Exhibit 1 to Attachment B

Findings of Fact and Statement of Overriding Considerations

FINDINGS OF FACT
AND
STATEMENT OF OVERRIDING CONSIDERATIONS

FOR THE

PACIFIC GAS AND ELECTRIC COMPANY
TOPOCK COMPRESSOR STATION
EPA ID# CAT080011729

GROUNDWATER REMEDIATION PROJECT
ENVIRONMENTAL IMPACT REPORT

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1.0 STATEMENT OF FINDINGS

These Findings are organized into a number of sections: Section 1.1 provides the background and context of the Project and describes the need for these Findings; Section 1.2 includes a summary of the Project; Section 1.3 describes the CEQA environmental review process for the Project; Section 1.4 describes the significant environmental impacts of the Project; Section 1.5 contains DTSC's general Findings about the Project; Section 1.6 contains DTSC's Findings regarding alternatives to the Project; Section 1.7 contains DTSC's Findings regarding alternatives to the Project; Section 1.8 describes the Mitigation Monitoring and Reporting Program (MMRP) for the Project; and Section 2 contains a Statement of Overriding Considerations.

1.1 INTRODUCTION

1.1.1 Need for Project

1.1.1.1 Background

The Topock Compressor Station Groundwater Remediation Project addresses the potential environmental effects of actions associated with remediation of groundwater contamination at a compressor station located in eastern San Bernardino County, California, approximately 12 miles southeast of the City of Needles, California, which is owned and operated by PG&E. The compressor station 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 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.

Groundwater near 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 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 present in the groundwater include Cr(T), molybdenum, selenium, and nitrates. Although currently not being used as a drinking water source, the affected groundwater has the potential to come into contact with drinking water wells and the Colorado River. Remediation of the contaminated groundwater plume has been designed to protect all identified potential receptors and maintain groundwater as a resource.

DTSC is the lead agency under CEQA for the preparation of the EIR. 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) (see Appendix CMS of the FEIR) and those identified in the Addendum to the 2008 Revised Work Plan (ERGI/TCS Addendum Work Plan, see Exhibit 3-5 of the FEIR). Alternative E is the "project" for purposes of the EIR and these Findings and as described and analyzed herein, including the need for investigation and monitoring within the East Ravine part of the project area. (See Vol. 2, Final EIR, Exhibits 3-4 and 3-5 (depicting proposed East Ravine investigation and monitoring well locations, staging area and access points).)

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). RCRA provides a framework for the U.S. Environmental Protection Agency (USEPA) to remediate hazardous waste sites in the U.S. In California, DTSC implements RCRA under such delegated authority from the USEPA through state law. Thus, the project evaluated in the EIR is a "corrective action" project which, generally, refers to the investigation and cleanup process at a hazardous waste site under RCRA. DTSC also has an ongoing Corrective Action Consent Agreement (CACA) with PG&E, which describes DTSC's authority over the proposed project.

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. (See Vol. 2, Final EIR, Exhibit 3-5.) 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 the FEIR). 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 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. 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) and the Revised Addendum to the Revised Work Plan for East Ravine Groundwater Investigation (CH2M Hill) (December 31, 2010). (See FEIR, Volume 2, pp. 2-4- 2-8.)

1.1.1.2 Corrective Action History

RCRA corrective action activities at the compressor station were initiated in 1987 with the completion of a RCRA facility assessment (RFA) conducted by the USEPA. 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. 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. 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 Final EIR, Vol. 2, Chapter 6, "Cumulative Impacts," regarding past groundwater remediation activities on-site and their corresponding level of CEQA documentation).

A total of 1,415 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 were 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 of the FEIR provides a summary of the names, locations, and status of the SWMUs, AOCs, units, and undesignated areas. (See FEIR, Volume 2, p. 2-9.)

1.1.1.3 Interim Measures

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 which is a drinking water source for millions of people. 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.

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. (See FEIR, Volume 2, pp. 2.9- 2.10.)

1.1.2 *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 (SVOC) 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 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 soils 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, it became apparent to DTSC staff that legal and technical impediments would delay the soils investigations and the subsequent development of a proposed remedy for any soil contamination. DTSC therefore decided that a single remedy decision for the two projects would not be feasible, in part, because they could not occur together within a reasonable time. DTSC nevertheless remained hopeful that it would be able to gather sufficient soils information to provide a program-level evaluation of the potential soil remediation along with the groundwater final remedy in the EIR. 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 continued and the lack of a full soil characterization prevented DTSC from including the soils information in the EIR. DTSC anticipates that it will be able to begin evaluating a soils remedy in 2014.

Because the extent of the soil contamination is unknown, and because feasible remedies have not been identified, inclusion of soils remediation in the EIR would involve a high degree of speculation and would have unnecessarily delayed the EIR prepared for the groundwater remediation remedy which, in DTSC's determination, was not in the public interest. The decision to bifurcate the 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. It was also explained in the EIR.

The two projects (groundwater and soils remediation), are independent from one another in that one project does not cause the need for the other project. The soils remediation project is not, for example, 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(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 two projects therefore have independent utility. The EIR nevertheless considered future soil remediation activities as a reasonably foreseeable future project and included that analysis in the cumulative impacts analysis (Chapter 6).

Such division of remedial activities is common. Much emphasis has been placed in recent years on reforming USEPA 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). The EIR's approach is supported by the following legal precedence and directives:

► A "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.

► 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).

► 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).

► 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).

► 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."

► 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.

(See FEIR, Volume 2, pp. 2-10 – 2-12.)

1.1.3 Project Objectives

The objectives of the project are defined based on the conclusions of the Ground Water Human Health and Ecological Risk Assessment (GWRA) and applicable or relevant and appropriate requirements (ARARs) identification, which were developed in the Final CMS/FS (PG&E 2009). 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 contaminant(s) of concern, 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, which is included in Appendix CMS of the FEIR). Protective measures can be achieved by limiting or eliminating the exposure pathway, reducing or eliminating chemical concentrations, or both. Similarly, RCRA corrective action guidance 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). 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. (FEIR, Volume 2, p. 3-7.)

The primary and fundamental objective of the project is to remediate 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 consistent with all applicable regulatory requirements, and within a reasonable period of time when compared with other viable alternatives. These objectives establish specific cleanup goals for Cr(VI) and Cr(T), and address the other identified chemicals of potential concern (COPCs) (molybdenum, selenium, and nitrates) through monitoring and institutional controls. The RAOs for groundwater and project objectives 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),
- 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, 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 does not permanently expand following completion of the remedial action.

(See FEIR, Volume 2, pp. 3-2- 3-7.)

1.1.4 Cooperation with Federal Agencies/ CERCLA

As noted above, CERCLA includes an exemption for removal or remedial actions conducted entirely on-site, and where such remedial action is selected and carried out in compliance with Section 121. Specifically, CERCLA Section 121(e)(1) provides that: “No Federal, State, or local permit shall be required for the portion of any removal or remedial action conducted entirely on-site, where such remedial action is selected and carried out in compliance with this section.” (See

42 U.S.C. Section 9621 [e][1], also referred to as Section 121[e][1]). The Code of Federal Regulations provide that: "[t]he term on-site means the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action." (40 C.F.R. Sections 300 and 400[e][1]). Substantive elements or conditions that would be required by a particular permit, however, must still be attained after conferring with the applicable agency, consistent with the requirements of CERCLA. The general intent behind the above provisions is that CERCLA actions should not be delayed by time-consuming and duplicative administrative requirements such as permitting, although remedial remedies should achieve the substantive standards of otherwise applicable laws.

The on-site portions of remedial actions taken under CERCLA authority must meet the substantive provisions of promulgated requirements that are applicable or relevant and appropriate to the actions (ARARs), which were determined by DOI, BLM, USFWS, and Bureau of Reclamation (DOI 2009). ARARs must be attained by the remedial action pursuant to Section 121(d) of CERCLA, which assures protection of human health and the environment, and requires attainment of "legally applicable or relevant and appropriate standard(s), requirement(s), criteria, or limitation(s)." There are four basic criteria that define ARARs: (1) substantive rather than administrative, (2) applicable or relevant and appropriate, (3) promulgated state requirements which are more stringent than comparable federal standards, and (4) categorized as Chemical-specific, Location-specific, or Action-specific. ARARs were considered in the preparation of the Final CMS/FS, and are included as Appendix B to that document. Criteria, guidance, advisories, and proposed standards that are not legally binding are not ARARs, but may be considered and used as appropriate to ensure the protectiveness of the remedy. These are referred to as "To Be Considered" criteria (TBCs). DOI, as the lead agency for remedial actions taken under CERCLA authority, has established a list of ARARs and TBCs for the site, which is presented in the Final CMS/FS (CH2M Hill 2009:3-3 through 3-6 and Appendix B, included in Appendix CMS of the EIR).

