groundwater modeling reports done by PG&E indicate that the Mohave Valley aquifer discharges about 2,600 acre-feet per year from the basin into the Colorado River, primarily because the alluvial valley pinches out at Topock, forcing groundwater to the surface. As part of remediation, 500 gallons per minute of imported water will be injected into wells. On an annual basis, this is about 807 acre-feet of water. The "fresh water flushing" injection water will be imported from another location, possibly from wells in Arizona. This will increase the Mojave Basin discharge by 30 percent.

T7-6

Question: Have there been any considerations of the effects of a 30 percent increase in groundwater discharges from the Mohave Basin? In Table 1-2 of the EIR, groundwater mounding is not mentioned as an impact.

Disturbance of Fluvial Organic Layer

To date, the chromium-6 contamination has reportedly not reached the Colorado River because of an organic-rich layer of aquifer sediments adjacent to and beneath the river. This organic layer has been reducing chromium-6 to chromium-3 by natural processes. As part of Alternative E, extraction wells will be drilled into the floodplain near the Colorado River to

T7-7

reverse the hydraulic gradient away from the river, which might prevent the chromium-6 contamination from reaching the river. This is being done currently as part of Interim Measure 3; however, the current pumping rate is 100 to 135 gpm, and the pumping rate will be increased to 500 gpm for Alternative E. From the schematics of Alternative E, the extraction wells will be right next to the river. In addition, the carbon-amendment injection wells will be installed near the fluvial layer.

T7-7
con't.

Question: Will the fluvial organic layer be disturbed or disrupted by all of the extraction and IRZ wells? If the fluvial organic layer is breached, will the ability of the layer to attenuate chromium-6 be disrupted? In Table 1-2 of the EIR, disturbance of the fluvial organic layer is not mentioned as an impact.

Carbon Amendment Will Mobilize Arsenic, Iron, and Manganese

The in-situ reduction will reduce chromium-6 to chromium-3, but it also will increase the solubilities of arsenic, iron, and manganese. Iron and manganese were not even considered in the Groundwater Risk Assessment.

T7-8

Question: What if the chromium-6 plume is essentially replaced with a different plume of arsenic, iron, and manganese contamination? Concentrations and speciation of arsenic, iron, and manganese need to be monitored during remediation.

East Ravine and Topock Compressor Station

High concentrations of chromium-6 have been detected in bedrock under the East Ravine, which is located east and southeast of the Topock Compressor Station. Some characterization studies have been done at the East Ravine; however, studies have not been completed. A proposal for remediation of the East Ravine has not been presented.

T7-9

Question: Will the public be allowed to comment on the proposed remediation method for the East Ravine?

Return the Land to Its Original Condition

The Hualapai were present in the Colorado River area long before Europeans visited, and the Hualapai will likely be present in the area for the rest of eternity. The contamination at the Topock Compressor Station is a desecration to the landscape; however, the time frames represented by the contamination and remediation are small compared to the scope of Hualapai interaction with the land and water.

After the remediation has been done at the Topock Compressor Station, the Hualapai Tribe would like the land to be restored to its original condition. Disfigurements have already been left on the sacred landscape from the railroads, highways, pipelines, and developments. Yet, the Hualapai still recognize the area as a sacred place, regardless of the scars. The most important thing to do is to clean up the aftermath of the injurious activities.

T7-10

Question: Shouldn't the long-term plans for restoration and renovation be a topic of discussion as part of the remediation plan?

What Is the Reductant?

The remediation goals will be met by injection of a chemical reductant to reduce chromium-6 to chromium-3. However, there has been little mention of the type of reductant that will be used at the Topock site. While these decisions may be presented in the design phase of the remediation plan, the public has the right to know the chemicals that will be

T7-11

injected into the ground. The type of reductant, and its effects on human health and aquatic life, should be presented in the DTSC EIR.

Question: What is the reductant? Is it poisonous or toxic? Will the same reductant be used for the entire span of the IRZ injections (30 years)? What are the potential organic byproducts and degradation compounds? What are the expected life span of these degradation compounds?

T7-11
con't.

Calcite Supersaturation of Groundwater

The aquifer sediments of the Mohave Valley basin are rich in calcium carbonate (or calcite). This is evident in the calcite-rich coatings on rocks around the Topock Compressor Station and the Maze. When water is injected into the ground as part of Alternative E, the injected water will react with the aquifer sediments, and calcite will be dissolved. As the water flows radially outward from the well where the water is supersaturated with calcite, calcite will precipitate from the water onto the aquifer sediments. If large masses of calcite are deposited in the pores of the aquifer, then the aquifer may become obstructed with calcite, and the ability to inject water will decrease over time. This has already been observed in the injection wells for the Interim Measure 3 at the Topock Compressor Station where acidification of the IM-3 injection wells has been done in order to stimulate injection capacity. With the injection wells proposed as part of Alternative E (as many as 30 wells), wells will become obstructed which will require ongoing maintenance. Replacement wells will be probably drilled, and acid will be injected into the wells to dissolve calcite and provide more injection capacity. These problems will increase the maintenance costs for Alternative E. The well drilling, acid injections, and manipulation of the chemistry of the groundwater are viewed by the Hualapai Tribe as a desecration to the sacred landscape.

T7-12

Water from wells at the In-Situ Pilot Study shows the effects of supersaturation (Arcadis, 2009). Water-quality data from well PT-6S, PT-6M, and PT-6D were input to the Phreeqc geochemical model. The results indicate that injection of the carbon reductant created geochemical reducing conditions which precipitated chromium-6; however, many other phases also were precipitating. Attachment A, Table 1 shows that 27 different phases, including calcite and dolomite, were precipitating from water in well PT-6S. Iron and manganese species have already gone through a dissolved phase, reaching supersaturation; therefore, iron and manganese solids were precipitating from solution. This was likely creating colloids in groundwater. Notice in Table 1 that arsenic compounds were dissolving.

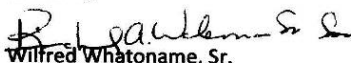
T7-13

Question: Have geochemical modeling data been presented to the DTSC? Do you know whether the aquifer can sustain 30 years of injections and geochemical reactions without becoming completely clogged?

T7-14

In conclusion we would like thank DTSC for allowing us the opportunity to comment on these concerns that we have of the project. If you have any questions or concerns please call me at the above number or contact Ms. Loretta Jackson, Director of the Cultural Resources Department @ (928) 769-2223.

Sincerely,



Wilfred Whatoname, Sr.

Chairman, Hualapai Tribal Council

Enclosed: Attachment A (Table 1 & Table 2)

Attachment A

Table 1. Geochemical state of mineral phases in water from In-Situ Field Experiments [Well PT-6S, June 6, 2006, after IRZ injections began May 3, 2006]

Mineral Phase	Formula	Geochemical State of Phase in the Aquifer after IRZ Injections Began
Aragonite	CaCO ₃	Precipitating
Birnessite	MnO ₂	Precipitating
Bixbyite	Mn ₂ O ₃	Precipitating
Calcite	CaCO ₃	Precipitating
Cr(OH) ₃ (A)	Cr(OH) ₃	Precipitating
Cr ₂ O ₃	Cr ₂ O ₃	Precipitating
Dolomite	CaMg(CO ₃) ₂	Precipitating
Fe(OH) ₂ ·7ClO ₃	Fe(OH) ₂ ·7ClO ₃	Precipitating
Fe ₃ (OH) ₈	Fe ₃ (OH) ₈	Precipitating
FeCr ₂ O ₄	FeCr ₂ O ₄	Precipitating
Ferrihydrite	Fe(OH) ₃	Precipitating
Goethite	FeOOH	Precipitating
Hausmannite	Mn ₃ O ₄	Precipitating
Hematite	Fe ₂ O ₃	Precipitating
Huntite	CaMg ₃ (CO ₃) ₄	Precipitating
Jarosite-H	(H ₃ O)Fe ₃ (SO ₄) ₂ (OH) ₆	Precipitating
Jarosite-K	KFe ₃ (SO ₄) ₂ (OH) ₆	Precipitating
Jarosite-Na	NaFe ₃ (SO ₄) ₂ (OH) ₆	Precipitating
Lepidocrocite	FeOOH	Precipitating
Maghemite	Fe ₂ O ₃	Precipitating
Magnesite	MgCO ₃	Precipitating
Magnetite	Fe ₃ O ₄	Precipitating
Manganite	MnOOH	Precipitating
Mg-Ferrite	MgFe ₂ O ₄	Precipitating
Nsutite	MnO ₂	Precipitating
Pyrolusite	MnO ₂	Precipitating
Rhodochrosite	MnCO ₃	Precipitating
Anhydrite	CaSO ₄	Dissolving
Arsenolite	As ₄ O ₆	Dissolving
Artinite	MgCO ₃	Dissolving
As ₂ O ₅	As ₂ O ₅	Dissolving
Brucite	Mg(OH) ₂	Dissolving
Ca ₃ (AsO ₄) ₂ ·6H ₂ O	Ca ₃ (AsO ₄) ₂ ·6H ₂ O	Dissolving
CH ₄ (g)	CH ₄	Dissolving
Claudetite	As ₄ O ₆	Dissolving
CO ₂ (g)	CO ₂	Dissolving
Cr(OH) ₃ (C)	Cr(OH) ₃	Dissolving
CrCl ₃	CrCl ₃	Dissolving
Epsomite	MgSO ₄ ·7H ₂ O	Dissolving
Fe ₂ (SO ₄) ₃	Fe ₂ (SO ₄) ₃	Dissolving
FeAsO ₄ ·2H ₂ O	FeAsO ₄ ·2H ₂ O	Dissolving
Gypsum	CaSO ₄ ·2H ₂ O	Dissolving
Halite	NaCl	Dissolving
Hydromagnesite	Mg ₅ (CO ₃) ₄ (OH) ₂ ·4H ₂ O	Dissolving
Lime	CaO	Dissolving
Melanterite	FeSO ₄ ·7H ₂ O	Dissolving
MgCr ₂ O ₄	MgCr ₂ O ₄	Dissolving

Mirabilite	Na ₂ SO ₄ ·10H ₂ O	Dissolving
Mn ₂ (SO ₄) ₃	Mn ₂ (SO ₄) ₃	Dissolving
Mn ₃ (AsO ₄) ₂ ·8H ₂ O	Mn ₃ (AsO ₄) ₂ ·8H ₂ O	Dissolving
MnCl ₂ ·4H ₂ O	MnCl ₂ ·4H ₂ O	Dissolving
MnSO ₄	MnSO ₄	Dissolving
Natron	Na ₂ CO ₃ ·10H ₂ O	Dissolving
Nesquehonite	MgCO ₃ ·3H ₂ O	Dissolving
O ₂ (g)	O ₂	Dissolving
Periclase	MgO	Dissolving
Portlandite	Ca(OH) ₂	Dissolving
Pyrochroite	Mn(OH) ₂	Dissolving
Siderite	FeCO ₃	Dissolving
Thenardite	Na ₂ SO ₄	Dissolving
Thermonatrite	Na ₂ CO ₃ ·H ₂ O	Dissolving

Table 2. Reference Cited

- Arcadis, 2009, First Quarter 2009 Monitoring Report for the Floodplain Reductive Zone In-Situ Pilot Test, PG&E Topock Compressor Station, San Bernardino County, California.
- Hornberger, G.M., Mills, A.L., and Herman, J.S., 1992, Bacterial transport in porous media: Evaluation of a model using laboratory observations: Water Resources Research, 28(3), 915-938.
- Kearl, P.M., and Roemer, K, 1998, Evaluation of groundwater flow directions in a heterogeneous aquifer using the colloidal borescope: Advances in Environmental Research, 2 (1), 12-23 (<http://www.aquavisionenv.com/files/537-97.pdf>).
- Oze, C., Bird, D.K., and Fendorf, S., 2007, Genesis of hexavalent chromium from natural sources in soil and groundwater: Publications of the National Academy of Sciences of the USA (PNAS) 104(16), 6544-6549.

- T7-1 The commenter stresses the importance of the Topock Maze and surrounding landscape to the Hualapai Indian Tribe (HIT) and the commenter's way of life and heritage. HIT's cultural beliefs are acknowledged by DTSC in Chapter 4.4 of the DEIR. Please see Mitigation Measure CUL-1a regarding steps to be taken to ensure cultural sites that are historically significant and archaeologically unique would be protected and monitored during implementation of the project. The comment does not raise any specific issues with the environmental analysis provided in the DEIR; therefore, no further response is necessary.
- T7-2 The commenter's preference that no additional work occur in the landscape is noted. DTSC appreciates the commenter's understanding of the regulatory need to continue and remediate the contamination at the site. It is and continues to be DTSC's goal to avoid or minimize the impacts of any necessary work at the site by using best available technologies and best management practices. The commenter's concerns concerning protection of cultural resources, landscape restoration, and others are addressed in the responses to comments T7-3 through T7-14 below.
- T7-3 Additional detail added to Mitigation Measure CUL-1b and CUL-1c provided in Volume 2 of the FEIR includes conducting a geoarchaeological investigation and/or nondestructive remote-sensing surveys. The commenter's suggestion to conduct alluvial sediment age dating and/or lead-210 methods is noted; many factors can influence the accuracy of this technique at the Topock site, including the assumption of constant lead-210 deposit from the atmosphere and changes in the concentration of sedimentary Pb-210 over time (USGS 2010). While written records can provide some information to control the variations, the usefulness of this technique at the Topock site is questionable because it would result in additional ground disturbance within a historical resource (i.e., the Topock Cultural Area). Ultimately, DTSC believes that such additional analysis is unlikely to result in identifying disturbed ground areas not previously identified through the analysis conducted to date. As the Supreme Court explained in *Laurel Heights I*, "[a] project opponent or reviewing court can always imagine some additional study or analysis that might provide helpful information. It is not for them to design the EIR. That further study...might be helpful does not make it necessary." (*Laurel Heights Improvement Association v. Regents of the University of California* [1988] 47 Cal. 3d 376, 415; see also *Chaparral Greens v. City of Chula Vista* [1996] 50 Cal.App.4th 1134, 1145 [refusing to read into CEQA a requirement that an EIR must speculate about the effects of draft regional plans in evaluating a project]; CEQA Guidelines Section 15204.)
- T7-4 As described more fully in the response to comment T3-5, DTSC's HERD developed a detailed response to the comments received on the DEIR concerning the potential for Cr(VI) up take in groundwater by the roots of plants within the project area. Because Cr(VI) is generally found within the deeper aquifer at the project site and the roots of plants in the area do not reach this depth. DTSC does not anticipate any risks to humans as a result of occasional ceremonial use of plants within the project area (Attachment PLM). The issue of plant uptake of site contamination will be further evaluated as part of the pending soils investigation at the site.
- T7-5 The commenter asks whether DTSC would monitor aquifer colloid chemistry during remediation. The short answer is yes. The presence, if any, and effect of Cr(III) colloids would be captured by the routine sampling and analysis that would be completed as part of the performance monitoring program associated with the proposed project. The groundwater monitoring program for the

proposed project is discussed in Chapter 3, "Project Description," of the DEIR, with details provided on Sections 3.5 and 3.5.1.3. The size fraction of mobile colloids in an aquifer environment generally ranges from 0.1 to 0.001 micrometers (μm), easily passing through a standard 0.45 μm filter (Ranville et al. 2005). Consequently, any Cr(III) colloids that may be mobile in the aquifer would be detected by the sampling.