In accordance with the Topock Administrative Consent Agreement (2005), the various response and corrective actions required to clean up groundwater contamination within the project area and in very close proximity are exempt from obtaining permits pursuant to CERCLA Section 121(e)(1). If the exemption is found not to apply for any particular proposed action or approval not sufficiently related to clean up of the site, a permit may be required. Because it is unclear what specific future actions may be requested by PG&E, DTSC is unable to conclude with absolute certainty that the CERCLA exemption will be found to apply to all future actions that may arise. As discussed throughout the EIR, therefore, some of the following agencies may need to issue permits or approvals relating to the following activities if not otherwise deemed exempt under CERCLA.

The EIR is intended to be used as the primary CEQA document for any permits or approvals from DTSC or other California public agencies which may be required for implementation of the remedial action as described in the EIR, including investigatory, maintenance, repair, and infrastructure replacement activities. (See FEIR, Volume 2, pp. 2-13- 2-14.)

1.1.5 Combined Program and Project-Level Analysis

The EIR provides a project-level analysis for the conceptual technical methods selected for the final remedy that would remediate contaminated groundwater at the compressor station. The proposed final remedy was described in the Final CMS/FS for Solid Waste Management Unit 1 (SWMU 1)/Area of Concern 1 (AOC 1) and AOC 10 (Final CMS/FS) as Alternative E—In Situ with Freshwater Flushing. The EIR also includes a more project specific level of review for investigation and monitoring wells and related activities (e.g., staging area and access), required within the East Ravine Area as part of the Revised Addendum to the Revised Work Plan for East Ravine Groundwater Investigation (December 31, 2010). (See, e.g., Vol. 2, FEIR, Exhibit 3-5.) After approval of the project, a Corrective Measures Implementation Workplan, followed by design plans for facility siting and operation and maintenance activities, will be prepared.

The EIR also provides a program-level analysis of the construction of physical facilities that would be necessary to implement the proposed project (Alternative E from the Final CMS/FS), which have not yet been developed to specific plans and designs. Those specific plans and designs cannot feasibly be developed until a final remedy is selected. CEQA Guidelines Section 15161(set forth in Title 14 of the California Code of Regulations) defines a project EIR as "focus primarily on the changes in the environment that would result from the development project." As stated in Section 15161 of the CEQA Guidelines, a project specific EIR is required to "examine all phases of the project including planning, construction, and operation." A project-specific analysis has been prepared only for the selection of the final remedy to the extent that the Final CMS/FS presents the information regarding the technical combination of in situ treatment with freshwater flushing, as the general method of remediation. (A copy of the Final CMS/FS can be found at DTSC's project website at http://www.dtsc-topock.com/.) While the Final CMS/FS explains the types of facilities that would be required and are included in the proposed project, it does not identify the exact location or quantity of these facilities. Instead, a project area boundary is provided, anywhere within which the identified project facilities could be located. The exact location of project facilities would not be determined until the future design phase of the project, which is planned to occur after the approval of the remedy. To the extent project specific details are known, however, they have been included in the EIR (e.g., Revised Addendum to the Revised Work Plan for East Ravine, generator use for supplemental electrical supply during peak demand periods).

As defined by CEQA Guidelines Section 15168, a program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1. Geographically;
2. As logical parts in the chain of contemplated actions;
3. In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or
4. As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in several different ways.

A Program EIR is a type of EIR that allows a public agency to consider broad policy alternatives and program-wide mitigation measures at the early stages of planning. The final proposed remedy and related infrastructure needed to complete cleanup are geographically related because these activities occur in the same footprint. Thus the combined program and project elements are appropriately analyzed at a program and project level of detail. Although no specific site locations for facilities are proposed at this time (except for the East Ravine monitoring and investigation wells/boreholes as set forth in the Revised Addendum to the Revised Work Plan for East Ravine (e.g., the ERGI/TCS Addendum Work Plan), the ultimate development of those facilities is recognized as the logical progression for cleanup if the proposed final remedy is approved. The EIR therefore includes a dual-level analysis in order to ensure that the effects of developing the final remedy, and implementation of the final remedy, is not segmented, while recognizing that the components are at different stages of planning. (See FEIR, Volume 2, pp. 2-1- 2-3.)

1.1.5.1 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 the FEIR, 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 Sections 15168 and 15162 of the CEQA Guidelines, or if additional environmental review is needed.

In some cases, site-specific mitigation planning may be necessary when project designs are available. The 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 entirely achievable at this juncture in project development. (See FEIR, Volume 2, p. 2-3.)

1.1.6 Requirement for Findings of Fact

CEQA requires public agencies to consider the potential effects of their discretionary activities on the environment and, when feasible, to adopt and implement mitigation measures that avoid or substantially lessen the effects of those activities on the environment. Specifically, Public Resources Code section 21002 provides that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects[.]" The same statute states that the procedures required by CEQA "are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects." Section 21002 goes on to state that "in the event [that] specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof."

The mandate and principles announced in Public Resources Code Section 21002 are implemented, in part, through the requirement that agencies must adopt findings before approving projects for which EIRs are required. (See Pub. Resources Code, § 21081, subd. (a); CEQA Guidelines, § 15091, subd. (a).) For each significant environmental effect identified in an EIR for a proposed project, the approving agency must issue a written finding reaching one or more of three permissible conclusions. The three possible findings are:

(1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.

(2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.

(3) Specific economic, legal, social, technological, other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

(Public Resources Code Section 21081, subd (a); see also CEQA Guidelines Sections 15091, subd. (a).)

Public Resources Code section 21061.1 defines "feasible" to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors." CEQA Guidelines section 15364 adds another factor: "legal" considerations. (See also *Citizens of Goleta Valley v. Board of Supervisors* (*Goleta II*) (1990) 52 Cal.3d 553, 565.)

The concept of "feasibility" also encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project. (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417 (*City of Del Mar*).) "[F]easibility" under CEQA encompasses 'desirability' to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors." (*Ibid.*; see also *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715 (Sequoyah Hills); see also *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1001 [after weighing "'economic, environmental, social, and technological factors' … 'an agency may conclude that a mitigation measure or alternative is impracticable or undesirable from a policy standpoint and reject it as infeasible on that ground'"].)

With respect to a project for which significant impacts are not avoided or substantially lessened, a public agency, after adopting proper findings, may nevertheless approve the project if the agency first adopts a statement of overriding considerations setting forth the specific reasons why the agency found that the project's "benefits" rendered "acceptable" its "unavoidable adverse environmental effects." (CEQA Guidelines, §§ 15093, 15043, subd. (b); see also Pub. Resources Code, § 21081, subd. (b).) The California Supreme Court has stated, "[t]he wisdom of approving . . . any development project, a delicate task which requires a balancing of interests, is necessarily left to the sound discretion of the local officials and their constituents who are responsible for such decisions. The law as we interpret and apply it simply requires that those decisions be informed, and therefore balanced." (*Goleta II*, *supra*, 52 Cal.3d at p. 576.)

Because the EIR identified significant effects that may occur as a result of the project, and in accordance with the provisions of the Guidelines presented above, DTSC hereby adopts these findings as part of the approval of the Topock Compressor Station Final Remedy, the project. These findings constitute DTSC's best efforts to set forth the evidentiary and policy bases for its decision to approve the Topock Compressor Station Groundwater Remediation Project in a manner consistent with the requirements of CEQA. These findings, in other words, are not merely informational, but rather constitute a binding set of obligations that come into effect with DTSC's approval of the project.

1.1.7 Documents Used as Basis for Findings and Approval of the Project

The record or proceedings for DTSC's decision on the Topock Compressor Station Groundwater Remediation Project and these findings consists of the following documents, at a minimum:

- The Notice of Preparation (NOP) and all other public notices issued by DTSC in conjunction with the project.
- Topock Compressor Station Final Remedy Draft Environmental Impact Report (DEIR) prepared for the California Department of Toxic Substance Control by AECOM, Inc. June 2010 and all appendices and supporting documents cited therein.
- All comments submitted by agencies, tribes or members of the public during the comment period on the DEIR.
- Topock Compressor Station Final Remedy Final Environmental Impact Report (FEIR) prepared for the California Department of Toxic Substance Control by AECOM, January 2011 including comments received on the DEIR, and responses to those comments, appendices, revisions to the DEIR (Volumes 1 and 2), and the errata to the FEIR.
- The ERGI/TCS Addendum Work Plan to the 2008 Revised Work Plan for the East Ravine Groundwater Investigation (December 31, 2010). (See also FEIR, Appendix ER).
- The mitigation monitoring reporting program (MMRP) for the Topock Compressor Station Final Remedy project.
- All findings and resolutions adopted by the DTSC in connection with the Project and all documents cited or referred to therein.
- All reports, studies, memoranda, maps, staff reports, or other planning documents relating to the Topock Compressor Station Groundwater Remediation Project prepared by DTSC, consultants to DTSC, or responsible or trustee agencies with respect to DTSC's compliance with the requirements of CEQA and with respect to the Topock Compressor Station Final Remedy.
- All documents submitted to DTSC by other public agencies or members of the public in connection with the Topock Compressor Station Final Remedy project, up through the approval of the project.
- Any documentary or other evidence submitted to DTSC at such information sessions, public meetings, and public hearings.

- Matters of common knowledge to DTSC, including, but not limited to federal, state, and local laws and regulations.
- Any documents expressly cited in these findings, in addition to those cited above.
- Any other materials required for the record of proceedings by Public Resources Code Section 21167.6, subdivision (e).

The official custodian of the Record is DTSC, 5796 Corporate Avenue Cypress, California 90630.

1.2 SUMMARY OF THE PROJECT

The following summarizes the Topock Compressor Station Final Remedy project. Additional detailed information concerning each component of the project is set forth in Chapter 3.0 of the DEIR and Chapter 3.0 of Volume 2 to the FEIR. As noted in the FEIR, the project description was revised in response to comments received and to include additional specific information regarding the proposed project that has since been discovered through, for example, preparation of the ERGI/TCS Addendum Work Plan for the East Ravine Groundwater Investigation (December 31, 2010). (See Final EIR, Appendix ER). After 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). DTSC provided a public review and comment period on the draft Addendum from September 13, 2010 until October 14, 2010. In response to comments received from DTSC on the draft Addendum, including comments from the FMIT and Hualapai Indian Tribe, PG&E revised the draft and submitted a final Revised Addendum to the Revised Work Plan (dated December 31, 2010) 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 the FEIR to address the specific activities which are now known, as described in the Final ERGI/TCS Addendum Work Plan (December 31, 2010). The revisions and clarifications to the Project Description were reprinted in its entirety to provide context to the reader (rather than including the revisions as part of a "Clarifications and Corrections" Section of the Final EIR, Vol. I).

1.2.1 Project Location

The compressor station is located in eastern San Bernardino County, California in the Mojave Desert, approximately 12 miles southeast of the City of Needles, California, and 1 mile southeast of the Moabi Regional Park in California (see Exhibit 3-1 in Chapter 3, Volume 2 of FEIR). The compressor station is one-half mile west of the community of Topock, Arizona, which is situated directly across the Colorado River from the compressor station, and is 5 miles south of Golden

Shores, Arizona. The compressor station is approximately 1,500 feet west of the Colorado River (California shoreline) and less than 1 mile south of Interstate 40 (I-40). It is located on 66.8 acres of land owned by PG&E. The groundwater plume subject to planned remediation efforts extends from the compressor station to the north, as depicted in Exhibit 3-2 to the FEIR. This exhibit also shows the area within which remediation and investigatory activities are expected to occur. This "project area" encompasses the area where potential environmental impacts associated with the proposed project are mostly likely to occur, although some impacts, such as air quality or transportation, could have effects outside of this area as described in the resource areas. The total project area in which potential remediation and monitoring facilities could be located is approximately 779.2 acres.

1.2.2 Description of the Project

The proposed project involves flushing the contaminated groundwater plume through an in situ reactive zone (IRZ) of extraction and injections wells 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 three project phases is 3 years, 29 years (could be up to 110 years), 10 years, and 2 years, respectively. Table 1-1 presents a summary of project features.

Table 1-1
Summary of Project Features

Structure Type	Quantity	Size	Location1
Extraction Wells	Up to 110[2]	6 feet long by 8 feet wide by 8 feet deep	Likely near the Colorado River and the compressor station
Injection Wells			West and north of plume, and near the compressor station
In Situ Reactive Zone Wells		6 feet long by 8 feet wide by 5 feet deep	Likely between the National Trails Hwy and Colorado River
		6 feet long by 8 feet wide by 8 feet deep	
Reductant Storage Facilities	Total tank storage capacity of up to	35,000 sq. ft. maximum footprint[3]	Within defined project area, likely near injection

Table 1-1 Summary of Project Features			
Structure Type	Quantity	Size	Location1
Aboveground tanks	100,000 gallons; number of tanks to be determined during design phase	25,000 gallon capacity/tank 12 feet wide, 24 feet long, and up to 15 feet tall	wells, at the compressor station, at MW-20 bench, or at the IM-3 Facility
Freshwater Supply Wells OR Freshwater Intake Structure and Treatment System	Undetermined number of wells, 6 feet long by 8 feet wide by 8 feet deep OR 1 intake structure	Typical freshwater well size OR 40,000 sq. ft. maximum footprint to include 10,000 sq. ft. maximum building size/25 feet tall	Wells would either be in Arizona or California but within defined project area OR On Colorado River
Monitoring Wells	Up to 60, not including replacement wells	4 sq. ft. flush-mounted concrete pad with manhole-type cover or aboveground completion consisting of steel protective casing [4]	In and around the perimeter of the plume
Water Conveyance (pipelines)	Up to 50,000 linear feet	Trenches up to 5 feet wide, 3 to 4 feet deep	Above and belowground Exact locations TBD (intent to locate main infrastructure corridors with existing utility corridors)
Utilities (electrical and / conduit cable)	Up to 50,000 linear feet		
Roadways[5]	Up to 6,000 linear feet	Roadway size/width dependant on location and not available	Within the defined project area

Note: sq. ft. = square feet; TBD = to be determined.

[1] Refer to Project Description Exhibits 3-4 and 3-5 of Final EIR for conceptual and East Ravine Investigation well locations.

[2] Includes all remediation wells – extraction, injection (including freshwater injection) and IRZ wells, but does not include replacement wells Replacement wells were estimated to be 10% of the wells per year (see Final CMS/FS Appendix B Table D-6).

[3] This total maximum area may consist of facilities (tanks, control buildings and associated equipment) at multiple locations. Reductant storage/delivery area(s) would have lighting for safety and security purposes.

[4] Refer to Project Description Exhibit 3-7.

[5] Roads would be either paved with asphalt or gravel, or left unpaved depending on location and use. All new roads would be removed following determination that the remedial or monitoring structure is no longer needed. As such, no permanent roads are proposed.

Other Ancillary Structures – protective bollards around, for example, structures, electrical boxes, and solar panels. These structures would be located throughout the defined project area.

Source: Data compiled by AECOM in 2010

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 generally not been determined at this time because the locations are dependent on the final remediation system design. 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. Locations of remedial structures would 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. For these reasons, the environmental analysis of the proposed project was based on the maximum area that is expected to be affected by the construction, operation, maintenance, and decommissioning of the proposed project.

The project description and related exhibits were also refined in the Final EIR to include more detailed information regarding investigatory wells and boreholes for the East Ravine Groundwater Investigation activities, as described in the Revised Addendum to the Revised Work Plan for East Ravine Groundwater Investigation (December 31, 2010) (Figure 2), and the use of a generator for supplemental electrical power during peak periods of demand. The East Ravine was included in the project area and considered at a programmatic level in the Draft EIR. As the East Ravine Addendum evolved during preparation of the EIR, additional more specific information became available and was folded into the Final EIR analysis. As described in the Revised Addendum, up to three vertical boreholes will be drilled at each of the proposed nine preliminary investigation locations after consideration of any site constraints and survey information. (Revised Addendum, pp. 6-7, 16.) Field investigation at all nine primary locations, not including contingency locations, is estimated to require 6 to 8 months and is anticipated to begin in the first half of 2011. The total number of wells within the project area pending final design, and including those within the East Ravine Work Plan area, will not exceed the total number considered in the EIR at any one time (e.g., up to 170 extraction and monitoring wells).