Freshly precipitated Cr(III) is most sensitive to low pH environments, and Cr(III) does not persist in groundwater because of the combined effects of particle agglomeration, sorption onto the soil surfaces, and straining/sedimentation. As a case-in-point, during the IRZ pilot testing at Topock, Cr(III) concentrations were monitored in filtered samples. The data show that the concentration of chromium passing through the 0.45 μm filter was less than 1 $\mu\text{g/l}$. If mobile colloidal Cr(III) formed and persisted in the aquifer during treatment, it would have been evident in these analytical results. For these analyses, dissolved chromium was determined by EPA Method 6010B (inductively coupled plasma-atomic emission spectroscopy [ICP-AES]), which measures both Cr(III) and Cr(VI). This same analytical method would be used during implementation of Alternative E to verify performance of the remedy.

On this basis, a scenario where Cr(III) colloids are transported beyond the treatment zone and possibly even to the Colorado River is not considered likely. Even if some colloidal Cr(III) were to transport outside the treatment zone, the potential for reoxidation is mitigated by a number of factors previously discussed in the Final CMS/FS, Appendix G (Appendix CMS of the DEIR), and such transport would not be anticipated to result in any effects that would be distinguishable from the natural conditions of the area.

T7-6

The water that would be pumped for freshwater injection would come from wells drawing from groundwater within the Mohave Valley, and this source is within the Mohave Basin. Exhibit 4.7-1 of the DEIR shows the extent of the groundwater boundaries associated with the Mohave Basin, and Exhibit 3-4 shows conceptual locations of extraction wells that would provide water for freshwater injection. Because both the pumping and injection wells are located within the Mohave Basin, and because the extracted groundwater would be reinjected, there would be no net change in the basin water balance. The only change is the specific location of the discharge. The projected total discharge from the Mohave Basin through river flow and groundwater discharge is the same with or without the remedial action.

The model simulations conducted as part of the Final CMS/FS (Appendix CMS of the DEIR) show localized mounding around the injection wells and drawdown around the pumping well. Groundwater mounding was not identified as an impact in Table 1-2 of the DEIR because this is a relatively minor and localized subsurface effect that would be monitored during the remedial implementation. It is not reasonably foreseeable that groundwater mounding would result in any new significant adverse impact not previously identified.

T7-7

The commenter expresses concerns that installation of wells within the fluvial organic-rich materials along the river would disrupt the organic layers and allow for migration of Cr(VI) into the river. No significant disturbance of the fluvial layer in the floodplain between the plume and the river is expected to occur with the implementation of Alternative E.

The fluvial organic-rich materials provide a natural geochemical zone, which converts Cr(VI) to Cr(III) and limits the movement of Cr(VI) to and beneath the Colorado River (CH2M Hill 2009a:2-12). As groundwater enters this fluvial zone it becomes geochemically reduced through contact with the reduced environment in the fluvial sediments. The reduction capacity and extent of the reducing zone are not precisely known, but the combinations of available core testing and groundwater data provide an approximate horizontal and vertical distribution of a predominantly

reducing portion of the fluvial material (CH2M Hill 2009a:2-12). Because of uncertainties in the overall extent and reduction capacity of this zone, the floodplain extraction wells are proposed to provide both hydraulic control to further limit groundwater containing Cr(VI) from migrating and to accelerate remediation within the floodplain by drawing carbon-amended water from the IRZ toward the floodplain to further enhance the natural reductive conditions (CH2M Hill 2009a:5-30).

Based on PG&E's conceptual approach, Alternative E identifies six extraction wells within the floodplain where the organic-rich materials are present (CH2M Hill 2009b:Table D-12). Although the final number of wells may vary, the wells that are proposed to be installed in and near the floodplain for Alternative E would result in minimal disturbance/removal of the reduced fluvial sediments because the fluvial sediments would only be disturbed/removed within the limited area of the well bores. The total volume of reduced sediments removed by drilling all the wells would be a small fraction of the volume of reduced sediments present and would therefore not significantly diminish the reducing capacity of the fluvial zone. Installation of the wells does not represent a breach of the organic-rich materials, which are distributed laterally along the floodplain and vertically beneath the floodplain in three dimensions. Monitoring wells are currently located within these organic-rich materials and no evidence exists in the surface water monitoring data to suggest that these wells have adversely disturbed the reducing conditions within these materials or allowed for migration of Cr(VI) into the Colorado River (CH2M Hill 2009b:10-4; CH2M Hill 2010:3-10). See also response to comment T3-1 regarding surface water monitoring data. After the groundwater remediation is complete, wells that are no longer in use would be properly decommissioned so that they would not act as a conduit for groundwater mixing.

The location of the IRZ wells and the creation of the zone of reducing conditions within and adjacent to the IRZ provides a treatment zone for Cr(VI) inland from the river, and in effect, expands the reducing conditions to further protect the Colorado River from potential Cr(VI) migration. The result of the IRZ and the floodplain extraction wells are to add to the naturally reducing conditions by using engineered controls for expanding areas of Cr(VI) reduction; to draw carbon amended water toward the extraction well network, further increasing the reductive capacity of groundwater using both the engineered and naturally occurring Cr(VI) reduction; and to provide additional hydraulic control with the extraction well network.

The disturbance of the organic-rich materials was not discussed as an impact in Table 1-2 of the DEIR for the reasons summarized above.

T7-8

Although the reduction of Cr(VI) to Cr(III) may mobilize other naturally occurring elements, such as arsenic, iron, and manganese, the creation of a plume of these elements as a result of the proposed project would be unlikely due to a number of naturally existing processes (e.g., sorption to soil minerals and organic matter, diffusion processes [movement from areas of high concentration to low concentration], and precipitation or co-precipitation). These processes would likely control the concentration of any byproducts from reduction and the extent of their movement. Outside of the treatment zone, the sorption and co-precipitation processes are very effective at limiting the mobility of arsenic, iron, and manganese. Sorption and co-precipitation processes are discussed in detail in Appendix G of the Final CMS/FS. The concentrations of arsenic, iron, and manganese would, however, be monitored during remediation; therefore, no further analysis is needed in this EIR.

As summarized under Impact Hydro-1 in Section 4.7.3.3 of the DEIR, the IRZ pilot testing identified the range of elevated concentrations of arsenic, iron, and manganese concentrations

resulting from the pilot testing. These elevated metals concentrations occurred in localized areas near the injection well and concentrations decreased after carbon amendments ceased (CH2M Hill 2009a:32, 34, and 37 of Appendix G). The concentrations of these metals decreased with distance from the injection wells and the increased amount of these three metals is a short-term byproduct of the reductive process used to convert the Cr(VI) to Cr(III). The concentrations of these elements observed in pilot tests have been within the range of natural concentrations observed in the shallow fluvial sediments across the Colorado River floodplain.

The monitoring, operations, and maintenance activities that would be performed while implementing Alternative E would include sampling for arsenic, iron, and manganese, in addition to Cr(VI), to evaluate the byproduct generation and persistence. Modifications to the treatment program, such as changes in carbon dose, duration of injection, extraction locations and periods between injections may be made to optimize Cr(VI) treatment and to further control byproduct generation as discussed under Mitigation Measure HYDRO-1 in Section 4.7.3.3 of the DEIR.

Please also refer to the responses to comments T3-6 and T8-4 concerning arsenic, iron, and manganese byproducts.

- T7-9 The general remediation of the groundwater contamination in the East Ravine is part of the proposed project (Alternative E) and is described in Sections 3.5 and 3.5.1.1 of the DEIR and is not anticipated to change. The Final CMS/FS (Appendix CMS of the DEIR) identifies preliminary estimates for the number of wells for Alternative E, which includes approximately 15 bedrock groundwater extraction wells in the East Ravine. Although the actual design of the extraction system will be determined by the additional data to be collected, DTSC does not anticipate the use of any technologies that has not been reviewed and considered in the Final CMS/FS. DTSC may consider additional environmental review if a significant departure arises in the potential impacts associated with the design of the remedy for East Ravine that has not been evaluated within the FEIR pursuant to CEQA requirements. Also, refer to response to comment T1-178 above and responses to comments I1-9 and I1-10 in Chapter 3, "Individual Comments and Responses," of this FEIR.
- T7-10 Mitigation Measures BIO-1 and BIO-2c would require implementation of the proposed project to include a restoration plan. Please also refer to the response to comment T1-186 above regarding restoration of project-related IM-3 facilities. It is infeasible, however, for PG&E to fully restore the project area to its original condition as suggested by HIT. A restoration plan, however, will be prepared by PG&E. The plan will be available for review and comment by the tribes.
- T7-11 As described in Appendix G of the Final CMS/FS (see Appendix CMS of the DEIR.), there is a wide spectrum of organic carbon substrates (reductant) that can be used to establish the treatment zone. The reductant may be provided in the form of an alcohol such as ethanol or methanol, vegetable oil and solids such as chitin and bark mulch, a simple carbohydrate such as lactate, or sugars such as those contained in whey or molasses. Each substrate has a different characteristic and expected lifespan depending on, for example, concentration of the injected substrate, decay rate, and temperature at the site. In Appendix G of the Final CMS/FS, whey was used as an example of a "long live" substrate and is estimated to have a half life of up to 25 days. Careful monitoring of the IRZ performance is critical in the startup phase of the proposed project. The introduction of a source of soluble organic carbon results in stimulating the growth of naturally occurring microorganisms in the aquifer, leading to the creation of "reducing" conditions [conditions that are depleted in dissolved oxygen and result in the transformation of soluble Cr(VI) to, and precipitation as, Cr(III)]. These conditions exist naturally in the fluvial aquifer along the Colorado River because of the abundant organic carbon-rich aquifer soil; naturally

occurring microorganisms grow in the fluvial aquifer and create reducing conditions for the transformation of Cr(VI) to Cr(III). Because most of the carbon substrates are food-grade products designed to stimulate bacterial growth, the substrates, in general, are nontoxic. However, as the subsurface geochemical condition changes, the reductive process that reduces Cr(VI) to Cr(III) can temporarily liberate naturally occurring iron, arsenic, and manganese in the treatment zone. These byproducts of reductive treatment, especially arsenic, can have significant toxicity if unabated and if they persist and come into contact with human or ecological receptors. Although these byproducts should be reabsorbed into the soil after reaching natural equilibrium in an oxidizing environment, such as within the upland area and beyond the IRZ under the Colorado River, careful control of the byproducts' movement through proper hydraulic control is essential in the proposed remedy. Organic byproducts from the organic carbon sources are created during metabolism by naturally occurring microorganisms that reside in the aquifer. The microorganisms are capable of degrading a variety of organic substrates (as is evidenced by the natural microbial communities in the fluvial deposits). Injection of the simplest organic carbon sources (such as methanol or ethanol) results in the formation of very simple organic acids such as acetate ion and dissolved carbon dioxide (creating carbonic acid, which dissociates to produce the bicarbonate ion). Acetate is further metabolized and does not accumulate within the IRZ. The other potential organic carbon sources, such as lactate and molasses, also degrade to simple organic acids and bicarbonate; the organic acids are degraded further and do not accumulate within the IRZ.

The reductant chosen initially to establish the IRZ may be different from that used during operation of the IRZ, and adjustments in type of reductant may be made during the operation of the IRZ. Reasons for adjusting the reductant used in the IRZ would be based on metabolization rates and associated distances of delivery into the aquifer. The organic carbon source may be quickly metabolized by the naturally occurring microorganisms (in the case of a simple alcohol such as ethanol) or may be more slowly metabolized (e.g., as when using whey). The faster the organic carbon is metabolized, the shorter the distance over which the reductant can be delivered through injection. Therefore, if effective operation of the IRZ requires coverage of a larger area outside of the injection well, a form of organic carbon would be chosen that degrades more slowly. The alternative would be adding more wells in the IRZ and using organic carbon substrates that degrade more quickly. The various sources of organic carbon that may be used are all compatible with one another.

The lifespan of the degradation products are shorter than the lifespan of the organic carbon sources used to establish the IRZ. For more information on this issue, please refer to Appendix G of the Final CMS/FS.

T7-12

The commenter correctly notes the challenges of operating remediation wells and the scaling problems resulting from calcite precipitation. The commenter also identifies that acid injections may be a part of the well operations and maintenance process and that replacement wells may be required and that these constitute "a desecration to the sacred landscape." The contingencies for replacement wells are provided in Appendix D of the Final CMS/FS and addressed in Section 3.5 in Volume 2 of the FEIR.

Monitoring groundwater and collecting data on regular system operations regarding well performance would provide information on the degree of scaling. The information would be used to determine the well maintenance and redevelopment activities needed. Routine maintenance and periodic well replacement would be required to maintain functioning wells for optimum remedial performance. Practices used in the IM-3 operations are typical well maintenance actions, some of which may be used in the operation of Alternative E remediation wells. Methodologies and procedures may be similar to those presented in the *Interim Measures No.3, Treatment and*

Extraction System Operation and Maintenance Plan (CH2M Hill 2005:Section 3 and Table 3-1). Descriptions of anticipated procedures for well rehabilitation, well maintenance, and well replacement are summarized below and considered in the EIR. These responses are consistent with those provided for the response to comments T1-173 and T7-13.

Several types of well fouling were summarized in response T1-173. Mineral precipitates are the specific source of the fouling mechanism associated with calcite precipitation. Precipitates form when bacterial strains oxidize the mineral or when mixing of incompatible waters and/or changes in groundwater pressure and temperature occur during well operation.

The Alternative E water injection would use water at the same ionic strength and pH of the groundwater at the injection well locations; therefore, minimal dissolution of calcite would occur, limiting any calcite transport and reprecipitation that could lead to aquifer obstruction. The use of acid for well rehabilitation would create conditions that can dissolve mineral phases within the well bore and filter pack; however, the low pH would not persist for any significant distance away from the injection well and would be rapidly neutralized. Injected acid is recovered in a process that removes any unreacted chemical reagents from the aquifer. Localized redistribution of mineral precipitates would occur but the net effect would negate any accumulation of precipitates in the immediate vicinity of the well. Field experience with well rehabilitation associated with IM-3 operations have indicated that temporary use of acid (which may occur over a 1 to 2 day rehabilitation process for a given well) does not have lasting effects on the ability to inject water into the well.

Acid injections at IM-3 are intended to minimize issues related to the IM-3 treatment process in which dissolved gasses become entrained in the aquifer, decreasing the ability of the aquifer to accommodate water adjacent to the injection well but not to fix issues related to the groundwater geochemistry itself. Less acid is anticipated to be injected under Alternative E than is used in the maintenance of IM-3 wells because, as described in the previous paragraph, water injection under Alternative E would use water at the same ionic strength and pH of the groundwater at the injection well locations; therefore, minimal dissolution of calcite would occur, limiting any calcite transport and reprecipitation that could lead to aquifer obstruction.

Well rehabilitation activities include a range of mechanical and chemical treatments as summarized in the response to comment T1-173. For those wells that may be affected by calcite precipitation, combinations of brushing, surging, swabbing, pumping, and jetting used in conjunction with acid injections (hydrochloric, phosphatic, hydroxyacetic, or citric acids) may be employed to remove the mineral deposits within the well and its immediate vicinity. Procedures typically used in rehabilitation include:

- ▶ disassembling the well head and removal of downhole equipment;
- ▶ collecting fouling deposits,
- ▶ video surveying the well before treatment to document the condition of the screen and casing;
- ▶ evaluating initial capacity of the well (e.g., through a slug or pumping test);
- ▶ mechanically cleaning the well and removing dislodged sediment/deposits;
- ▶ chemically cleaning the well and surging (typically chemicals are left in well for 24 hours);
- ▶ bailing, surging, and pumping to remove solids and chemical reagents;

- ▶ neutralizing and disposing of cleaning fluids removed from well; and
- ▶ reevaluating the capacity of the well.

The DEIR conservatively assumes that all well types associated with Alternative E, monitoring wells, injection wells, extraction wells, and IRZ wells, would require replacement during the lifetime of the proposed project. The well replacement options range from replacing the well screen and filter pack for wells that may be designed for this type of replacement, overdrilling and reinstalling the well in the same well bore, to decommissioning the existing well and installing the replacement well at a proximal location. Details of these various replacement scenarios were provided in the response to comment T1-173.

Regarding cultural resource impacts, as stated under Mitigation Measure CUL-1a in Section 4.4.3.3 of the DEIR, the impacts on the Topock Cultural Area are considered significant and unavoidable despite mitigation.

T7-13

The commenter provides information that suggests mineral phases are projected to dissolve near injection wells and precipitate within the aquifer at some distance away from these wells. Within an IRZ, metabolism of organic carbon results in creating inorganic carbon (carbonate) and the dissolving iron and manganese oxides to release reduced forms of these metals into solution. This in turn results in forming calcite as well as other solid carbonate minerals (rhodocrosite [MnCO_3] and siderite [FeCO_3]). In addition to carbonates, iron sulfides and mixed-valent iron forms (e.g., magnetite) would also precipitate. These manganese and iron minerals are all retained by the aquifer and have been detected in the aquifer soil solids in the pilot test areas. The net effect is a minimal decrease in aquifer porosity and permeability and this effect is spread out over a large volume of the aquifer matrix. A beneficial result of the mineral precipitation is the reaction with, and co-precipitation of, the chromium that serves to keep chromium immobilized.

The vast majority of the 27 minerals listed in Table 1 of this comment letter are minerals that may form when iron and manganese are reoxidized and precipitate. The precipitation would be spread out over a large volume of aquifer matrix. The precipitation represents a redistribution of some of the iron and manganese dissolved in the reducing environment near the injection wells; there would not be any iron or manganese added to the injected water. As stated above, only a minimal amount of carbonate would be added as a product of the microbial breakdown of organic carbon, resulting in some additional calcite precipitated near the injection wells, and this may be efficiently controlled by mild acidification. Additional information on well rehabilitation processes to address mineral precipitation is provided in the responses to comments T3-3 and T7-11.

T7-14

Geochemical modeling data related to well clogging has not been provided by PG&E, but concerns with this issue will be addressed during the remedy design phase. As with all groundwater sites, DTSC anticipates that some wells will eventually lose efficiency and require rehabilitation and/or replacement. In response to the question raised in the comment, DTSC does not believe that the entire aquifer will become completely clogged over time. As described in the responses to comments T3-3 and T7-11, the current injection well rehabilitation effort using acids at the IM-3 Facility is focused on alleviating issues associated with the treatment process, rather than associated with inherent groundwater geochemical factors. For example, the treatment process introduces dissolved gases that then become entrained in the aquifer and decrease the ability of the aquifer to accommodate water adjacent to the injection well. Decreases in the rate of water injection related to entrained dissolved gas differ from decreases in rates of injection related to mineral precipitation.

The injection of water as part of Alternative E in situ treatment would involve the use of water at the same ionic strength and pH of the groundwater. Localized redistribution of mineral precipitates would occur during operation, but the net effects of similar water chemistry and well rehabilitation processes would negate any accumulation of precipitates in the immediate vicinity of the injection well. The vast majority of the 27 minerals listed in Table 1 of comment letter T7 as being in the precipitating phase are minerals that may form when iron and manganese become reoxidized and precipitate within the aquifer beyond the influence of the IRZ. The net effect is a minimal decrease in aquifer porosity and permeability as a result of mineral precipitation. This effect is spread out over a large volume of the aquifer matrix. These manganese and iron minerals are all retained in the solid phase after precipitation and have been detected in the aquifer soil solids in the pilot test areas. A beneficial result of the mineral precipitation is the reaction with, and co-precipitation of, the Cr(VI), which serves to keep Cr(VI) immobilized. Operational data from the in situ pilot testing is not of a sufficient time span to evaluate the potential effects after 30 years of operation. The monitoring and system operations and maintenance conducted during remedy operations would allow for modifications during the remedial program.

The Great Spirit created Man and Woman in his own image. In doing so, both were created as equals. Both depending on each other in order to survive. Great respect was shown for each other; in doing so, happiness and contentment was achieved then, as it should be now.

The connecting of the Hair makes them one person; for happiness or contentment cannot be achieved without each other.

The Canyons are represented by the purples in the middle ground, where the people were created. These canyons are Sacred, and should be so treated at all times.

The Reservation is pictured to represent the land that is ours, treat it well.



The Reservation is our heritage of our children yet our land and it will continue.

The Sun is the symbol of life; nothing is possible - no life there will be no life - no represents the dawn of life. Through hard work, education, everything is assured bigger and brighter days ahead.

The Tracks in the middle represent the coyote and other animals which were here before us.

The Green around the symbol are pine trees, representing our name Hualapai - PEOPLE OF THE TALL PINES -

Letter
T8

HUALAPAI TRIBE OFFICE OF THE CHAIRMAN

Wilfred Whatoname, Sr.
Chairman

P.O. Box 179 • Peach Springs, Arizona 86434 • (928) 769-2216
1-888-769-2221

Richard Walema, Sr.
Vice Chairman

July 16, 2010

Pamela S. Innis,
Topock Project Manager
U.S. Department of the Interior
Office of Environmental Policy and Compliance
P.O. Box 25007 (D-108)
Denver, CO 80225-0007

Subject: Review of "Groundwater Proposed Plan, Pacific Gas and Electric Company, Topock Compressor Station, Needles, California, June 4, 2010," by U.S. Department of the Interior

We hereby submit the following comments to the above referenced subject:

While the Hualapai Tribe believe that the water should be kept clean, we also believe that there should be an emphasis on protection of cultural resources. The Department of the Interior (DOI) Proposed Plan seems to put a greater emphasis on cleaning up the groundwater. The Proposed Plan does not mention that the DOI owns almost all of the land surrounding the Topock Compressor Station, and the plume is mostly under DOI land. You would think the DOI would be most concerned about protection of natural and cultural resources; however, there appears to be a tacit acceptance by the DOI that damages will be done to cultural resources.

T8-1

The Hualapai Tribe believe that the plants are sacred. Willows are still used as materials for basket making by members of the Hualapai Tribe, where willow shoots are split with the teeth. In the DOI Proposed Plan (p. 6): "...there are no ecological receptors currently at risk of adverse effects." Have plants been sampled and analyzed for chromium-6? Has the DOI considered plants as a potential contaminant pathway? Do the willows at Topock contain chromium-6?

T8-2

The organic layer next to the river has been converting chromium-6 to chromium-3 in a natural manner. As part of the preferred Alternative E, many wells will be poked through this natural organic layer. What if these wells upset the natural balance of the organic layer? If the

T8-3

chromium-6 needs to be pumped away from the Colorado River, the wells should be further away from the river so that the organic layer is not disrupted.

T8-3
con't.

The Proposed Plan says that "byproducts are expected from the in-situ treatment." What are these byproducts? Are the byproducts just as toxic and carcinogenic as chromium-6? Will the plants take up these byproducts? Will these byproducts discharge to the river?

T8-4

The Hualapai Tribe believe that the land should be returned to its original condition after the work has been completed. However, there is no mention of restoration or how they would properly abandon the huge number of wells at the site (up to 300 wells). All of the activities at the Topock site—wells, buried pipes, and roads—have taken place in an area that is sacred to us. What would you say if we drilled a bunch of wells next to your grandmother's grave? You would not be happy either. The least we can do is look into the future, and describe what the site will look like to our grandchildren.

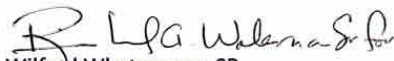
T8-5

In the discussion about institutional controls, how will institutional controls affect the Tribes? The Hualapai Tribe is a sovereign government. Rather than "*engaging in conversation with the tribes*," there should be government to government relations with the Tribes. We have a lot of experience in government to government decision making, and could offer our expertise.

T8-6

Thank you for the opportunity to comment, if you have any questions or concerns, please call me at the above number or contact Ms. Loretta Jackson-Kelly, Director of the Department of Cultural Resources @ (928) 769-2223.

Sincerely,



Wilfred Whatoname, SR.

Chairman, Hualapai Tribal Council

- T8-1 While the proposed plan highlights the groundwater cleanup objectives of the proposed project and alternatives that are described in the Final CMS/FS and the DEIR, the importance of cultural resources protection to the tribes is noted on pages 4, 5, 11, and 12 of the proposed plan. DOI properties that surrounds the project site is noted on page 3 of the proposed plan as land under the jurisdiction of BLM and Reclamation, which are both part of DOI. This comment is specific to the proposed plan issued by DOI and does not require further response under CEQA.
- T8-2 Please see the responses to comments T3-5 and T7-4.
- T8-3 DTSC does not foresee that the proposed remedy would disrupt the reductive capacity within the floodplain. On the contrary, the proposed remedy would enhance the reductive capacity caused by the lifecycle of the naturally occurring bacteria by enriching the subsurface with nutrients. Once the remediation is complete and nutrient injection ceases, the floodplain would return to the preconstruction and natural equilibrium. The remedy concept is not to keep the Cr(VI) away from the river; instead it is to draw the Cr(VI) through the treatment zone, which is located near the river. Therefore, the proper distance of the extraction wells from the river would be dictated by the anticipated travel time of the Cr(VI) through the IRZ treatment zone. Optimizing well locations are part of the final remedy design. Tribes will be invited to review and comment on the design plans. Also see response to comment T7-7.
- T8-4 Please see the response to comment T3-6 regarding in situ treatment byproducts. The main byproducts of the in situ treatment are arsenic and manganese. Iron would also be created as a byproduct. As summarized in Section 4.4.3.3 of the DEIR, the IRZ pilot testing identified the range of elevated concentrations of arsenic, iron, and manganese concentrations resulting from the pilot testing; and identified that these elevated metal concentrations occurred in localized areas near the injection well and concentrations decreased after carbon amendments ceased (CH2M Hill 2009a:32, 34, and 37 of Appendix G). The concentrations of these metals decreased with distance from the injection wells. The elevation of these three metals is a short-term byproduct of the reductive process used to convert the Cr(VI) to Cr(III).
- The monitoring, operations, maintenance activities that would be performed during the implementation of Alternative E would include sampling for arsenic, iron, and manganese, in addition to Cr(VI), for evaluating the byproduct generation and persistence. Modifications to the treatment program, such as changes in carbon dose, duration of injection, location of extraction and periods between injections may be made to optimize Cr(VI) treatment and to further control byproduct generation as discussed in Section 4.4.3.3 of the DEIR. Although arsenic is a known human carcinogen; manganese and iron are noncarcinogenic. To ensure proper management of these elements, the proposed design would include careful groundwater monitoring and assurance of hydraulic control near the river. If properly managed with institutional controls in place, these byproducts should not increase risk to people, plants, and animals during the remediation efforts because available contact with these byproducts would be limited. Please also see the response to comment T7-8.
- T8-5 DTSC agrees with the comment that the land should be restored. Therefore, as part of the mitigation measures, PG&E will be providing a restoration plan that will consider the cultural

concerns of HIT during development of the specific methods for restoration once final design has been determined. Furthermore, DTSC is committed to having dialogue to discuss future well decommissioning protocol. Please also see the response to comment T7-10.

T8-6

Institutional controls for the groundwater remediation project should not affect HIT or the other tribes. The institutional controls considered by DTSC are to limit the use of the contaminated groundwater by current landowners (i.e., no drinking water wells would be installed until remedy is complete) and to protect the operation of the remediation system, including limitations on development that would impede the continued operation or implementation of the remediation system. As part of the changes to mitigation measures in Section 4.4, "Cultural Resources," DTSC is requiring PG&E to continue communication with tribes. Likewise, DTSC will also continue to communicate and work with the tribes throughout this project.

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5 MITIGATION MONITORING AND REPORTING PROGRAM

5 MITIGATION MONITORING AND REPORTING PROGRAM

The California Department of Toxic Substances Control (DTSC) prepared an environmental impact report (EIR) in accordance with the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.; California Code of Regulations Title 14 Section 15000 et seq. [CEQA Guidelines]). The EIR evaluates the potential significant environmental impacts associated with the cleanup and remediation of contaminated groundwater at the Pacific Gas and Electric (PG&E) Topock Compressor Station (compressor station).

The EIR concludes that implementation of the Topock Compressor Station Groundwater Remediation Project would generate significant adverse environmental impacts on the physical environment. For most potential impacts, the EIR prescribes mitigation capable of reducing these impacts to less-than-significant levels.

Section 21081.6 of the California Public Resources Code requires a public agency to adopt a reporting or monitoring program at the time of approval for changes to the project that it has adopted and incorporated into the project. The program must be designed to avoid, mitigate, or minimize significant effects on the physical environment. These conditions are also referred to as mitigation measures.

This mitigation monitoring and reporting program (MMRP) is to be used by DTSC to ensure that adopted mitigation measures identified in the EIR are implemented and that implementation is documented. The MMRP is presented in tabular format (Table 5-1). The table columns contain the following information:

Mitigation Number: Lists the mitigation measures by number, as designated in the EIR, and by issue area.

Mitigation Measure: Provides the text of the mitigation measures (by issue area), as provided in the EIR, each of which has been adopted and incorporated into the project.

Timing/Schedule: Lists the time frame in which the mitigation is expected to take place.

Implementation Responsibility: Identifies the entity responsible for complying with the requirements and conditions of the mitigation measure.

Completion of Implementation: DTSC is responsible for ensuring these mitigation measures are implemented. The “Action” column is to be used by the DTSC to describe the action(s) taken to complete implementation. The “Date Completed” column is to be used to indicate when implementation of the mitigation measure has been completed. The DTSC, at their discretion, may delegate implementation responsibility or portions thereof to qualified consultants or contractors. However, DTSC still maintains overall responsibility for implementation of mitigation adopted or incorporated into the project.