Applicable mitigation measures required as part of the project are also required for the East Ravine area (e.g., pre-construction nesting surveys for investigation Sites I, K and L if work to be conducted during nesting season, compliance with the preliminary biological assessment requirements, etc.). No new significant adverse environmental impacts, including cumulative impacts, from the East Ravine Investigation activities were identified. The Final EIR may therefore be relied upon by DTSC for approval of the Revised Addendum and any activities proposed within DTSC's jurisdiction.

1.2.2.1 Remediation Facilities

The proposed project would involve the in situ treatment of contaminated groundwater. In situ treatment of groundwater refers to the reduction in mass, toxicity, mobility, volume, and/or concentration of chemicals of concern in groundwater, such as Cr(VI), using treatment technologies that treat groundwater in place, as opposed to pumping and circulating water through a separate treatment plant. In situ treatment would be performed by manipulating the

subsurface environment by placing a degradable chemical compound (termed a "reductant") to create reducing conditions to convert Cr(VI) in groundwater to the relatively insoluble trivalent chromium [Cr(III)]. Cr(III) is considered an important mineral needed in small amounts for health human growth. (FEIR, Volume 2, p. 4.6-3) Chromium III is not classified as a human carcinogen through inhalation, ingestion or dermal contact. (United States Environmental Protection Agency. 2005 b. Toxicological review of chromium (III), insoluble salt. In support of summary information on the Integrated Risk Information System (IRIS). Online service at http://www.epa.gov/iris; see also Arizona Department of Environmental Quality Topock Groundwater Study Evaluation of Chromium in Groundwater Wells (Prepared by the Arizona Department of Health Services Office of Environmental Health Environmental Health Consultation Services under a cooperative Agreement with the U.S. Department of Health and Human Services (September 7, 2005), at p. 6.) The reduced chromium would precipitate or become adsorbed onto aquifer solids.

The in situ treatment system would include installing remediation wells that would generally consist of extraction and injection wells and an IRZ that would comprise both. The remediation would include a maximum of 110 new remediation wells and 60 monitoring wells. Wells could be replaced throughout the operation and maintenance phase, if necessary. 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. IRZ well vaults would be approximately 6 feet long by 8 feet wide. Well vault would extend approximately 8 feet below the surface, and would be constructed flush with the ground surface to the extent feasible.

It is anticipated that approximately 50% of remediation wells would be located in what is known as the floodplain area (along the Colorado River, or eastern part of the project area), with the remaining wells located within the upland areas (western part of project area), and bedrock areas (southern part of project area) including East Ravine. Extraction wells would likely be located near the Colorado River to provide hydraulic control to prevent contaminated groundwater 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. Investigative boreholes and monitoring wells will be located in an area known as the East Ravine, which is in the southeast portion of the project area. (See Figure 2 of the ERGI/TCS Work Plan Addendum).

Results from implementation of the ERGI/TCS Work Plan Addendum will further inform the development of the final remedy design to determine the location of extraction wells in this bedrock area as described in the December 2009 CMS/FS. 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 and within the southern part of the plume.

The reductant for the in situ portion of the proposed project would be stored in aboveground tanks. 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 within the defined project area [e.g., at the compressor station, the IM-3 Facility, or near the monitoring well 20 bench (MW-20 bench) area].

1.2.2.2 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 and would contribute to flushing groundwater through the IRZ. The injection of freshwater at an assumed rate of approximately 500 gpm would induce a hydraulic gradient to accelerate the movement of the site 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 IRZ and extraction wells.

Freshwater injection would involve piping water in from an off-site source. 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. Freshwater would be transported by pipeline to injection wells located north, west, and/or south of the plume. The source of freshwater may change during the operation and maintenance phase 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 phase. 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.

Depending on the source of water used for flushing, minor pH adjustment might be required to make the water chemically compatible with the aquifer where it would be injected and to prevent scaling in the injection wells. If needed, this pH adjustment would require a small system with equipment such as a chemical storage tank(s), secondary containment, a feed pump, and a security enclosure such as a building or fence. If surface water from the Colorado River is used, a surface water intake would typically consist of belowground perforated or solid pipes or rectangular channels extending into the river, or an alternative approach is to install pumps below the river surface with riser pipes extending to a concrete and steel platform. (See also Final EIR, Vol. I, Response A1-10.) If surface water from the Colorado River is the source of water for flushing, filtration may be needed to remove sediment and bacteria (for injection well maintenance). Water treatment facilities that would be needed for this purpose would likely be housed in one or two buildings. Freshwater treatment systems, such as tanks and buildings, would be a maximum of 10,000 square feet and 25 feet tall, with an overall footprint of up to 40,000 square feet.

1.2.2.3 Monitoring Wells

Groundwater monitoring wells would be installed as part of the proposed project to evaluate site conditions and contaminant levels and to assess the performance of the remediation system over time. Monitoring wells would be strategically placed to assess contaminant levels of groundwater and progress of in situ treatment and freshwater flushing. Monitoring would include the collection, management, and reporting of groundwater quality, surface water quality, and operational data from the remedial system. In addition to using existing and future wells, monitoring would continue to include periodic sampling and analysis of surface water or pore water in the Colorado River. Monitoring would be required during the operation and maintenance phase and for an estimated 10 years following completion of the remedy.

A maximum of 60 new monitoring wells are anticipated as part of the proposed project. 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 finished at the ground surface with a concrete pad (typically 4 square feet) and include a manhole-type cover provide access to the well. 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.

1.2.2.4 Water Conveyance, Utilities, and Roadways

The project would require pipelines to transfer freshwater, treated water, and reductant-amended water throughout the project area. It would also require other utility connections such as signal communications, small solar panels, diesel fuel, and natural gas. An estimated maximum of 50,000 linear feet of pipeline may be required to serve the proposed project. 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. As with pipelines, an estimated maximum of 50,000 linear feet of electrical and signal communications was expected to be required for project implementation, although with the use of a generator to meet periodic electrical demands this estimate is conservative. 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. Other potential sources of electricity for the project may include supplemental power from the compressor station and/or include an additional 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) that will be rented by PG&E. 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 capacity.

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. Following determination that the remedial or monitoring structure is no longer needed, the road would be closed and restored to pre-project conditions. As such, no permanent roads are proposed under any of the alternatives.

1.2.2.5 Institutional Controls

Institutional controls are non-engineering mechanisms, such as legal or contractual restrictions on property use, which are used to help minimize the potential for human exposure to contamination and/or protect the integrity of a remedy. Institutional controls work by limiting land or resource use and/or by providing information that helps modify or guide human behavior at a site. Some common examples of institutional controls include zoning restrictions, building or excavation permits, prohibitions on well drilling, and easements and covenants. Institutional controls are determined based on the specific conditions at a site and may be temporary or permanent. Institutional controls would likely consist of restrictions against development of the groundwater as a potable water supply during the cleanup period and restrictions against removal of or damage to remedial structures (e.g., wells, pipelines, tanks) during the cleanup period. Maintaining institutional controls would not require any physical disturbance in the project area.

1.2.2.6 Decommissioning of the Proposed Project

Following completion of the remedial action, when it is determined through monitoring that cleanup of contaminated groundwater plume to background levels or 32 µg/l of Cr(VI), and/or following the determination by DTSC that the remedial structures are no longer needed (e.g., IM-3 once the effectiveness of the final remedy is proven), the remedial facilities (e.g., in situ reductant storage and delivery systems, foundation material, process controls/instrumentation systems, and the Interim Measure 3 Groundwater Extraction and Treatment Facility [IM-3 Facility]) would be decommissioned. 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. The decommissioning of monitoring wells would occur approximately 10 years after the decommissioning of remediation wells. It is estimated that the length of time required to decommission all elements of the proposed project would be up to 2 years in total.

1.3 ENVIRONMENTAL REVIEW PROCESS

DTSC prepared an EIR for the proposed project in accordance with CEQA. Prior to and throughout the EIR process, DTSC conducted extensive public outreach to ensure that its decision makers and members of the public were informed about the potential for significant

adverse effects on the environment from the proposed remedy, alternatives to the proposed remedy, and related activities. DTSC held multiple meetings with interested Indian tribal members and the public to ensure their concerns were considered as part of the EIR and decision making process.