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
Aesthetics					
AES-1	Impacts on Views from Topock Maze Locus B, a Scenic Vista (Key View 5) The proposed project shall be designed and implemented to adhere to the design criteria presented below. a) Existing mature plant specimens shall be protected in place during construction, operation, and decommissioning phases. The identification of plant specimens that are determined to be mature and retained shall occur as part of the design phase and mapped/identified by a qualified plant ecologist or biologist and integrated into the final design and project implementation. b) Revegetation of disturbed areas within the riparian vegetation along the Colorado River shall occur concurrently with construction operations. Plans and specifications for revegetation shall be developed by a qualified plant ecologist or biologist before any riparian vegetation is disturbed. The revegetation plan shall include specification of maintenance and monitoring requirements, which shall be implemented for a period of 5 years after project construction or after the vegetation has successfully established, as determined by a qualified plant ecologist or biologist.	During project design and before construction	PG&E		
	c) Plant material shall be consistent with surrounding native vegetation.	During project design and during construction	PG&E		
	d) The color of the wells, pipelines, reagent storage tanks, control structures, and utilities shall consist of muted, earth-tone colors that are consistent with the surrounding natural color palette. Matte finishes shall be used to prevent reflectivity along the view corridor. Integral color concrete should be used in place of standard gray concrete.	During project design and during construction	PG&E		

**Table 5-1
 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project**

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	e) The final revegetation plans and specifications shall be reviewed and approved by an architect, landscape architect, or allied design professional licensed in the State of California to ensure that the design objectives and criteria are being met. Planting associated with biological mitigation may contribute to, but may not fully satisfy, visual mitigation.				
AES-2	<p>Impacts on Views from Colorado River, a Scenic Resources Corridor (Key View 11)</p> <p>The proposed project shall be designed and implemented to adhere to the design criteria presented below.</p> <p>a) A minimum setback requirement of 20 feet from the water (ordinary high water mark) shall be enforced, except with regard to any required river intake facilities, to prevent substantial vegetation removal along the riverbank.</p> <p>b) Existing mature plant specimens shall be protected in place during construction, operation, and decommissioning phases. The identification of plant specimens that are determined to be mature and retained shall occur as part of the design phase and mapped/identified by a qualified plant ecologist or biologist and integrated into the final design and project implementation.</p> <p>c) Revegetation of disturbed areas within the riparian vegetation along the Colorado River shall occur concurrently with construction operations. Plans and specifications for revegetation shall be developed by a qualified plant ecologist or biologist before any riparian vegetation is disturbed. The revegetation plan shall include specification of maintenance and monitoring requirements, which shall be implemented for a period of 5 years after project construction or after the vegetation has successfully established, as determined by a qualified plant ecologist or biologist.</p> <p>d) Plant material shall be consistent with surrounding native vegetation.</p> <p>e) The color of the wells, pipelines, and utilities shall consist of muted, earth-tone colors that are consistent with the surrounding natural color palette. Matte finishes shall be used to prevent reflectivity along the</p>	During project design and during construction	PG&E		

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	view corridor. Integral color concrete should be used in place of standard gray concrete. f) The final revegetation plans and specifications shall be reviewed and approved by an architect, landscape architect, or allied design professional licensed in the State of California to ensure that the design objectives and criteria are being met. Planting associated with biological mitigation may contribute to, but may not fully satisfy, visual mitigation.				
AES-3	Impacts on Visual Quality and Character along the Colorado River (Key View 11). Mitigation Measure AES-1 shall be implemented. Implementation of Mitigation Measures AES-1 would reduce the overall change to the visual character of the view corridor along the Colorado River. Although the proposed project would still be visible, incorporating a facilities design that is aesthetically sensitive and preserving the vegetation would blend the proposed project into their visual setting within the floodplain and would reduce the overall contrast of the proposed project.	During project design and before construction	PG&E		
Air Quality					
AIR-1	Short-Term Construction-Related Emissions of Criteria Air Pollutants and Precursors PG&E shall implement the fugitive dust control measures below for any construction and/or demolition activities: a) Use periodic watering for short-term stabilization of disturbed surface area to minimize visible fugitive dust emissions during dust episodes. Use of a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes shall be considered sufficient; b) Cover loaded haul vehicles while operating on publicly maintained paved surfaces;	During construction and demolition	PG&E		

**Table 5-1
Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project**

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>c) Stabilize (using soil binders or establish vegetative cover) graded site surfaces upon completion of grading when subsequent development is delayed or expected to be delayed more than 30 days, except when such delay is caused by precipitation that dampens the disturbed surface sufficiently to eliminate visible fugitive dust emissions;</p> <p>d) Cleanup project-related track out or spills on publicly maintained paved surfaces within twenty-four hours; and</p> <p>e) Curtail nonessential earth-moving activity under high wind conditions (greater than 25 miles per hour) or develop a plan to control dust during high wind conditions. For purposes of this rule, a reduction in earth-moving activity when visible dusting occurs from moist and dry surfaces due to wind erosion shall be considered sufficient to maintain compliance.</p>				
Biological Resources					
BIO-1	<p>Potential Fill of Wetlands and Other Waters of the United States and Disturbance or Removal of Riparian Habitat.</p> <p>Areas of sensitive habitat in the project area have been identified during project surveys. These areas include floodplain and riparian areas, wetlands, and waters of the United States. Habitats designated by DFG as sensitive, including desert washes and desert riparian, are also included. To the extent feasible, elements of the project shall be designed to avoid direct effects on these sensitive areas. During the design process and before ground disturbing activities, a qualified biologist shall coordinate with PG&E to ensure that the footprints of construction zones, drill pads, staging areas, and access routes are designed to avoid disturbance of sensitive habitats to the extent feasible. DTSC shall be responsible for enforcing compliance with design and all preconstruction measures.</p> <p>If during the design process it is shown that complete avoidance of habitats under USACE jurisdiction is not feasible, the Section 404 permitting process shall be completed, or the substantive equivalent per CERCLA Section 121(e)(1). In either event, the acreage of affected jurisdictional</p>	During project design and before construction	PG&E		

**Table 5-1
Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project**

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>habitat shall be replaced and/or rehabilitated to ensure “no-net-loss.”</p> <p>Before any ground-disturbing project activities begin in areas that contain potentially jurisdictional wetlands, the wetland delineation findings shall be documented in a detailed report and submitted to USACE for verification as part of the formal Section 404 wetland delineation process and to DTSC. For all jurisdictional areas that cannot be avoided as described above, authorization for fill of wetlands and alteration of waters of the United States shall be secured from USACE through the Section 404 permitting process before project implementation. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by feasible methods agreeable to USACE and consistent with applicable county and agency policies and codes. Minimization and compensation measures adopted through any applicable permitting processes shall be implemented.</p> <p>Alternately, if USACE declines to assert jurisdiction because it determines that CERCLA Section 121(e)(1) applies, the substantive equivalent of the Section 404 permitting process shall be complied with by ensuring that the acreage of jurisdictional wetland affected is replaced on a “no-net-loss” basis in accordance with the substantive provisions of USACE regulations. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by feasible methods consistent with USACE methods, and consistent with the purpose and intent of applicable county and agency policies and codes. Minimization and compensation measures adopted through any applicable permitting processes shall be implemented. In any event, a report shall be submitted to DTSC to document compliance with these mandates.</p> <p>If during the design process it is shown that complete avoidance of habitats under DFG jurisdiction (such as changes to the natural flow and/or bed and bank of a waterway) is infeasible, a Section 1602 streambed alteration agreement shall be obtained from DFG and affected habitats shall be replaced and/or rehabilitated. If complete avoidance of identified riparian habitat is not feasible, the acreage of riparian habitat that would be removed shall be replaced or rehabilitated on a no-net-loss basis in accordance with DFG regulations and, if applicable, as specified in the streambed alteration agreement, if needed. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods agreeable to DFG and consistent with</p>				

**Table 5-1
Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project**

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>the purpose and intent of applicable county policies and codes, as well as those policies outlined under the respective federal agency guidance documents. Minimization and compensation measures adopted through the permitting process shall also be implemented. Restoration of any disturbed areas shall include measures to achieve “no-net-loss” of habitat functions and values existing before project implementation. These measures shall be achieved by developing and implementing a habitat restoration plan submitted to DFG, BLM, and USFWS that is agreeable to these agencies, or, alternately, through the implementation of a habitat restoration plan consistent with the substantive policies of DFG, BLM, and USFWS. The plan shall include a revegetation seed mix or plantings design, a site grading concept plan, success criteria for restoration, a monitoring plan for achieving no net loss of habitat values and functions, and an adaptive management plan.</p> <p>Alternately, if DFG declines to assert jurisdiction because it determines that CERCLA Section 121(e)(1) applies, and during the design process it is shown that complete avoidance of habitats under DFG jurisdiction (such as changes to the natural flow and/or bed and bank of a waterway) is infeasible, the substantive mandates of a streambed alteration agreement shall be implemented, and affected habitats shall be replaced and/or rehabilitated. If complete avoidance of identified riparian habitat is not feasible, the acreage of riparian habitat that would be removed shall be replaced or rehabilitated on a “no-net-loss” basis in accordance with DFG regulations and, if applicable. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods agreeable to DFG and consistent with the purpose and intent of applicable county policies and codes, as well as those policies outlined under the respective federal agency guidance documents. Minimization and compensation measures adopted through the permitting process shall also be implemented. Restoration of any disturbed areas shall include measures to achieve “no-net-loss” of habitat functions and values existing before project implementation. These measures shall be achieved by developing and implementing a habitat restoration plan developed consistent with the substantive policies of DFG, BLM and USFWS. The plan shall include a revegetation seed mix or plantings design, a site grading concept plan, success criteria for restoration, a monitoring plan for achieving no net loss of habitat values and functions, and an adaptive management plan.</p>				

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
BIO-2a	<p>Disturbance of Special-Status Birds and Loss of Habitat.</p> <p>To the extent feasible, the project implementation plans shall be designed to minimize removal of habitat for special-status birds. During the design process and before ground disturbing activities, a qualified biologist shall coordinate with PG&E to ensure that the footprints of project elements and construction zones, staging areas, and access routes are designed to avoid direct or indirect effects on habitat and nesting habitat for other special-status species, to the extent feasible. DTSC will ensure compliance with all preconstruction and construction phase avoidance measures identified during this process and included in any design plans. Vegetation removal and other activities shall be timed to avoid the nesting season for special-status bird species that may be present. The nesting cycle for most birds in this region spans March 15 through September 30.</p> <p>Preconstruction Measures</p> <p>Preconstruction breeding season surveys shall be conducted during the general nesting period, which encompasses the period from March 15 through September 30, if the final design of the project could result in disturbance or loss of active nests of special-status bird species. If vegetation removal or other disturbance related to project implementation is required during the nesting season, focused surveys for active nests of special-status birds shall be conducted before such activities begin. A qualified biologist shall conduct preconstruction surveys to identify active nests that could be affected. The appropriate area to be surveyed and the timing of the survey may vary depending on the activity and species that could be affected. For the Yuma clapper rail, the preconstruction surveys shall specifically identify habitat within 300 feet of construction areas, in accordance with substantive policies of USFWS including those set out in USFWS protocols.</p> <p>Construction Measures</p> <p>Before the initiation of project elements that could result in disturbance of active nests or nesting pairs of other special-status birds, a qualified biologist shall be consulted to identify appropriate measures to minimize adverse impacts during the construction phase of the project. If deemed appropriate for the final project design because of the potential for impacts, minimization measures will include focusing construction</p>	Before and during construction.	PG&E		

**Table 5-1
Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project**

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>activities that must be conducted during the nesting season to less-sensitive periods in the nesting cycle, implementing buffers around active nests of special-status birds to the extent practical and feasible to limit visual and noise disturbance, conducting worker awareness training, and conducting biological monitoring (including noise monitoring to determine if construction noise at the edge of suitable nesting habitat is elevated above 60 dBA L_{eq} or ambient levels).</p> <p>An avoidance and minimization plan for special status bird species, as defined in Table 4.3-3 and those species protected under the federal Migratory Bird Treaty Act, including the Yuma clapper rail, shall be developed and implemented in consultation with USFWS, and agreed upon by DTSC. Avoidance and impact minimization measures, such as prohibiting construction near or in sensitive bird habitat, limiting construction during breeding seasons, and requiring an on-site biological monitor, shall be included in the design plan and implemented to the extent necessary to avoid significant impacts on sensitive bird species.</p>				
BIO-2b	<p>Disturbance of Desert Tortoise and Loss of Habitat. Preconstruction Measures In areas where impacts to potential desert tortoise habitat are unavoidable, measures outlined in the Programmatic Biological Agreement (PBA) and in the USFWS letter concurring with the PBA, shall be implemented, as described below. To the extent feasible, project construction shall be designed to minimize removal of habitat for the desert tortoise. Before any ground-disturbing project activities begin, a USFWS-authorized desert tortoise biologist shall identify potential desert tortoise habitat in areas that could be affected by the final project design. Through coordination with the authorized biologist, PG&E shall ensure that the footprints of project elements and construction zones, staging areas, and access routes are designed to avoid direct or indirect effects on potential desert tortoise habitat to the extent feasible. These measures include the presence of a USFWS-authorized desert tortoise biologist on-site who will examine work areas and vehicles for the presence of desert tortoises, and who will conduct preconstruction desert tortoise surveys in areas where unavoidable impacts to tortoise habitat would occur. If feasible, the preconstruction desert tortoise surveys would coincide with one of the two peak periods of</p>	Before and during construction	PG&E		

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>desert tortoise activity (i.e., if feasible, the surveys should be conducted in either the period from April through May, or from September through October). The preconstruction surveys shall be in full accordance with the substantive requirements of USFWS protocols.</p> <p>Construction Measures Before the initiation of project elements that could result in disturbance of desert tortoises or desert tortoise habitat, a USFWS-authorized desert tortoise biologist shall be consulted to identify appropriate measures to minimize adverse impacts. Minimization measures are likely to include micro-siting structures, pipelines, and access roads in previously disturbed areas or in areas with sparse scrub vegetation, conducting worker awareness</p>				
BIO-2c	<p>Disturbance of Special-Status Species and Loss of Habitat Caused by Decommissioning. To avoid impacts on special-status species that may occur within the project area as a result of decommissioning activities, an avoidance and minimization plan shall be developed and implemented through consultation with DFG, BLM, and USFWS. These measures shall be based on surveys conducted prior to decommissioning, and during the breeding season (as previously defined in this EIR for each species or suite of species). Restoration of any disturbed areas shall include measures to achieve no net loss of habitat functions and values existing before project implementation. These measures shall be achieved by developing and implementing a habitat restoration plan submitted to DFG, BLM, and USFWS that is agreeable to these agencies. The plan shall include a revegetation seed mix or plantings design, a site grading concept plan, success criteria for restoration, a monitoring plan for achieving no net loss of habitat values and functions, and an adaptive management plan.</p>	During the design and planning of decommissioning activities and before decommissioning activities that have the potential to result in ground disturbance	PG&E		