DTSC distributed a Notice of Preparation (NOP) for the proposed Project to the California State Clearinghouse at the Governor's Office of Planning and Research and circulated to other potentially interested public agencies and members of the public on May 2, 2008. The NOP was circulated to responsible and trustee agencies, federal agencies, Native American tribes, and interested members of the public. The NOP public comment period began on May 2, 2008, and concluded on July 1, 2008. The NOP notified the public that a Draft EIR was to be prepared for the project and briefly described the elements of the Project and the scope of the environmental analysis that would be presented in the Draft EIR. The NOP also requested public agencies and members of the public to provide their comments on the scope and content of the Draft EIR that was to be prepared. Notice, outreach, and consultation were conducted with trustee and responsible agencies, federal agencies, tribal representatives, and members of the public and relevant communities during the CEQA scoping process.

Concurrent with the issuance of the NOP, public meetings were held during the comment period. The meetings were open to the agencies mentioned above and to any interested organizations and individuals, including Native American tribes that have expressed interest in the potential effects of proposed remediation activities on cultural resources located near the compressor station. Several Native American tribes were invited to attend the scoping meetings. The tribes were contacted based on an inquiry that was forwarded to the Native American Heritage Commission (NAHC) requesting a list of Native American tribal representatives that may have knowledge of cultural resources in the project area. The NAHC provided a list of 10 tribal representatives that may have knowledge of cultural resources in the project area. The list of tribal representatives to be contacted was then expanded to 13 based on an understanding of the region and past tribal interest that had been expressed in other activities that have taken place at the compressor station.

The Native American tribal governments contacted regarding the proposed project include the Fort Mojave Indian Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Cocopah Indian Tribe, Fort Yuma-Quechan Indian Tribe, Havasupai Indian Tribe, Hualapai Indian Tribe, Morongo Band of Mission Indians, San Manuel Band of Mission Indians, Serrano Nation of Indians Torres-Martinez Desert Cahuilla Indian Tribe, Twenty-Nine Palms Indian Tribe, and the Yavapai-Prescott Tribe. Subsequent to the NOP scoping meetings, an extensive communication program was conducted with involved tribes that included formal meetings with tribal councils, informal meetings and field visits with cultural resource personnel and tribal elders, and solicitation of written comments. Information obtained through the scoping meetings and the subsequent communication program has been incorporated into the DEIR. The results of the scoping process, including received comments, are summarized in the Scoping Report for the Draft Environmental Impact Report, Pacific Gas and Electric Company, Topock Compressor Station, Environmental Investigation and Cleanup Project. DTSC considered the comments received on the NOP in refining the scope of analysis for the EIR.

DTSC released the DEIR for the Project on June 4, 2010, with a 45-day review period pursuant to CEQA Guidelines §15105. The public review period extended from June 4 to July 19, 2010. DTSC held four public Meetings/Open Houses on the DEIR: June 22, 2010 (Parker, Arizona); June 23, 2010 (Lake Havasu City, AZ); June 29, 2010 (Needles, CA); and June 30, 2010 (Topock, AZ). DTSC received comments from local and regional governmental agencies, and from members of the public. Those comments, and DTSC's responses to those comments, are contained in the Final EIR (Vol. 1).

In addition DTSC has held periodic meetings with tribal members throughout the process. (See Tribal Communication Summary, Appendix TRI to the EIR). Finally, all project-related documents have been made available to the public through the official project website: www.dtsc-topock.com.

1.4 SIGNIFICANT ENVIRONMENTAL IMPACTS OF THE PROJECT

The EIR identifies significant impacts to a number of environmental resources, including aesthetics (project and cumulative), air quality (project and cumulative), biological resources (project and cumulative), cultural resources (project and cumulative), geology and soils (project and cumulative), hazardous materials (project and cumulative), hydrology and water quality (project and cumulative), noise (project and cumulative) and water supply (project and cumulative). As described below (Section 1.6.2 and Exhibit 1-A to these Findings), mitigation measures are available to reduce most of these impacts to a less-than-significant level, and DTSC has adopted such measures.

The EIR also identifies significant and unavoidable impacts to a number of environmental resources, including cultural resources (project and cumulative) and noise (project and cumulative). As described below (Section 1.6.2 and Exhibit 1-A to these Findings; see also Section 2.1), DTSC has adopted all feasible measures to reduce these significant impacts, yet they remain significant after adoption of those measures.

1.5 GENERAL FINDINGS

1.5.1 Certification of the EIR

In accordance with CEQA, DTSC has considered the effects of the Project on the environment, as shown in the Draft and Final EIRs and the whole of the administrative record prior to taking any action on the Project. The Final EIR was presented to the DTSC and released for public review on January 18, 2011. DTSC has reviewed and considered the Draft and Final EIRs and the information relating to the environmental impacts of the Project contained in those documents and has certified that the EIR has been prepared and completed in compliance with CEQA. By these Findings DTSC ratifies and adopts the conclusions of the Final EIR as set forth herein unless otherwise noted. The Final EIR and these Findings represent the independent judgment and analysis of DTSC.

1.5.2 Absence of Significant New Information

CEQA Guidelines Section 15088.5 requires a lead agency to recirculate an EIR for further review and comment when "significant new information" is added to the EIR after public notice

is given of the availability of the draft EIR but before certification of the Final EIR. 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 that the project proponent declines to implement. The CEQA Guidelines provide the following examples of significant new information under this standard:

- A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
- A substantial increase in the severity of an environmental impact would result unless mitigations measures are adopted that reduce the impact to a level of insignificance.
- A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.
- The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (*Mountain Lion Coalition v. Fish and Game Com.* (1989) 214 Cal.App.3d 1043).

The FEIR incorporates information obtained by DTSC since the release of the DEIR. This information includes comments submitted on the DEIR, responses to those comments, and additional information developed since the release of the DEIR as set forth in the FEIR, and appendices to the FEIR. The DEIR was revised in response to comments received and to include additional specific information regarding the proposed project including the ERGI/TCS Addendum Work Plan. (See FEIR, Appendix ER). For example, clarifications were made to the project description to provide greater specificity regarding the ERGI/TCS Addendum Work Plan activities (e.g., the nine potential areas where investigative and monitoring wells may be placed and other related activities within East Ravine). Revisions to the cultural mitigation measures were also made in response to tribal comments to avoid and substantially lessen, to the extent feasible, the project's impacts on cultural resources, among others. (See FEIR, Volume 2, pp. pp. 4.4-62 - 4.4-74.) As described in the FEIR, these changes do not constitute "substantial new information" as described by CEQA; there would be no increase in the severity of any significant impacts and no new significant impacts would result. (FEIR, Volume 1, pp. 1.4 – 1.5.) Thus, DTSC determined that recirculation of the EIR for additional public review and comment is not required.

The new information included in response to the comments submitted on the DEIR, and additional specificity regarding the proposed monitoring wells based on the ERGI/TCS Addendum Work Plan do not reflect "significant new information" requiring the need for recirculation of the EIR. Where a potentially new significant impact was identified in response to comments received on the DEIR, feasible mitigation measures were identified that would reduce any such impact to a less than significant level. Also, the comments, responses, and information updated in response to the project's revisions do not demonstrate that there is a feasible alternative or mitigation measure considerably different from the alternatives and mitigation measures evaluated in the draft EIR that would clearly reduce environmental impacts.

With respect to the fourth example of circumstances triggering recirculation a "fundamentally and basically inadequate" Draft EIR – the Supreme Court has stated the obligation to recirculate is triggered by new information showing that an EIR was so deficient as to render public comment "in effect meaningless." (*Laurel Heights Improvement Assn. v. Regents of the Univ. of California* (1993) 6 Cal.4th 1112, 1130.) Here, the modifications to the Draft EIR were made in response to comments received and in response to the additional information identified for the East Ravine area and generator usage. No new significant impacts relating to the additional information regarding the Project were identified. Revisions were also made to lessen the project's environmental impacts, including impacts to cultural resources as described in the Final EIR. These changes illustrate the CEQA process at work in that the comments received on the DEIR prompted DTSC and its environmental consultants to undertake additional CEQA analysis to fully inform the public and decision makers of the environmental consequences of the Topock Compressor Station Final Remedy project, and to include additional and revised mitigation measures to further lessen those impacts.

In summary, no information has revealed the existence of: (1) a significant new environmental impact that would result from the Project or an adopted mitigation measure; (2) a substantial increase in the severity of an environmental impact; (3) a feasible project alternative or mitigation measure not adopted that is considerably different from others analyzed in the Draft EIR that would clearly lessen the significant environmental impacts of the Project; or (4) information that indicates that the public was deprived of a meaningful opportunity to review and comment on the Draft EIR. Thus, the information added to the DEIR does not meet the definition of "significant new information" requiring recirculation. (FEIR, Volume 1, pp. 1.4 – 1.5.) Consequently, DTSC finds that the amplifications and clarifications made to the Draft EIR in the Final EIR do not collectively or individually constitute significant new information within the meaning of Public Resources Code §21092.1 and CEQA Guidelines §15088.5. Recirculation of the Draft EIR or any portion thereof, is therefore not required.

1.5.3 Evidentiary Basis for Findings

These Findings are based upon substantial evidence in the entire record before DTSC. The references to the Draft EIR and Final EIR set forth in the Findings are for ease of reference and are not intended to provide an exhaustive list of the evidence relied upon for these Findings.

1.5.4 Findings Regarding Alternative Baseline Analysis Pursuant to Settlement Agreement

Chapter 7 to the DEIR, and Final EIR Vol. II, provides the analysis required by the stipulation and settlement agreement entered into on December 18, 2006, in *Fort Mojave Indian Tribe v. Department of Toxic Substances Control et al*. (Superior Court of the State of California, Sacramento County [Case No. 05CS00437]), referred to in the EIR as the "Settlement Agreement" (see Appendix SA-1). The Settlement Agreement resulted from a writ of mandate and complaint filed by the Fort Mojave Indian Tribe (FMIT) that challenged, among other things, the legal basis for the DTSC's authorization to construct IM-3 (including the treatment plant, related wells, and other facilities that compose the IM-3 Facility). While not admitting to the material allegations of the suit, DTSC agreed to the Settlement Agreement to resolve all

issues between the parties in good faith and to avoid further litigation. Generally, the Settlement Agreement includes the following terms:

- Before the final cleanup remedy is finalized, if PG&E proposes alternative locations for the IM-3 Facility, DTSC is required to promptly evaluate the proposal(s) in accordance with applicable laws, regulations, and requirements. If such a proposal is found by DTSC, in its discretion, to comply with applicable laws and regulations, would effectively remediate the contamination from the Topock site, within the confines of the law, and is consistent with protection of public health and safety and the environment, DTSC would authorize PG&E to move the IM-3 Facility as expeditiously as practicable.
- DTSC must use its best efforts to provide an expedited time frame for a decision on a final remedy for the Topock site, to the maximum extent possible under the Hazardous Waste Control Law and CEQA.
- DTSC is to move forward with the CEQA studies on the proposed final remedy for the Topock site according to a process that will recognize the FMIT's spiritual and cultural interests, DTSC will work to establish a communication process with FMIT (which is further detailed in the Settlement Agreement) to discuss and consult on the remedy (see Appendix SA-1 pages 5–6).

Under the Settlement Agreement, if the proposed final remedy involves locating or retaining any equipment or installation on the IM 3 site, DTSC is required, in exercising its discretion regarding any such equipment or installation, to evaluate significant environmental effects on cultural and biological resources on the site based on the environmental setting (e.g., conditions) at the site as of January 2004 (before development of the IM-3 Facility).

The EIR specifically considers the potentially significant environmental impacts on biological and cultural resources of locating or retaining any equipment or installation on the IM-3 site as part of the potential final remedies, consistent with the Settlement Agreement. As described in Chapter 3, the final design and exact location of proposed facilities is not known at this time. However, the project area boundary for both remediation facilities and monitoring wells does include the location of the IM-3 site. Therefore, it can be assumed that infrastructure associated with the proposed project could be located at the location of the IM-3 site. The project facilities that could occur within the IM-3 site are limited to freshwater injection wells, injection wells for carbon-amended water, monitoring wells, associated utility and pipeline trenches and reductant storage facilities and photovoltaic or electric generator stations. In addition, as part of the proposed project, IM-3 would be decommissioned when it is determined by DTSC and the U.S. Department of the Interior that the facility is no longer needed. More detail on the physical attributes of these facilities and the proposed construction and decommissioning activities is provided in Chapter 3. (See also Responses to comments, T1-184 thru -185 (noting requirement of decommissioning plan for IM-3 as part of CUL-1a.)

Generally, under CEQA, the significance of the potential impacts of a project should be compared to "existing physical conditions" of the environment (CEQA Guidelines, Sections 15125[a] and 15125[e]). In reviewing an agency's exercise of "discretion to deviate from the time-of-review baseline," courts defer to the agency's decision if it is supported by substantial evidence. (See *Fat v. County of Sacramento* [2002] 97 Cal. App. 4th 1270, 1278 (which states

that the existing environment at the time an action is commenced can be used as the baseline [or setting] for determining whether an EIR is required, even when unauthorized development had occurred previously on the same site).)

Based on a review of the Settlement Agreement, relevant case law, and relevant sections of the CEQA statute and CEQA Guidelines, DTSC determined that the requirements of the Settlement Agreement should be addressed in a stand-alone chapter of the EIR. This approach allows the environmental analysis provided in Chapter 4 to establish a consistent approach to the existing conditions baseline generally required by CEQA, while also providing the additional information agreed to as part of the Settlement Agreement.

The analysis contained in that chapter is at an equal level of detail when compared to the biology and cultural resource impact analyses contained in Volume 2, Chapter 7. Table 7-1 of the FEIR provides a summary of the findings of the chapter, which are described in more detail in Sections 7.2 and 7.3. In addition, the Summary of the EIR contains a summary of how the impacts and mitigation measure for the proposed project would be different if DTSC adopted mitigation measures based on a 2004 baseline. (See FEIR, Volume 2, pp. 1-13 – 1-14,)

As described in the EIR, biological resource impacts and mitigation measures would remain unchanged when comparing the environmental analysis using a 2004 baseline (as reflected in Chapter 7) and a 2008 baseline (as reflected in Chapter 4). The extent of potential impacts on waters of the United States, wetlands, riparian habitats, and aquatic species and habitat would not differ because the construction of the IM-3 Facility did not affect these habitats. (FEIR, Volume 2, p. 7-41.)

As to cultural resources, with a January 2004 baseline, impacts and recommended mitigation measures were generally determined to be identical to those identified using the 2008 baseline. Sixty-four of the 195 archaeological resources (sites and isolated finds) identified in Section 4.4 "Cultural Resources" are within the boundaries of the IM-3 site. The potential would remain the same between the 2008 and 2004 baseline for loss or damage of known cultural resources sites associated with construction and operations/maintenance activities within IM-3. The potential for undiscovered cultural resources or Native American burials would also remain the same. These resources would have the potential to be affected by any proposed project facilities within the IM-3 site, regardless of the date of the baseline.

Impacts to the historical resources, including the Topock Cultural Area, unique archaeological resources, and Native American burials, as well as the recommended mitigation measures for those impacts, would remain unchanged under either baseline scenario. The impact and mitigation measures (CUL-1a, -1b, and -1c, CUL-2, and CUL-4) regarding potential loss or damage to historical resources, unique archaeological resources, and Native American burials would remain applicable. In January 2004, a protective cap was placed on a portion of site CA-SBR-2910H as a mitigation measure for the IM-3 Facility to protect the site from project-related truck traffic. Presuming that the cap did not exist, additional measures would need to be implemented to protect site CA-SBR-2910H. These measures would involve either implementing mitigation similar to the cap, or rerouting site access and other project facilities to avoid these CRHR-eligible sites. Under the proposed project, alternative access routes would likely be deemed infeasible because these new routes would result in additional grading, which would have the potential to disturb additional culturally significant sites in the IM-3 site area.

These other culturally significant sites may include historical resources associated with Route 66 and portions of the National Old Trails Road, or prehistoric sites including Loci B and C of the Topock Maze. Regardless of the timing of the baseline, this approach would negatively affect recorded site CA-SBR-2910H by introducing a significant and unavoidable change to the resource.

The effects of decommissioning under either baseline scenario would be similar to those of construction activities, with a potential for the loss or damage of known cultural resources sites near decommissioning activities. Information gathered as part of this EIR through the NACP and other sources suggests that some tribal stakeholders would consider the decommissioning activities associated with the proposed project would create a temporary, adverse change to the Topock Cultural Area, but that ultimate removal of all proposed project facilities would likely serve to benefit the condition of the area. (FEIR, Volume 2, p. 7-44.)

1.5.5 Findings Regarding Mitigation Measures

1.5.5.1 Mitigation Measures Adopted

Except as otherwise noted, the mitigation measures herein referenced are those identified in the Final EIR and adopted by DTSC as set forth in the MMRP.