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
BIO-3a	<p>Potential Impacts to Aquatic Habitat Related to Turbidity, Erosion, Sedimentation, and Overall Water Quality during Construction of the Intake Structure.</p> <p>Hydrology & Water Quality Mitigation Measure HYDRO-1 shall be implemented in order to reduce water quality impacts related to erosion and pollutant runoff through implementation of BMPs. In addition, installing the cofferdam and dewatering a portion of the proposed intake structure site during fish screen construction may result in fish stranding. PG&E and its contractor shall coordinate with a qualified fisheries biologist to develop and implement a fish rescue plan. The fish rescue effort would be implemented during the dewatering of the area behind the cofferdam and would involve capturing those fish and returning them to suitable habitat within the river.</p> <p>The fish rescue plan shall identify and describe the following items: collection permits needed, fish capture zones, staffing, staging areas, fish collection and transport methods, species prioritization, resource agency contacts, fish handling protocols, fish relocation zones, site layout and progression of dewatering and fish rescue, and records and data. To ensure compliance, a fisheries biologist shall be present on-site during initial pumping (dewatering) activities and to oversee the fish rescue operation.</p>	During construction activities	PG&E		
BIO-3b	<p>Potential Loss or Degradation of Aquatic Habitat.</p> <p>To restore, replace, or rehabilitate habitat impacted by the intake structure, PG&E shall implement the measures described below. Unless as provided below, PG&E shall confer with DFG regarding potential disturbance to fish habitat and shall obtain a streambed alteration agreement, pursuant to Section 1602 of the California Fish and Game Code, for construction work associated with intake structure construction; PG&E shall also confer with DFG pursuant to the CESA regarding potential impacts related to the loss of habitat or other operational impacts on state-listed fish species, respectively. PG&E shall comply with all requirements of the streambed alteration agreement and any CESA permits to protect fish or fish habitat or to restore, replace, or rehabilitate any important habitat on a “no-net-loss” basis.</p>	Before operation of the intake structure	PG&E		

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	<p>Alternatively, if DFG declines to assert jurisdiction because it determines that CERCLA Section 121(e)(1) applies, the project proponent shall consult with DFG regarding potential disturbance to fish habitat and shall meet the substantive policies of a streambed alteration agreement and of the CESA for construction work associated with intake structure construction and operations. PG&E shall comply with all substantive requirements of the streambed alteration agreement and CESA to protect fish and fish habitat or to restore, replace, or rehabilitate any important habitat on a “no-net-loss” basis and to operate the facility in accordance with CESA to ensure no net loss of habitat function.</p> <p>Additionally, PG&E shall consult with USACE regarding the need to obtain permits under section 404 of the CWA and section 10 of the Rivers and Harbors Act. In conjunction with these permitting activities, the USACE must initiate consultation with USFWS under Section 7 of the Federal ESA regarding potential impacts of the proposed project on federally listed fish species due to the loss of habitat on federally listed fish species. PG&E shall implement any additional measures developed through the ESA Section 7 processes, or its equivalent, to ensure “no-net-loss” of habitat function.</p> <p>Alternatively, if USACE and/or USFWS decline to assert jurisdiction because it determines that CERCLA Section 121(e)(1) applies, PG&E shall confer with USFWS regarding potential disturbance to federally listed fish species and federally listed fish species habitat and shall meet the substantive mandates under Section 7 of the Federal ESA regarding potential impacts to fish or to habitat of federally listed fish species. PG&E shall implement any additional measures developed through that processes, including compliance with the substantive requirements of all of what would be permit conditions if not exempt pursuant to CERCLA, and to ensure “no-net-loss” of habitat function.</p> <p>Because the type and extent of habitat potentially affected is unknown, PG&E shall have an instream habitat typing survey conducted in the area potentially affected by the intake construction. Further, cooperation with USFWS and other fisheries biologists shall determine suitable and acceptable location(s) for the intake structure(s) to avoid the spawning</p>				

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	habitat of special-status fish species. PG&E shall avoid habitat modifications, especially to habitat that is preferred by native fishes for spawning or rearing including side channels, cobble or gravel bars, and shallow backwaters. If these habitat types cannot be avoided, any disturbed habitat will be restored or replaced to achieve “no-net-loss” of habitat types and values as described above.				
BIO-3c	<p>Potential Fish Entrainment and Impingement during Operation of the Intake Structure.</p> <p>Both screened and unscreened diversions can entrain larval life stages of fish. For example, adverse effects to early life stages of fish could occur if diversions coincide with planktonic larval life stages that occur during summer months, a period of high entrainment vulnerability. Prior to operation of the intake structure, PG&E shall consult with USFWS and DFG to determine the most vulnerable time of the year for entrainment or impingement of razorback sucker and bonytail chub eggs or larvae.</p> <p>PG&E shall install a state-of-the-art positive-barrier fish screen that would minimize fish entrainment and impingement at the intake structure. The fish screen shall be designed in accordance with DFG and the National Marine Fisheries Service criteria, with specific consideration given to minimizing harm to fish eggs and other early life stages.</p> <p>To ensure that the fish screen operates as intended and reduce the risk of impacts, long-term monitoring of the operations and maintenance of the positive-barrier screen shall be conducted. Monitoring at the onset of diversions through the intake shall include approach velocity measurements immediately after the positive-barrier screen operations begin, with fine-tuning of velocity control baffles or other modifications as necessary, to achieve uniform velocities in conformance with the screen criteria established by regulatory agencies.</p>	During design and operation of the intake structure	PG&E		

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Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
Cultural Resources					
CUL-1a	<p>During Design, Construction, O&M, and Decommissioning Implement Measures to Avoid, Minimize, or Mitigate Impacts on Cultural Resources.</p> <p>Establishment of a cultural impact mitigation program and a Corrective Measures Implementation Workplan (CMI Workplan), with specific activities stipulated for each phase of the project, will reduce the potential for impacts on historical resources within the project area, and will help preserve the values of and access to the Topock Cultural Area for local tribal users. As detailed below, measures will be implemented to avoid known resources, re-use existing disturbed areas to the extent feasible, allow for tribal input to the final design and maintain access for tribal users during design, construction, operation, and decommissioning activities, as appropriate. During construction, a Worker Education Program and regular archaeological and tribal monitoring will be implemented, and measures intended to reduce the potential for incursion by outside parties will be strengthened.</p> <p>CUL-1a-1: During development of the final design and the construction, operation, and decommissioning phases of the project, PG&E shall carry out and require all subcontractors to carry out all investigative, testing, and remediation activities, including all supporting operations and maintenance activities, in ways that avoid, minimize, and mitigate significant adverse effects to historically significant cultural and historic resources, consistent with the CEQA Guidelines, and including the Topock Cultural Area, to the maximum extent feasible as determined by DTSC.</p> <p>CUL-1a-2: As part of the CMI Workplan, PG&E shall develop a written access plan to preserve tribal members’ access to, and use of, the project area for religious, spiritual, or other cultural purposes. This plan will allow access to the extent PG&E has the authority to facilitate such access, and be consistent with existing laws, regulations,</p>	During the design, construction, O&M, and decommissioning phases	PG&E		

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Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
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	<p>and agreements governing property within the project area. The access plan may place restrictions on access into certain areas, such as the Compressor Station and the existing evaporation ponds, subject to DTSC review with regard to health and safety concerns and to ensure noninterference with approved remediation activities. This access plan may be developed in coordination with the federal agencies with land management responsibilities in the project area (e.g., BLM and USFWS) in accordance with the related stipulation (General Principle I.C) contained in the Programmatic Agreement (Appendix PA). PG&E shall demonstrate a good faith effort to coordinate with Interested Tribes¹ by including communication logs as part of the CMI Workplan.</p> <p>CUL-1a-3: PG&E shall enhance existing measures to prevent and reduce incursions from recreational and/or other outside users from affecting unique archeological and historically significant resources, including resources within the Topock Cultural Area, by:</p> <p>a. Retaining a Qualified Cultural Resource Consultant to implement the Mitigation Monitoring and Reporting Program (MMRP) and conducting yearly inspections (or less frequently upon approval by DTSC) of identified historical resources, including inspections of the Topock Cultural Area, to determine if substantial adverse changes have occurred relative to the condition of the historical resources during the past year or prior to the implementation of the proposed project. PG&E</p>				

¹ “Interested Tribes” means, for purposes of this EIR and the mitigation measures contained herein, the six tribes that have substantially participated in the various administrative processes surrounding remediation of the site with DTSC, PG&E, and DOI, including throughout development of the final remedy. Interested tribes include the Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma-Quechan Indian Tribe, and Hualapai Indian Tribe.

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	<p>shall offer to retain a tribal monitor at historic rates of compensation or tribal representatives designated by the Tribal Council or chairperson, if so requested, to accompany the Qualified Cultural Resources Consultant during the inspections. The Qualified Cultural Resource Consultant shall be a person who is acceptable to DTSC and who is also a qualified archaeologist with a graduate degree in archaeology, anthropology or closely related field, plus at least 3 years of full-time professional experience in general North American archaeological research and fieldwork, with expertise/experience in the Southwest preferred.</p> <p>b. Developing a site security plan as part of the CMI Workplan. The site security plan shall include, but not be limited to, instructions for PG&E personnel to inspect the project site routinely during construction and report any human-caused disturbance to project facilities and the surrounding environment to DTSC and the appropriate landowner, such as BLM, USFWS, or FMIT, as appropriate, depending on the ownership of the property involved in the incursion. Notification shall be within a specified period, as established in the site security plan for the event, and shall also be summarized as part of the periodic implementation status report, as approved by DTSC for remedy implementation. This measure does not impose any obligation on PG&E to perform law-enforcement duties on federal or private lands, but is intended to provide increased observation of potential intrusions into the project area during construction and operation of the final remedy that may impact significant cultural resources. PG&E staff, or assigned agents, should be instructed to report any</p>				

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	<p>outside disturbance to the environment personally observed over the course of the working day. Information shall be reported within a specific period, as established in the site security plan, to DTSC and the appropriate landowners, such as BLM, USFWS, or FMIT, depending on the ownership of the property intruded upon. The site security plan may also include the use of PG&E security cameras at major ingress/egress gates into the project site. Finally, if requested by the FMIT the plan may include the use of private security personnel to patrol the FMIT-owned parcel within the project area to prevent outside incursions.</p> <p>c. Coordinating with BLM and San Bernardino County to facilitate an outreach effort to the staff at Moabi Regional Park, requesting that they communicate to visitors the parts of the project area that are off limits to off-road vehicle usage because of health and safety concerns, public lands management plans, or landowner requests. PG&E shall make a good faith effort to involve the surrounding tribes in this outreach effort, providing Interested Tribes with the opportunity to comment on outreach materials or provide a tribal cultural resources specialist the opportunity to participate in the outreach activities. As part of this outreach effort, PG&E shall work with Park Moabi and offer to design, develop, and fund the installation of an informational kiosk within Park Moabi that informs visitors of the work being done at the project site. PG&E shall involve the tribes to the maximum extent feasible, as determined by DTSC, in the design and development of the informational kiosk.</p>				

**Table 5-1
Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project**

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>d. Posting signage to indicate those parts of the project area that are off limits to off-road vehicle usage due to possible health and safety concerns and to reduce potential damage to environmental resources. If agreed to by land owners and/or local, state, or federal management entities within the project area, PG&E shall work with the relevant land owner or land management entity to develop, design, and fund the installation of easily visible and clear signage. This may include coordination with BLM to install signage noting the designation of the area as an Area of Critical Environmental Concern owing to its biological and cultural resources, while ensuring that signs are placed in a way that does not draw unwanted attention to specific resources.</p> <p>CUL-1a-4: PG&E shall work with representative members of the Interested Tribes to convene and retain a multidisciplinary panel of independent scientific and engineering experts as part of a Technical Review Committee (TRC). The TRC shall be made up of not more than five multidisciplinary experts who will be on call to review project-related documents, participate in project-related meetings, and advise interested tribal members on technical matters relating to the final design and remedy. The TRC shall include only persons with technical expertise, including but not limited to geology, hydrology, water quality, engineering, paleontology, toxicology, chemistry, biology, or botany. Before July 1, 2011, PG&E shall post an open grant or Request for Qualifications (RFQ) and retain members of the TRC at rates comparable to those paid historically to tribal experts by PG&E for the remediation project. TRC members shall be selected by majority vote of one representative from each participating Interested Tribe. PG&E shall provide Interested Tribes at least 30-days</p>				

**Table 5-1
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Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>notice of the meeting to select TRC members and to review TRC candidate qualifications. For the purposes of contracting, the grant may be awarded to one tribal government to manage or, alternatively, PG&E may reimburse the tribe or TRC members directly. The entirety of the monies shall be used to fund the scientific and engineering team exclusively, and shall not be used to fund other tribal government expenses or used to support legal counsel. A stipulation of the open grant shall be that the scientific and engineering team shall provide all deliverables and results to all involved tribes, despite a possible contract agreement with only one tribe or with PG&E. Upon conclusion of the construction phase of the project, the necessity and dollar value of the TRC shall be assessed by PG&E and, with the approval of DTSC, shall either be extended, reduced, or terminated under the operations and maintenance phase. An annual activity report shall be sent to DTSC for review and to ensure PG&E is in compliance.</p> <p>CUL-1a-5: Should any indigenous plants of traditional cultural significance and listed in Appendix PLA of this FEIR be identified within the project area, PG&E shall avoid, protect, and encourage the natural regeneration of the identified plants when developing the remediation design, final restoration plan, and IM-3 decommission plan. In the event that impacts on the identified plants cannot be avoided and such plants will be displaced, PG&E shall retain a qualified botanist who shall prepare a plant transplantation/monitoring plan which can be included as part of the Cultural Impact Mitigation Program (CIMP) referenced in CUL-1a-8 either by (1) transplanting such indigenous plants to an on-site location, or (2) providing a 2:1 ratio replacement to another location decided upon between PG&E and members of the Interested Tribes. Plans to transplant or</p>				

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Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
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	<p>replace such plants shall be approved by DTSC. In coordination with the qualified botanist, PG&E shall monitor all replanted and replacement plants for at least 3 years, and shall ensure at least a 75 percent survivorship during that time. This mitigation measure is not meant to replace or subsume any actions required by state or federal entities with regard to the protection of species listed as rare, threatened, or endangered.</p> <p>CUL-1a-6: All additional phone calls and alarms associated with remediation activities or facilities shall not be routed through PG&E's existing alarm system utilized at the compressor station. The notification system for remediation-related alerts and/or phone calls shall not introduce additional noise to the project area, to the maximum extent feasible, provided there is ongoing compliance with applicable safety regulations or standards of the Federal Energy Regulatory Commission, Occupational Safety and Health Administration, and other agencies. (See Mitigation Measure NOISE-3 for additional mitigation related to the Topock Cultural Area).</p> <p>CUL-1a-7: Nighttime construction-related activities shall be limited to work that cannot be disrupted or suspended until the following day, such as, but not limited to, well drilling and development or decommissioning activities. Lighting considerations, including the potential use of solar power for some lighting, shall be included as part of the remedial design plan to be developed with involvement of Interested Tribes and the U.S. Department of the Interior. To minimize construction and operations-related lighting impacts, the lighting in the remedial design plan shall include, at a minimum: (1) shrouding/shielding for portable lights needed during construction and operational activities; (2) installation of portable lights at the lowest allowable height and in the</p>				

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	<p>smallest number feasible to maintain adequate night lighting for safety; (3) shielding and orientation of lights such that off-site visibility of light sources, glare, and light from construction activities is minimized to the extent feasible. No additional permanent poles shall be installed for lighting. This mitigation measure is not meant to replace or subsume any actions required by the County or state or federal entities with regard to lighting required for minimum security and safety purposes.</p> <p>CUL-1a-8: Prior to commencement of construction, PG&E shall submit as part of the final Remedial Design, a CIMP developed in coordination with Interested Tribes for DTSC's review and approval. The CIMP may be developed in coordination with the federal agencies with land management responsibilities in the project area (e.g., BLM and USFWS) in accordance with the Programmatic Agreement (Appendix PA). The CIMP shall include, at a minimum and to DTSC's satisfaction, the following:</p> <p>a. Protocols for continued communication. Consistent with past practice and the communication processes previously entered into by PG&E with Interested Tribes, the company shall continue to communicate with Interested Tribes during the design, construction, operation, and decommissioning of the project. Prior to implementation of construction, PG&E shall communicate with Interested Tribes that place cultural significance on the Topock Cultural Area. Outreach efforts between the Tribes and PG&E shall be communicated by PG&E to DTSC quarterly during the design and construction phase for review and input, and annually during project operations.</p>				

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	<p>b. Protocols for the appropriate treatment of archaeological materials that may be disturbed or discovered during implementation of the final remedy, including protocols for the repatriation of significant items of cultural patrimony that may be recovered during the project, and protocols for the curation of cultural materials recovered during the project. Treatment of archaeological sites may include data recovery or capping. If data recovery is proposed, a Research Design following California Office of Historic Preservation guidelines or federal guidelines, as applicable, shall be prepared and reviewed and approved by DTSC.</p> <p>c. Protocols for the review of cultural resource-related documents throughout the design, construction, and operational phases.</p> <p>d. Protocols for the review of project design documents before the beginning of construction, including reviews of project design documents throughout the design process (e.g., Preliminary [approximately 30% completed], Intermediate [approximately 60% completed] and Pre-final design).</p> <p>e. Protocols for the appropriate methods to be used to restore the environment to its preconstruction condition upon decommissioning of individual groundwater remedy facilities.</p> <p>f. A plan for the decommissioning and removal of the IM-3 Facility and proposed restoration of the site (to be an appendix to the CIMP).</p> <p>g. Protocols for the repatriation of clean soil cuttings generated during construction activities and during drilling associated with repair/replacement activities</p>				

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Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>during operations and maintenance phases. The soil cuttings shall be managed in compliance with applicable laws and regulations on site.</p> <p>h. Protocols for the appropriate methods, consistent with Mitigation Measure NOISE-3, to reduce auditory impacts.</p> <p>i. Protocols for the appropriate methods, consistent with Mitigation Measures AES-1 and AES-2, to reduce visual intrusions.</p> <p>j. Protocols for tribal notification in advance of project-related activities that the Interested Tribes may feel have the potential to cause adverse impacts to sensitive cultural resources.</p> <p>k. Protocols to be followed by project personnel to accommodate, if feasible as determined by DTSC, key tribal ceremonies that involve the Topock Cultural Area.</p> <p>l. Provisions affording sufficient tribal monitors to observe ground-disturbing activities and/or other scientific surveying (e.g., biological surveys) that may occur in preparation for construction activities. Ground-disturbing activities include trenching, excavation, grading, well excavation/drilling, decommissioning of the IM-3 Facility and subsurface pipeline, or other construction-related activities.</p> <p>m. Provisions of reasonable compensation for tribal monitors consistent with historic rates.</p> <p>n. Locations requiring specific protective devices, such as temporary fencing, flagging, or other type of demarcation during construction.</p>				

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Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<ul style="list-style-type: none"> o. Protocols for the reporting of discoveries of cultural importance consistent with existing statutes and regulations. p. Protocols for the inspection of remediation facilities and/or staging areas throughout the construction phase. 				
	<p>CUL-1a-9: During selection of the design and specific locations for physical remediation facilities, PG&E shall, in communication with the Interested Tribes (and subject to their review), and to the maximum extent feasible, as determined by DTSC, give: (1) priority to previously disturbed areas for the placement of new physical improvements; and (2) priority to re-use of existing physical improvements, such as but not limited to wells and pipelines, but not including IM-3 facilities. “Disturbed” areas in this context means those areas outside of documented archaeological site boundaries that have experienced ground disturbance in the last 50 years. PG&E shall produce an aerial map of these disturbed areas to guide project design, and PG&E shall make a good faith effort to provide tribes with an opportunity to review and comment on the information displayed on the map in determining “disturbed” areas.</p> <p>CUL-1a-10: PG&E shall consider the location of Loci A, B, and C of the Topock Maze during the design and approval of the physical facilities necessary for the final remedy and is prohibited from creating any direct physical impact on the Topock Maze, as it is manifested archaeologically. Through the design, PG&E shall prevent all indirect (e.g. noise, aesthetics) impacts on the Topock Maze, to the maximum extent feasible as determined by DTSC.</p>	During the design phase	PG&E		

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Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
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	CUL-1a-11: PG&E shall provide an open grant for two part-time cultural resource specialist/project manager positions during the design and construction phases of the remediation project. The positions shall be filled by qualified members of an Interested Tribe as nominated by a majority vote of their Tribal Council(s) and appointed by DTSC's project manager if more than two members are nominated. The award of the grants is for continued involvement in review of project documents and participation in project-related meetings, including TRC meetings, at rates of historic compensation. Additionally, in light of FMIT's ownership of land in the project area and historical involvement in the environmental process, additional funding is guaranteed for one full-time FMIT position upon submission of an application by a qualified FMIT member who shall be appointed by the FMIT council, provided such funding is not duplicative of the services and funding provided by PG&E pursuant to the Settlement Agreement between PG&E and the FMIT in <i>Fort Mojave Indian Tribe v. Dept. of Toxic Substances Control, et al.</i> , Case No. 05CS00437 for a position with the FMIT's AhaMakav Culture Society. The payment of grant monies shall be timed to the awarded tribes' fiscal cycles so that the tribes are not forced to front funds for long periods of time. These positions shall act as cultural resources contacts and project managers for interactions between the tribes, PG&E, and DTSC to ensure coordination for review and comment of subsequent project and/or environmental documents related to the design and implementation of the groundwater remediation project to avoid, reduce, or otherwise mitigate impacts on historical resources, as defined by CEQA. This funding is separate from provisions for tribal monitor positions and shall not be used for routine tribal business or legal counsel. For	During the design and construction phases	PG&E		

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	review and approval, PG&E shall provide DTSC with the names of the selected grant recipients and an annual report that summarizes activities associated with the grant program. Upon the conclusion of the construction phase of the project, the necessity and dollar value of the grant program shall be assessed by PG&E and, with the approval of DTSC, shall either be extended or terminated under the operations and maintenance phase.				
	CUL-1a-12: PG&E shall provide sufficient opportunity, as determined by DTSC, for Interested Tribes to provide a traditional healing/cleansing ceremony (or ceremonies) before and after ground disturbing construction activities occur.	During the construction phase	PG&E		
	CUL-1a-13: PG&E shall, in communication with Interested Tribes, develop as part of the CMI Workplan, a worker cultural sensitivity education program. The program shall be implemented before commencement of construction and throughout construction and operations as personnel are added. This program may include information provided directly by tribal entities either in written form or on video, in a manner consistent with Appendix C in the existing BLM Programmatic Agreement. The worker cultural sensitivity education program shall ensure that every person working on the project as an employee or contractor, before participating in design or outdoor activities at the project site, is informed regarding: <ul style="list-style-type: none"> the cultural significance of the Topock Cultural Area, appropriate behavior to use within the Topock Cultural Area, activities that are to be avoided in the Topock Cultural Area, and consequences in the event of noncompliance. 	During the construction and operations/maintenance phase			
CUL-1b and 1c	During Design, Construction, O&M, and Decommissioning Consider the Location of Historical Resources and Implement Measures to Avoid Resources to the Extent Feasible The following actions will reduce the potential for impacts on identified historically significant resources (other than the Topock Cultural Area,	During the design phase	PG&E		

**Table 5-1
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Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
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	<p>which is separately addressed in CUL-1a) within the project area. As detailed below, these actions include consideration of the location of historical resources, preparation of a cultural resources study, and preparation of a treatment plan. Monitoring of ground-disturbing activities during project construction will further protect historically significant resources. Protective actions are also described pertaining to the discovery of any previously unidentified potentially significant cultural resources.</p> <p>CUL-1b/c-1: PG&E shall consider the locations of the identified historic resources described above (Table 4.4-3) during the design of the physical improvements necessary for the proposed project and avoid, minimize, or mitigate impacts on historical and archaeological resources to the maximum extent feasible, as determined by DTSC. The final design plans for the project will be submitted to DTSC for review and approval.</p> <p>CUL-1b/c-2: During preparation of the final design, and consistent with CUL-1a-3, PG&E shall retain a Qualified Cultural Resources Consultant to prepare a cultural resources study that assesses the potential for the construction, operations, or decommissioning of specific proposed improvements to result in significant impacts on identified historically significant resources described in Impacts CUL-1b and CUL-1c. This may include a geoarchaeological investigation and/or non-destructive remote-sensing surveys of potentially disturbed areas to determine if a potential exists for buried historical and archaeological resources. “Significant impacts” as used here means the potential for construction to demolish or materially alter in an adverse manner those physical characteristics of a resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR. The study will be submitted to DTSC for review and evaluation to determine if existing mitigation measures are appropriate.</p>				

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	CUL-1b/c-3: If the cultural resources study determines that the construction of physical improvements would result in significant impacts on identified historically significant resources described in Impacts CUL-1b and CUL-1c, and avoidance of the resource is not feasible, PG&E shall prepare a treatment plan that identifies measures to reduce these impacts (see above description of the CIMP) for DTSC's review and approval. The treatment plan shall identify which criteria for listing on the CRHR contribute to the affected resource's significance and which aspects of significance would be materially altered by construction, operations, or decommissioning and shall provide for reasonable efforts to be made to permit the resource to be preserved in place or left in an undisturbed state. Methods of accomplishing this may include capping or covering the resource with a layer of soil. To the extent that a resource cannot feasibly be preserved in place or left in an undisturbed state, excavation as mitigation shall be restricted to those parts of the resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a historically significant resource if the treatment plan determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource. The plan shall require communication with all Interested Tribes with regard to their perspectives and wishes for the treatment of the resources.				
	CUL-1b/c-4: Consistent with CUL-1a-3a above, PG&E shall retain a Qualified Cultural Resources Consultant to observe ground-disturbing activities and shall be required to request the participation of tribal monitors during those activities, including steps necessary during operations and decommissioning activities to ensure that historically significant resources are avoided to the	During the construction phase	PG&E		

**Table 5-1
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Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>maximum extent feasible, as determined by DTSC, during actual construction (see the description of the CMI Workplan, above). The Qualified Cultural Resources Consultant shall provide training to construction personnel on the locations of identified resources, values associated with the identified resources, responsibility for reporting suspected historic resources, and procedures for suspension of work in the immediate vicinity of the discovery, and shall use exclusionary fencing, flagging, or other appropriate physical barriers to mark the boundaries of identified resources. The Qualified Cultural Resources Consultant shall invite participation from Interested Tribal members to participate in the training.</p> <p>In the event that previously unidentified potentially significant cultural resources are discovered during ground-disturbing activities, the Qualified Cultural Resources Consultant shall have the authority to divert or temporarily halt ground-disturbing activities in the area of discovery to allow evaluation of the potentially significant cultural resources. If such discoveries occur on land managed by a federal agency, Stipulation IX (Discoveries) of the Programmatic Agreement shall apply and are deemed adequate by DTSC. If a discovery occurs on other lands within the project area, the Qualified Cultural Resources Consultant shall contact the PG&E and DTSC project managers at the time of discovery and, in consultation with DTSC and tribal monitors, shall evaluate the resource before construction activities will be allowed to resume in the affected area. For significant cultural resources, and before construction activities are allowed to resume in the affected area, the resource(s) shall be recovered with coordination of the tribal monitors and DTSC. Recovery may include a Research Design and/or Data Recovery Program submitted to DTSC for</p>				

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
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	review and approval. The Qualified Cultural Resources Consultant (and tribal monitors) shall determine the amount of material to be recovered for an adequate sample for analysis or data recovery. Any concerns or recommendations regarding the ground-disturbing activities or the handling of cultural resources shall be directed to the Qualified Cultural Resources Consultant or PG&E's site supervisor.				
CUL-2	<p>During Project Design Consider the Location of Unique Archaeological Resources and Avoid Resources to the Maximum extent Feasible.</p> <p>Cultural resources that qualify as unique archaeological sites in the project area would probably also meet one or more of the criteria for historical resources and would be subject to Mitigation Measures CUL-1b/c-2 and CUL-1b/c-3. The mitigation measures under this identified impact are the same as listed for Impact CUL-1b and CUL-1c.</p> <p>These mitigation measures would reduce the potential for impacts on unique archaeological resources.</p>	Before completion of the final project design, during design of the proposed project and prior to ground-disturbing activities	PG&E		
CUL-3	<p>Conduct Survey and Construction Monitoring.</p> <p>A paleontological investigation, including a detailed survey of the project area by a qualified paleontologist, shall be conducted to refine the potential impacts on unique paleontological resources within the final design area and determine whether preconstruction recovery of sensitive resources and/or construction monitoring would be warranted. If construction monitoring is determined to be warranted, ground-altering activity would be monitored by a qualified paleontologist to assess, document, and recover unique fossils. Monitoring shall include the inspection of exposed surfaces and microscopic examination of matrix in potential fossil bearing formations. In the event microfossils are discovered, the monitor shall collect matrix for processing. In the event paleontological resources are encountered during earthmoving activities, recovered specimens shall be prepared by the paleontologist to a point of identification and permanent preservation. PG&E shall retain a Qualified Paleontologist to observe ground-disturbing activities where determined</p>	Before and during construction	PG&E		

**Table 5-1
 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project**

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	necessary based on the results of the paleontological investigation and shall be required to request the participation of tribal monitors during those activities, including steps necessary during operations and decommissioning activities to ensure that historically significant resources are avoided to the maximum extent feasible, as determined by DTSC, during actual construction (see above description of the CMI Workplan). Paleontological resources of scientific value shall be identified and curated into an established, accredited, professional museum repository in the region with permanent retrievable paleontological storage.				
CUL-4	<p>With Discovery of Human Remains or Burials Suspend Work, Protect Remains, and Comply with Local, State, and Federal Laws Regarding Discoveries During Ground-Disturbing Activities.</p> <p>Ground-disturbing activities may disturb as-yet undiscovered human remains or Native American burials and associated grave goods. PG&E shall retain a Qualified Cultural Resource Consultant and request designated tribal monitor(s) to train construction personnel in the identification of human remains so that they may aid in the identification of such resources (see above description of the CIMP). A Qualified Cultural Resource Consultant and tribal monitor(s) shall be in place to adequately oversee all ground-disturbing activities. In the event human remains are uncovered over the course of project construction, operation and maintenance, and/or decommissioning activities, the following procedures shall be followed to ensure compliance with all applicable local, state, and federal laws.</p> <p>f) The construction contractor shall immediately suspend work within the vicinity of the discovery and determine if the remains discovered are human or nonhuman. This determination shall be made by the Qualified Cultural Resources Consultant, a qualified archaeologist and/or physical anthropologist with expert skill in the identification of human osteological (bone) remains.</p> <p>g) The Qualified Cultural Resources Consultant (and tribal monitor), or construction contractor, shall protect discovered human remains and/or burial goods remaining in the ground from additional disturbance.</p>	In concert with ground-disturbing activities throughout the remediation process	PG&E		