1.5.5.2 Impact after Implementation of Mitigation Measures

Except as otherwise stated in these Findings, in accordance with CEQA Guidelines §15092, DTSC finds that environmental effects of the Project will not be significant or will be mitigated to a less than significant level by the adopted mitigation measures. DTSC has substantially lessened or eliminated all significant environmental effects where feasible. DTSC has determined that any remaining significant effects on the environment that are found to be unavoidable under CEQA Guidelines §15091 are acceptable due to overriding considerations as described in CEQA Guidelines §15093. These overriding considerations consist of specific environmental, economic, legal, social, technological, and other benefits of the Project, which justify approval of the Project and outweigh the unavoidable adverse environmental effects of the Project, as more fully stated in the Statement of Overriding Considerations included herein. Except as otherwise stated in these Findings, DTSC finds that the mitigation measures incorporated into and imposed upon the Project will not have any new significant environmental impacts that were not analyzed in the Draft EIR.

1.5.5.3 Relationship of Findings and MMRP to Final EIR

These Findings and the MMRP are intended to summarize and describe the contents and conclusions of the Draft and Final EIR for policymakers and the public. For purposes of clarity, some of these measures may be worded differently from the provisions in the Final EIR and/or some provisions may be combined. Nonetheless, DTSC will implement all measures contained in the Final EIR. In the event that there is any inconsistency between the descriptions of mitigation measures in these Findings or the MMRP and the Final EIR, DTSC will implement the measures as they are described in the Final EIR. In the event a mitigation measure recommended in the Final EIR has inadvertently been omitted from these Findings or from the

MMRP, such a mitigation measure is hereby adopted and incorporated in the Findings and/or MMRP as applicable.

1.5.5.4 Relationship of Findings and MMRP to Final EIR

Pursuant to Public Resource Code §15091, DTSC is the custodian of the documents and other materials that constitute the record of proceedings upon which the decision is based, and such documents and other materials are located at the offices of DTSC, which are located DTSC, 5796 Corporate Avenue Cypress, California 90630. Copies of the Draft and Final EIRs are also available at DTSC's website, www.dtsc-topock.com/.

1.6 FINDINGS OF FACT

DTSC has reviewed the FEIR for the Topock Compressor Station Final Remedy project, which consists of the following: (1) a revised version of the DEIR incorporating changes accepted by the lead agency and provided as Volume 2 of the FEIR; (2) comments and recommendations received on the DEIR either verbatim or in summary—Chapters 2 through 4 of Volume 1 of the FEIR; (3) a list of persons, organizations, and public agencies commenting on the DEIR—located at the beginning of Chapters 2 through 4 of Volume 1 of the FEIR; (4) responses of the lead agency to significant environmental points raised in the review and commenting process—Chapters 2 through 4 of Volume 1 of the FEIR; and (5) the mitigation monitoring and reporting program (MMRP)—Chapter 5 of Volume 1 of the FEIR. DTSC has considered the public record on the project, which is listed in Section 1.1.7 (Documents Used as a Basis for Findings).

Pursuant to Public Resources Code Section 21081, for each significant effect identified in the EIR, the DTSC must make one or more of the findings listed in Section 1.1.6 of this document.

After reviewing the record of proceedings, composed of the documents listed in Section 1 of this document, DTSC hereby makes the following findings regarding the significant adverse effects of the proposed project, pursuant to Public Resources Code Section 21081 and Section 15091 of the California Code of Regulations.

1.6.1 Environmental Effects Found Not to be Significant

Effects of the project found to be less-than-significant, and which require no mitigation, are identified in the bulleted list below. The impact title and number follow the impact titling and number conventions used in the Final EIR. DTSC has reviewed the record and agrees with the conclusion that the following impacts would not be significant adverse impacts under the project, and therefore no additional findings are needed.

- Aesthetics (Section 4.1) - Temporary Impacts on Existing Visual Quality and Character. Construction and decommissioning activities are dynamic and would have a limited effect on existing form, lines of sight, and textural pattern. Construction and decommissioning activities would be spread throughout the large project area and views of construction activity would be of short duration. This impact would be less than significant.
- Aesthetics (Section 4.1) - Impacts on Scenic Vistas (Key Views 4, 6, and 10). From key views 4, 6, and 10, the overall degree of contrast does not meet the threshold of significance. This impact would be less than significant.

- Aesthetics (Section 4.1) - Impacts on Scenic Resources (Key Views 1, 2, 10, and 13). From key views 1, 2, 10, and 13, the overall degree of contrast does not meet the threshold of significance. This impact would be less than significant.
- Aesthetics (Section 4.1) - Impacts on Visual Quality and Character from Key Views 1, 2, 4, 6, 10, and 13. From key views 1, 2, 4, 5, 9, and 13 of the project area, the overall degree of contrast does not meet the threshold of significance for visual quality and character impacts. This impact would be less than significant.
- Aesthetics (Section 4.1) - Introduction of Light and Glare. Views of lighting and nighttime construction activity would be of short duration and would not include features that would create glare. This impact would be less than significant.
- Air Quality (Section 4.2) - Long-Term Operations-Related (Regional) Emissions of Criteria Air Pollutants and Precursors. To receive a permit, stationary sources must meet applicable standards. Mobile sources would be well below applicable standards. Therefore, mobile and stationary operation-related activities would not result in project-generated emissions of criteria pollutants and ozone precursors that exceed the applicable thresholds. As a result, this impact would be less than significant.
- Air Quality (Section 4.2) Long-Term Operations-Related (Regional) Emissions of Greenhouse Gasses. Operations of the proposed project would not generate greenhouse gas emissions above the California mandatory reporting limit, nor would project related emissions conflict with an applicable plan, policy or regulation adopted for purposes of reducing GHG emissions. Therefore, mobile and stationary operation-related activities would not result in project-generated emissions of greenhouse gases that exceed the applicable thresholds of significance. As a result, this impact would be less than significant.
- Air Quality (Section 4.2) Long-Term Operations-Related (Local) CO Emissions - At this time no ambient CO monitoring data is available for the project area, however it is expected that the 1-hour ppm of CO in the project area would be less than 3 ppm/1-hr, based on typical concentrations in outlying areas (SMAQMD 2004). The anticipated 1-hour and 8-hour CO concentrations would be less than CAAQS and NAAQS. As a result, this impact would be less than significant.
- Air Quality (Section 4.2) - Short-Term Construction-Related and Long-Term Operations-Related Emissions of TACs. The project construction period of approximately 3 years would be much less than the 70-year period used for risk determination, and the equipment would be located at distances greater than 1,000 feet from the sensitive receptors as recommended by MDAQMD for significance determination. This would be less than significant. During the permitting process MDAQMD would analyze such sources (e.g., by preparing a health risk assessment) based on their potential to emit TACs. If it is determined that the sources would emit TACs in excess of MDAQMD's applicable significance threshold, MACT or T-BACT would be implemented in order to reduce emissions. If the implementation of MACT or T-BACT would not reduce the risk below the applicable threshold, the MDAQMD would deny the operating permit. This impact would be less than significant.
- Air Quality (Section 4.2) -Short-Term Construction Activities or Long-Term Operations Create Objectionable Odors. The proposed project would not introduce new, permanent

odor-generating facilities close to existing or planned sensitive receptors. Short-term odors sources would be intermittent and would dissipate rapidly from the source. As a result, this impact would be less than significant.