**Table 5-1
Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project**

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
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	<p>h) The Qualified Cultural Resources Consultant, archaeologist, or construction site supervisor shall contact the San Bernardino County Coroner, and the PG&E and DTSC project managers immediately. In California, all subsequent action shall conform to the protocols established in the Health and Safety Code and regulations. In Arizona, the Qualified Cultural Resources Consultant or PG&E construction site supervisor will follow Arizona laws and the implementing regulations. Human remains found on federal land would require the notification of the BLM Havasu City field office and compliance with applicable federal laws and regulations, including the Native American Graves Protection and Repatriation Act if the remains are determined to be of Native American origin. The Qualified Cultural Resources Consultant shall coordinate the interaction between Interested Tribes, PG&E, the County, and DTSC to determine proper treatment and disposition of any remains.</p> <p>i) The San Bernardino County Coroner will determine if the remains are of recent origin and if an investigation of the cause of death is required (California Health and Safety Code Section 7050.5). If the coroner determines that the human remains are not Native American and not evidence of a crime, project personnel shall coordinate with the Qualified Cultural Resources Consultant (s) to develop an appropriate treatment plan. This may include contacting the next-of-kin to solicit input on subsequent disposition of the remains. If there is no next-of-kin, or recommendations by the next-of-kin are considered unacceptable by the landowner, the landowner will reinter the remains with appropriate dignity in a location outside the project area and where they would be unlikely to be disturbed in the future.</p> <p>j) In the event that the San Bernardino County Coroner determines that the human remains are Native American and not evidence of a crime, project personnel shall contact the NAHC so that a most likely descendent (MLD) can be identified as required under California Public Resources Code Section 5097.98.</p>				

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
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	<p>k) The MLD (s) shall inspect the area in which the human remains were found and provide treatment recommendations to the landowner and PG&E site manager in accordance with the provisions of PRC Section 5097.98. The treatment may include reburial, scientific removal of the discovered human remains and relinquishment to the MLD(s), nondestructive analysis of human remains and/or other culturally appropriate treatment. If the MLD(s) so requests, the landowner would reinter the remains with the appropriate dignity in a location outside the area of disturbance in a location unlikely to be disturbed in the future.</p> <p>l) To the maximum extent feasible, Mitigation Measure CUL-4 shall be implemented in a manner that is consistent with mitigation required by local, state, and federal requirements.</p>				
Geology & Soils					
GEO-1a	<p>Construction, Operation and Maintenance, and Decommissioning Impacts Related to Erosion of Soils.</p> <p>a) A DTSC-approved grading and erosion control plan, prepared by a California Registered Civil Engineer, shall be completed prior to implementation of any grading in areas of the site where there is a potential for substantial erosion or loss of top soils. The plan shall outline specific procedures for controlling erosion or loss of topsoil during construction, operation and maintenance, and decommissioning.</p> <p>b) To ensure soils do not directly or indirectly discharge sediments into surface waters as a result of construction, operation and maintenance, or decommission activities, PG&E shall develop a SWPPP as discussed in mitigation measure HYDRO-1 of the “Hydrology and Water Quality” section of this EIR. The SWPPP shall identify best management practices (BMPs) that would be used to protect stormwater runoff and minimize erosion during construction. PG&E shall prepare plans to control erosion and sediment, prepare preliminary and final grading plans, and shall prepare plans to control</p>	Before any ground disturbing activities begin and during project-related ground disturbing activities	PG&E		

**Table 5-1
Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project**

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>urban runoff from the project site during construction, consistent with the substantive requirements of the San Bernardino County Building and Land Use Services Department for erosion control.</p> <p>c) During road preparation activities, loose sediment shall be uniformly compacted consistent with the substantive San Bernardino County Building and Land Use Services Department requirements to aid in reducing wind erosion. Ongoing road maintenance including visual inspection to identify areas of erosion and performing localized road repair and regrading, installation and maintenance of erosion control features such as berms, silt fences, or straw wattles, and grading for road smoothness shall be performed as needed to reduce potential for erosion.</p> <p>d) Regarding the potential for contaminated soils to be eroded and contribute contamination into receiving waters, Mitigation Measures GEO-2 and HAZ-2 shall be implemented. Mitigation Measure GEO-2 provides the provisions for mitigating erosion through BMPs which shall be implemented. Mitigation Measure HAZ-2 provides the provisions for safe work practices and handling of contaminated soils as investigation derived wastes.</p>				
GEO-1b	<p>Construction, Operation and Maintenance, and Decommissioning Impacts Related to Differential Compaction of Soils.</p> <p>a) BMPs shall be implemented during construction, operation and maintenance, and decommissioning activities to minimize impacts on the affected areas. Such BMPs could include, but would not be limited to, the following: uniform compaction of roadways created for accessing the project area as per San Bernardino County Building and Land Use Services Department requirements, returning areas adversely affected by differential compaction to preexisting conditions when these areas are no longer needed, and continuing maintenance of access roads, wellhead areas, and the treatment facility areas.</p> <p>b) Work area footprints shall be minimized to the greatest extent feasible to limit the areas exposed to differential compaction. Where possible,</p>	During the construction, operation and maintenance, and decommissioning activities	PG&E		

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
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	<p>existing unpaved access roads and staging/working areas shall be reused and maintained for different stages of the construction. New graded areas for staging or for access roads shall be compacted to a uniform specification, typically on the order of 90 to 95% compaction and consistent with substantive San Bernardino County Building and Land Use Services Department requirements to reduce differential compaction and subsequent erosion of site soils.</p> <p>c) After the completion of the operation and maintenance phase, the disturbed areas which result in increased potential for compaction shall be returned to their respective preexisting condition by regrading consistent with the preconstruction slopes as documented through surveys that may include topographic surveys or photo surveys. The areas will be returned to the surrounding natural surface topography and compacted consistent with unaltered areas near the access roads or staging areas in question. The habitat restoration plan outlined in mitigation measure BIO-1 shall include restoration of native vegetation or other erosion control measures where revegetation would be infeasible or inadequate, for purposes of soil stabilization and erosion control of the project area.</p>				
Hazardous Materials					
HAZ-1a	<p>Spills or Releases of Contaminants during Operation and Maintenance Activities.</p> <p>a) PG&E shall store, handle, and transport hazardous material in compliance with applicable local, state, and federal laws.</p> <p>b) All chemical storage and loading areas shall be equipped with proper containment and spill response equipment. BMPs to be implemented may include, but are not limited to, use of secondary containment in mixing and storage areas; availability of spill kits and spill containment booms, and appropriate storage containers for containment of the materials generated during the spill response.</p> <p>c) A project-specific HMBP, chemical standard operating procedure (SOP) protocols and contingency plans shall be developed to ensure</p>	During operation and maintenance activities	PG&E		

**Table 5-1
Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project**

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	that proper response procedures would be implemented in the event of spills or releases. Specifically, the HMBP and SOPs shall describe the procedures for properly storing and handling fuel on-site, the required equipment and procedures for spill containment, required personal protective equipment, and the measures to be used to reduce the likelihood of releases or spills during fueling or vehicle maintenance activities. BMPs to be implemented may include, but are not limited to, use of secondary containment in mixing and storage areas; availability of spill kits and spill containment booms, and appropriate storage containers for containment of the materials generated during the spill response. The field manager in charge of operations and maintenance activities shall be responsible for ensuring that these procedures are followed at all times.				
HAZ-1b	<p>Spill or Release of Contaminants during Construction and Decommissioning Activities.</p> <p>a) Fueling areas and maintenance areas would be supplied with proper secondary containment and spill response equipment.</p> <p>b) PG&E shall develop fueling SOP protocols and a contingency plan that would be implemented at all fueling areas on-site. The SOPs shall describe the procedures for properly storing and handling fuel on-site, the required equipment and procedures for spill containment, required PPE, and the measures to be used to reduce the likelihood of releases or spills during fueling or vehicle maintenance activities. Potential measures include but are not limited to, fuel storage in bermed areas, performing vehicle maintenance in paved and bermed areas, and availability of spill kits for containment and cleanup of petroleum releases. The field manager in charge of construction and decommissioning activities shall be responsible for ensuring that these procedures are followed at all times.</p> <p>c) PG&E shall comply with local, state, and federal regulations related to the bulk storage and management of fuels.</p>	During construction and decommissioning activities	PG&E		

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Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
HAZ-2	<p>Reasonably Foreseeable Releases of Chemicals from Excavated or Disturbed Soil.</p> <p>Before initiating ground-disturbing operations, a health and safety plan shall be developed and implemented by qualified environmental professionals to ensure health and safety precautions are being met. It is not possible to prepare the health and safety plan at this stage of the planning process because final construction plans and other design documents have not been finalized in sufficient detail. However, at a minimum, the health and safety plan shall include procedures to mitigate potential hazards, and such procedures shall include the use of PPE, measures that provide protection from physical hazards, measures that provide protection from chemical hazards that may be present at the site, decontamination procedures, and worker and health and safety monitoring criteria to be implemented during construction. The worker health and safety plan shall include protective measures and PPE that are specific to the conditions of concern and meet the requirements of the U.S. Occupational Safety and Health Administration's (OSHA's) construction safety requirements and Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120). In accordance with OSHA requirements, appropriate training and recordkeeping shall also be a part of the health and safety program. The worker health and safety plan shall be certified by a Certified Industrial Hygienist in accordance with OSHA regulations. The worker health and safety plan shall be explained to the construction workers and all workers shall be required to sign the plan, which will be kept on the construction site at all times.</p> <p>Worker safety training shall occur prior to initiation of ground disturbing activities. Training shall include the review of all health and safety measures and procedures. All workers and engineering inspectors at the site shall provide written acknowledgement that the soils management plan (discussed below), worker health and safety plan, and community health and safety plan were reviewed and training was received prior to commencement of construction activities.</p> <p>The following are specific elements and directives that shall be included in the health and safety plan and implemented by PG&E during construction,</p>	Before commencement of any ground disturbing activities and during construction, operation and maintenance, and decommissioning activities that could have potential to disturb the ground surface	PG&E		

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
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				Action	Date Completed
	<p>operation and maintenance, and decommissioning of this project:</p> <ol style="list-style-type: none"> Vehicles traveling on unpaved roadways or surfaces would be directed to avoid traveling in areas where contaminated soils are known to be present; vehicle speeds shall be controlled (e.g., limited to 15 mph or slower) to limit generation of dust; measures, such as wetting of surfaces, will be employed to prevent dust generation by vehicular traffic or other dust-generating work activities. Pre-mobilization planning shall occur during which the likelihood of encountering contaminated soils shall be reviewed along with the HMBP, site-specific health and safety plan, and SOPs so that the procedures are followed and the contingencies for handling contaminated soils are in-place prior to implementing the field operations. Should evidence of contaminated soil be identified during ground disturbing activities (e.g., noxious odors, discolored soil), work in this area will immediately cease until soil samples can be collected and analyzed for the presence of contaminants by the site supervisor or the site safety officer. Contaminated soil shall be managed and disposed of in accordance with a project-specific health and safety plan and soil management plan. The health and safety plan and soil management plan shall be approved by DTSC before beginning any ground disturbing activities. While the project is exempt from the requirements of the San Bernardino County Division of Environmental Health, the health and safety plan and soil management plan shall be prepared in general accordance with the substantive requirements of this agency. In the event that drilling sites must be located within areas of suspected soil contamination, the appropriate PPE shall be worn by all personnel working in these areas and methods specified in the health and safety plan used to control the generation of dust. When working in these areas, personnel shall be required to follow all guidance presented in the site-specific health and safety plan and soil management plan. The site-specific health and safety plan shall include provisions for site control such as, but not limited to, 				

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
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	<p>delineation of the exclusion, contaminant reduction and support zones for each work area, decontamination procedures, and procedures for the handling of contaminated soils and other investigation derived wastes. Soil that is excavated shall be loaded directly into containers such as roll-off bins; dust suppression methods shall be used prior to and during loading of soils into the bins. Suspected contaminated soils shall be segregated from suspected uncontaminated soils.</p> <p>e. Personnel working at the site shall be trained in Hazardous Waste Operations.</p> <p>f. All soil excavated and placed in roll-off bins or trucks for transportation off-site shall be covered with a tarp or rigid closure before transporting, and personnel working in the area shall be positioned upwind of the loading location.</p>				
Hydrology and Water Quality					
HYDRO-1	<p>Exceedance of Water Quality Standards.</p> <p>The project shall implement BMPs to meet the substantive criteria of NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order No. 2009-0009-DWQ NPDES No. CAS000002 (General Permit) (SWRCB 2009) as well as all other applicable federal, state, and local permit and regulatory requirements, even if a permit is not required pursuant to CERCLA, for purposes of ensuring the protection of receiving water quality. As such, a BMP plan shall be prepared and implemented for the project prior to construction and decommissioning phase activities.</p> <p>Impacts on water quality from pollutants, including soils from erosion, shall be controlled through use of the following types of BMPs, which shall be incorporated into the appropriate project-specific BMP plan. The General Permit requirements include specific BMPs as well as numeric effluent levels (NELs) and numeric action levels (NALs) to achieve the water quality standards (SWRCB 2009:3). Types of BMPs cited in the General Permit (SWRCB 2009:Attachment A:7) include:</p>	Before and during activities in the project area	PG&E		

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p> a) Scheduling of Activities; b) Prohibitions of Practices; c) Maintenance Procedures; d) Other Management Practices to Prevent or Reduce Discharge of Pollutants to Waters of the United States; e) Treatment Requirements; and f) Operating Procedures and Practice to Control Site Runoff, Spillage or Leaks, Sludge or Waste Disposal, or Drainage from Raw Materials Storage. </p> <p> Visual inspections and monitoring and sampling are required under the General Permit to evaluate the effectiveness of the BMPs and to determine whether modifying BMPs or implementing additional BMPs is required. The BMP designations cited below are based on those used by the <i>California Stormwater Quality Association Construction BMP Handbook</i> (California Stormwater Quality Association 2003), and are consistent with the types of BMPs referenced in the General Permit: </p> <p> g) Scheduling (SS-1): Proper scheduling assists in identifying ways to minimize disturbed areas, which allows for a reduction in the active project area requiring protection and also minimizes the length of time disturbed soils are exposed to erosive processes. </p> <p> h) Preservation of Existing Vegetation (SS-2): Preserving existing vegetation to the maximum extent practicable facilitates protection of surfaces from erosion and can also help to control sediments. Sensitive areas should also be clearly identified and protected. </p> <p> i) Hydraulic Mulch (SS-3), Straw Mulch (SS-6), and Wood Mulching (SS-8): Using various mulches is a method for temporarily stabilizing soil and can be used on surfaces with little or no slope. </p> <p> j) Geotextiles, Plastic Covers, and Erosion Control Blankets/Mats (SS-7): These erosion control methods can be used on flat or, usually, sloped surfaces, channels, and stockpiles. </p>				

**Table 5-1
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Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
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	<p>k) Stabilized Construction Entrance/Exit (TC-1): A graveled area or pad located at points where vehicles enter and leave a construction site can be built. This BMP provides a buffer area where vehicles can drop their mud and sediment to avoid transporting it onto public roads, to control erosion from surface runoff, and to help control dust.</p> <p>l) Runoff Control Measures (SS-9, SS-10, and SC-10): These include graded surfaces to redirect sheet flow, diversion dikes or berms that force sheet flow around a protected area, and stormwater conveyances (swales, channels, gutters, drains, sewers) that intercept, collect, and redirect runoff. Diversions can be either temporary or permanent. Temporary diversions include excavation of a channel along with placement of the spoil in a dike on the downgradient side of the channel, and placement of gravel in a ridge below an excavated swale. Permanent diversions are used to divide a site into specific drainage areas, should be sized to capture and carry a specific magnitude of storm event, and should be constructed of more permanent materials. A water bar is a specific kind of runoff diversion that is constructed diagonally at intervals across a linear sloping surface such as a road or right-of-way that is subject to erosion. Water bars are meant to interrupt accumulation of erosive volumes of water through their periodic placement down the slope, and divert the resulting segments of flow into adjacent undisturbed areas for dissipation.</p> <p>m) Silt Fence (SC-1): A temporary sediment barrier consisting of fabric is designed to retain sediment from small disturbed areas by reducing the velocity of sheet flows.</p> <p>n) Gravel Bag Berm (SC-6) and Sand/Gravel Bag Barrier (SC-8): A temporary sediment barrier consisting of gravel-filled fabric bags is designed to retain sediment from small disturbed areas by reducing the velocity of sheet flows.</p> <p>o) Desilting Basin (SC-2) and Sediment Trap (SC-3): Constructing temporary detention structures facilitates the removal of sediment from waters. The devices provide time for sediment particles to settle out of the water before runoff is discharged.</p>				

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>Secondary concerns include potential pollutants from inappropriate material storage and handling procedures and nonstormwater discharges. These will be addressed through the following types of BMPs, which shall be incorporated into the stormwater BMP plan:</p> <p>p) Material Delivery and Storage (WM-1): Provide covered storage for materials, especially toxic or hazardous materials, to prevent exposure to stormwater. Store and transfer toxic or hazardous materials on impervious surfaces that will provide secondary containment for spills. Park vehicles and equipment used for material delivery and storage, as well as contractor vehicles, in designated areas.</p> <p>q) Spill Prevention and Control (WM-4): Ensure that spills and releases of materials are cleaned up immediately and thoroughly. Ensure that appropriate spill response equipment, preferably spill kits preloaded with absorbents in an overpack drum, is provided at convenient locations throughout the site. Spent absorbent material must be managed and disposed of in accordance with applicable regulations. In particular, absorbents used to clean up spills of hazardous materials or waste must be managed as hazardous waste unless characterized as nonhazardous.</p> <p>r) Solid Waste Management (WM-5): Provide a sufficient number of conveniently located trash and scrap receptacles to promote proper disposal of solid wastes. Ensure that the receptacles are provided with lids or covers to prevent windblown litter.</p> <p>s) Hazardous Waste Management (WM-6): Provide a sufficient number of proper receptacles to promote proper disposal of hazardous wastes.</p> <p>t) Concrete Waste Management (WM-8): Dispose of excess concrete in specific concrete washout facilities.</p> <p>u) Sanitary/Septic Waste Management (WM-9): Locate sanitary and septic waste facilities away from drainage courses and traffic areas. Maintain the facilities regularly.</p> <p>v) Vehicle and Equipment Cleaning (NS-8): Clean vehicles and equipment that regularly enter and leave the construction site.</p>				

**Table 5-1
Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project**

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
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	<p>w) Vehicle and Equipment Fueling (NS-9): Fuel vehicles and equipment off-site whenever possible. If off-site fueling is not practical, establish a designated on-site fueling area with proper containment and spill cleanup materials.</p> <p>x) Vehicle and Equipment Maintenance (NS-10): Use off-site maintenance facilities whenever possible. Any on-site maintenance areas must be protected from stormwater runoff and on-site flooding.</p> <p>In addition to BMPs implemented to avoid or reduce impacts from the construction and decommissioning phases, BMPs shall also be implemented to avoid or reduce impacts from the operations and maintenance phases. To address potential violation of water quality standards caused by insufficient treatment, system failure at concentrations in excess of water quality standards, proper design shall include contingency measures such as safeguards to shut down the extraction wells in case of pipeline failure or malfunction. In addition, operation of the proposed project will be governed by and follow an operations and maintenance plan.</p> <p>PG&E will comply with all applicable water quality standards, the General Permit, and any SWRCB or RWQCB resolutions identified as ARAR, as well as a corrective action monitoring program. Under the corrective action monitoring program, data will be collected to measure performance of the remedy, compliance with standards, and progress of the remedial action as a part of the project description. In addition, the project will be operated to continually assess performance issues and to modify the type, method, and configuration of the treatment delivery systems to enhance performance of the remedy to attain the cleanup goals and to respond to site conditions and performance issues as described in the project description.</p> <p>A SWPPP will also be prepared for the proposed project, which will contain BMPs related to industrial activities (industrial SWPPP). The BMPs are designed to reduce pollutants in discharges that may affect receiving water quality during operations and maintenance of the proposed project. As noted above, BMP designations are based on those used by the <i>California Stormwater Quality Association Construction BMP Handbook</i></p>				

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	<p>(California Stormwater Quality Association 2003) and those referenced in the General Permit The SWPPP will incorporate BMPs such as the following:</p> <p>y) Good Housekeeping: Maintain facility in a clean manner and train facility personnel to contribute to a safe, clean, and orderly environment by properly disposing of trash in designated containers, storing materials in appropriate locations, and keeping equipment clean and in good working condition.</p> <p>z) Preventative Maintenance: Prevent or minimize release of pollutants. Develop Standard Operating Procedures for operation and maintenance of facility components and train employees to follow the procedures.</p> <p>aa) Non-Stormwater Discharges (SC-10): Ensure that used oil, used antifreeze, and hazardous chemical recycling programs are being implemented. Conduct regular inspections of high priority areas.</p> <p>bb) Spill Prevention, Control, and Cleanup (SC-11): Store materials properly to prevent spills from entering the storm drain system or surface waters. Ensure that spill cleanup materials are located on-site and are easily accessible. Clean up leaks and spills immediately using proper absorbent materials. Absorbents used to clean up hazardous materials must be disposed of as hazardous waste. Educate employees about spill prevention and cleanup.</p> <p>cc) Vehicle and Equipment Fueling (SC-20): Maintain clean fuel-dispensing areas using dry cleanup methods, such as sweeping or using rags and absorbents for leaks and spills. Cover the fueling area to prevent contact with stormwater. Train personnel in pollution prevention, focusing on containment of spills and leaks.</p> <p>dd) Outdoor Loading/Unloading (SC-30): Load and unload chemicals during dry weather, if possible, and load and unload in designated areas. Check equipment regularly for leaks.</p> <p>ee) Outdoor Liquid Container Storage (SC-31): Cover the storage area with a roof and provide secondary containment. Inspect storage areas regularly for leaks or spills.</p>				

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Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>ff) Outdoor Equipment Operations (SC-32): Perform activities during dry weather, cover the work area with a roof, and use secondary containment. Train employees in proper techniques for spill containment and cleanup.</p> <p>gg) Waste Handling and Disposal (SC-34): Cover storage containers with leak-proof lids, check for leaks weekly, and clean storage areas regularly. Ensure that wastes are disposed of properly.</p> <p>hh) Tank Design System: Ensure that tank systems have sufficient strength to avoid collapse, rupture, or failure and that they are protected against physical damage and excessive stress. Provide adequate secondary containment.</p> <p>In conformance with the substantive requirements of General Permit (Order No. 2009-0009-DWQ, a monitoring and reporting program will be implemented to assess the effectiveness of BMPs and to modify BMPs and revise the SWPPP, if necessary, to continue to reduce pollutants and impacts on receiving waters. The monitoring program shall include the following minimum elements as per the General Permit:</p> <p>ii) quarterly, nonstormwater visual inspections,</p> <p>jj) storm-related visual inspections within 2 business days of a qualifying rain event (producing precipitation of one-half inch or more of discharge),</p> <p>kk) visual inspection after a storm event,</p> <p>ll) monitoring of nonvisual pollutants based on the calculated risk level for the project, with Risk Level 2 and 3 requiring a minimum of three samples per day during qualifying rain events (SWRCB 2009:Tables 5 and 6, 22–27), and</p> <p>mm) monitoring and reporting for linear projects as per Attachment A of the General Permit</p> <p>Results of this monitoring shall be reported annually to DTSC and to the Storm Water Multi-Application Reporting and Tracking System (SMARTS). The annual report shall include a summary and evaluation of all sampling and analysis results, original laboratory reports, and chain of</p>				

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>custody forms; a summary of all corrective actions taken during the compliance year; and identification of any compliance activities or corrective actions that were not implemented.</p> <p>NEL Violation Reports and/or NAL Violation Reports are required for Risk Level 3 and linear underground/overhead project (LUP) Type 3 Discharges. Should the project meet these criteria, the respective reports shall be submitted within 5 days of the end of the storm event, as per General Permit requirements, and provide the required information identified (SWRCB 2009:26–27 and Attachment A).</p> <p>The implementation of stormwater plans shall include an education component to train workers on water quality concerns and proper BMP implementation, maintenance, and repair, in addition to stormwater management program training on the construction BMP plan and industrial SWPPP.</p>				
HYDRO-2	<p>Exceedance of Water Quality Standards and/or Waste Discharge Requirements.</p> <p>Implement Mitigation Measure HYDRO-1. Implementation of appropriate BMPs defined in Mitigation Measure HYDRO-1 would minimize impacts on water quality by controlling erosion and siltation. Consequently, any impacts associated with erosion and siltation resulting from alterations of drainage and hydrology and water quality during construction, operation and maintenance, and decommissioning.</p>	During construction, operation and maintenance, and decommissioning	PG&E		
HYDRO-3	<p>Exceedance of Water Quality Standards and/or Waste Discharge Requirements.</p> <p>Implement Mitigation Measure HYDRO-1. Mitigation Measure HYDRO-1 shall be implemented. Implementation of appropriate BMPs defined in Mitigation Measure HYDRO-1 would minimize impacts on water quality by controlling potential pollutants, including sediment, and runoff discharges from the project area. Consequently, any impacts associated with pollutants resulting from alterations of drainage and water quality during construction, operation and maintenance, and decommissioning.</p>	During construction, operation and maintenance, and decommissioning	PG&E		

**Table 5-1
Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project**

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
Noise					
NOISE-1	<p>Short-Term Groundborne Noise and Vibration Levels Caused by Construction Activities near Sensitive Receptors.</p> <p>a) Construct new wells a minimum of 45 feet from vibration-sensitive receptors. Avoid constructing wells within 30 feet of vibration-sensitive land uses located in California and 275 feet of vibration-sensitive land uses located in Arizona;</p> <p>b) A disturbance coordinator will be designated by the project applicant, which will post contact information in a conspicuous location near the entrance so that it is clearly visible to nearby receivers most likely to be disturbed. The coordinator will manage complaints resulting from the construction vibration. Reoccurring disturbances will be evaluated by a qualified acoustical consultant retained by the project applicant to ensure compliance with applicable standards. The disturbance coordinator will contact nearby vibration-sensitive receptors, advising them of the construction schedule.</p>	Upon commencement of construction activities being performed in proximity to vibration-sensitive receptors	PG&E		
NOISE-2	<p>Project-Generated Construction-Related Noise Levels.</p> <p>a) Construction equipment shall be properly maintained per manufacturer specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps). All impact tools shall be shrouded or shielded, and all intake and exhaust ports on power equipment shall be muffled or shielded.</p> <p>b) Construction equipment shall not idle for extended periods of time (more than 15 minutes) when not being utilized during construction activities.</p> <p>c) Construction activities shall include the use of berms, stockpiles, dumpsters, and or bins to shield the nearest noise-sensitive receptor adjacent to construction activities to within acceptable nontransportation noise level standards. When construction activities are conducted within the distances outlined above (i.e., 1,850 feet and 5,830 feet from California receptors and 330 feet and 735 feet from</p>	During construction activities being performed within 1,850 feet of noise-sensitive receptors to the east	PG&E		

**Table 5-1
Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project**

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<p>Arizona receptors for daytime and nighttime noise, respectively) relative to noise-sensitive uses in the project area, noise measurements shall be conducted by a qualified acoustical consultant at the nearest noise-sensitive land use relative to the construction activities with a sound level meter that meets the standards of the American National Standards Institute (ANSI Section S14 1979, Type 1 of Type 2) to ensure that construction noise associated with the project component complies with applicable daytime and nighttime noise standards. If noise levels are still determined to exceed noise standards, temporary barriers shall be erected as close to the construction activities as feasible, breaking the line of sight between the source and receptor where noise levels exceed applicable standards. All acoustical barriers shall be constructed with material having a minimum surface weight of 2 pounds per square foot or greater and a demonstrated Sound Transmission Class (STC) rating of 25 or greater as defined by the American Society for Testing and Materials' Test Method E90. Placement, orientation, size, and density of acoustical barriers shall be specified by a qualified acoustical consultant.</p> <p>d) A disturbance coordinator will be designated by the project applicant, which will post contact information in a conspicuous location near construction areas so that it is clearly visible to nearby receivers most likely to be disturbed. In addition, mailing of the same information will be sent to nearby receptors and all tribes. The coordinator will manage complaints resulting from the construction noise. Reoccurring disturbances will be evaluated by a qualified acoustical consultant retained by the project applicant to ensure compliance with applicable standards. The disturbance coordinator will contact nearby noise-sensitive receptors, advising them of the construction schedule.</p>				

Table 5-1 Mitigation Monitoring and Reporting Program for the Topock Compressor Station Groundwater Remediation Project					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
NOISE-3	<p>Land Use Compatibility of Future Project Noise Levels with Places of Worship and the Topock Cultural Area.</p> <p>Provided that the proposed project would be required to achieve the normally acceptable exterior noise level standard for places of worship, the following mitigation measure shall be incorporated in the project design:</p> <ul style="list-style-type: none"> a) Implement all of the mitigation measures outlined for Impact NOISE-1 and Impact NOISE-2; b) Upon completion of detailed project design, the determination of remediation activities and the schedule established to achieve these activities shall be communicated to Native American tribes. PG&E shall maintain a liaison with requesting Tribes to alert them to project activities that would generate new noise in the Topock Cultural Area on at least an annual basis. 	Prior to the commencement of construction activities being performed and on at least an annual basis	PG&E		
Water Supply					
WATER-1	<p>Depletion of Groundwater.</p> <p>To mitigate potentially significant effects on local groundwater levels associated with the freshwater extraction wells, in the event that freshwater is to be supplied from wells rather than from a surface intake, a hydrologic analysis shall be conducted during the design phase of the project to evaluate the proposed pumping rates for extraction, the potential cone of depression, and the extraction effect on any existing wells in proximity. Proximity shall be defined by the cone of depression boundary of any well to be used in the extraction process. Extraction well location and/or extraction rates shall be adjusted during project design based on this analysis to ensure that extraction does not substantially adversely affect the production rates of existing nearby wells (e.g., adversely affect well production such that existing land uses would not be supported). It shall be demonstrated using computer simulations or other appropriate hydrologic analysis that production rates of existing nearby wells will not be substantially affected before the installation of any new freshwater extraction wells.</p>	During final project design and before final approval of the design of this project component	PG&E		

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