- Biological Resources (Section 4.3) - Consistency with Regional and Local Plans. Implementation of the proposed project would not have substantial adverse effects on the viability of populations of species covered in the LCR MSCP, the effectiveness of the LCR MSCP's conservation strategy, and attainment of the goals and objectives of the LCR MSCP. Additionally, the project would not conflict with resource management goals of USFWS, BLM, or DOI. This impact would be less than significant.
- Biological Resources (Section 4.3) - Substantial Interference with Fish or Wildlife Movement Corridors or Nursery Sites. Implementation of the proposed project would not substantially interfere with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. This impact would be less than significant.
- Geology and Soils (Section 4.5) - Risks to People and Structures Caused by Seismic Hazards. The proposed project would not create risks to people from seismic hazards because the site is not located within an earthquake fault zone. Surface rupture is, therefore, not expected to occur on the project site, and the potential for seismic activity in the area is considered low; therefore, this impact would be less than significant.
- Geology and Soils (Section 4.5) - Potential Impacts Associated with Landslides, Subsidence, and Unstable/Expansive Soils. The project site is underlain by soils with a very low potential for shrink/swell and subsidence because of very low clay content. Furthermore, portions of the project area that are relatively flat would not be subject to the effects of landslides. Areas with abrupt elevation changes, such as along Bat Cave Wash, may be susceptible to localized rock falls, but not to widespread slope failure or landslides. This impact would be less than significant.
- Hazards/Human Health Risk (Section 4.6) - The Groundwater Risk Assessment (GWRA) prepared for the project (Arcadis 2009) concluded that no current direct or indirect exposure pathways exist for contact with site groundwater, and no human or ecological populations are currently at risk of significant adverse effects caused by contaminated groundwater at the Topock site. It was determined, based on substantial evidence, that it is not reasonably foreseeable for plants or animals within the project area to indirectly expose humans to significant adverse human health risks. The GWRA, for example, 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). DTSC's Human Ecological Risk Division (HERD) also conducted additional analysis in response to comments concerning whether there was any potential for Cr(VI) uptake in plants at the site, including any potential Cr(VI) concentrations in plants caused by Cr(VI) uptake that could result in exposure to humans during ceremonial use of plants. (See Final EIR Appendix PLM; see also Vol. 1 Final EIR, Responses to Comments T3-4 and T3-5). Dr. Eichelberger's analysis and the GWRA provide substantial evidence supporting DTSC's conclusion that the Project will not cause any new significant adverse human health risk, or allow for the continuation of an ongoing significant

adverse human health risk, by people through use of plants growing within the project area from the existing groundwater contamination.

- Land Use (Section 4.8) – Potential for Division of an Existing Community. The proposed project would not physically divide residential communities in the project area. Pipelines associated with the proposed project would be located underground or along existing pipelines. This would be a less-than-significant impact.
- Land Use (Section 4.8) – Conflicts with Land Use Plans, Policies, or Regulations. As summarized in Table 4.8-1, the proposed project would be consistent with relevant land use regulations and would not result in significant conflicts with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. Although some features of the project may be perceived as conflicting with the overall purpose of the County's Open Space and Resource Conservation land use designations, the proposed project is construction of necessary facilities for purposes of remediation, and would be decommissioned following project completion. No changes to designated land uses or zoning designations are required for project approval. For these reasons, this impact would be less than significant.
- Noise (Section 4.9) – Long-Term Operational-Related Nontransportation Noise Impacts. Operation of the proposed project would not result in any nontransportation noise sources (i.e., water filtration facilities) that would generate noise levels that would result in a noticeable, permanent increase in ambient noise levels at nearby sensitive receptors. Therefore, this would be a less than significant impact.
- Noise (Section 4.9) – Long-Term Operational-Related Transportation Noise Impacts. The proposed project would not result in a substantial permanent increase in ambient noise levels relative to existing sensitive receptors in the project area above levels existing without the project or expose persons to or generate noise levels in excess of applicable standards. Therefore, this would be a less-than-significant impact.
- Transportation (Section 4.10) – Long-Term Operational-Related Transportation Noise Impacts. The proposed project would not result in a substantial permanent increase in ambient noise levels relative to existing sensitive receptors in the project area above levels existing without the project or expose persons to or generate noise levels in excess of applicable standards. Therefore, this would be a less-than-significant impact.
- Transportation (Section 4.10) – Potential to Increase Hazards due to Project Design Features. The existing cross-section of Park Moabi Road does not meet current county roadway standards; however, the proposed project would not affect the overall safety of this road or increase the potential for transportation-related hazards. This impact would be less than significant.
- Transportation (Section 4.10) – Potential to Conflict with Adopted Policies, Plans, or Programs Supporting Alternative Transportation. The proposed project would not conflict with any adopted policies, plans, or programs supporting alternative transportation in the study area. Therefore, this impact would be less than significant.

- Utilities and Service Systems (Section 4.11) – Potential to Exceed Wastewater Treatment Requirements or Require a New Wastewater Facility. The proposed project would not generate substantial amounts of domestic wastewater. Because the proposed project would not include wastewater-intensive facilities, the impact on local wastewater would be less than significant.
- Utilities and Service Systems (Section 4.11) – Potential to Exceed Permitted Landfill Capacity. The proposed project would generate incidental non-hazardous waste and hazardous waste during construction, operation, and decommissioning of the proposed project. Sources of waste during construction include construction debris (empty cement and sand bags, pallets and scrap material, empty drink and food containers, and plastic sheeting). Sources of waste anticipated during operations could include soil cuttings, drilling mud and rinse water, as well as incidental construction debris associated with repairs or routine maintenance and trash generated by construction personnel such as food and drink containers. Decommissioning of the proposed project, including IM-3, would generate a variety of construction debris, including concrete, metal sheeting, and pipe. Because the projected waste stream would not exceed the available daily capacity of relevant landfills this impact would be less than significant.
- Utilities and Service Systems (Section 4.11) – 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 be generated on-site using a dedicated portable diesel-fuel or natural gas generator or in combination with supplemental power from the compressor station and/or small solar panels would. Because the source of electricity for the proposed project has not been identified, impacts associated with the proposed project's electrical demand would be less than significant.
- Water Supplies (Section 4.12) – Increased Demand for Water Supplies. 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 use by construction personnel would be trucked from off-site. Other construction and 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 and maintenance, and decommissioning. This impact would be less than significant.

The following potential environmental effects were included in the original analysis preformed for the EIR, however, further analysis was deemed unnecessary because they were found inapplicable to the project:

Geology and Soils

- The proposed project does not include the use of septic tanks or additional wastewater disposal systems. Therefore, the EIR did not further consider the threshold whether there are

soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Hazardous Materials

- One of the considerations in an environmental evaluation is whether a project is located on a site that is included in a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and whether, as a result, it would create a significant hazard to the public or the environment. As indicated in Section 4.6.1, the compressor station is listed on a Cortese list. However, completion of the proposed project would result in the removal of the site from the Cortese database and the elimination of the significant hazard to the public or environment associated with the previous contamination remediated by the proposed project. Therefore, this significance threshold is not discussed further in the EIR.
- The project area is not located within one-quarter mile of an existing or planned school and the proposed project would not result in hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or planned school. Therefore, no impact would occur related to hazards near existing or planned schools.
- A review of the County of San Bernardino Airports Web site (San Bernardino County Department of Airports 2007) and an aerial photograph of the project area revealed that the proposed project is not located within 2 miles of a public airport or public use airport. The nearest airport is the Needles Municipal Airport located approximately 8 miles southeast. The nearest private airport, Eagle Airpark, near Mojave City, Arizona is approximately 13 miles southeast. The criteria regarding airport safety adopted as part of the comprehensive land use plan (CLUP) for the Needles Municipal Airport was reviewed to assess potential safety concerns pertaining to both facilities. The project area is not located within any specified Referral Areas of restricted development defined in the CLUP for either airport (San Bernardino County 1991). Because the project area is at least 8 miles from an airport, the project would not result in any increased safety hazards for people working in the project area and, therefore, no impact would occur.
- Emergency response programs in the project area are sponsored by the local fire departments and the Mohave County Municipal Community Emergency Response Team (CERT). In addition to the basic Federal Emergency Management Agency CERT Training, Mohave County CERT members receive background training in emergency sheltering, mass decontamination, Emergency Operation Center support, and damage assessment activities. With regard to emergency response programs associated with the compressor station, several corporate programs have been developed and are used at PG&E facilities around the western United States to address issues associated with natural gas and storage of hazardous materials and wastes, such as petroleum products, that are common among all PG&E facilities (Russell, pers. comm., 2009). PG&E also has prepared a document titled Hazardous Materials Business Plan for the Topock Compressor Station, Interstate 40 and Park Moabi Road, Needles, California, dated February 2010 (PG&E 2010). This document discusses a variety of emergency response procedures to be followed that are specific to the compressor station, including those related to fire hazards, spills, flash floods, earthquakes, natural gas releases, respiratory hazards, and underground storage tank releases. The Hazardous Materials Business Plan contains an evacuation plan and procedures, including maps

showing the locations of emergency exits, fire extinguishers, spill control equipment, and other areas of potential significance from an emergency response standpoint. Emergency coordinators have been assigned to ensure that the required activities described in the Hazardous Materials Business Plan [HMBP] (PG&E 2010) would be properly followed during an emergency at the compressor station. The HMBP includes emergency notification procedures, evacuation procedures, and emergency response procedures (PG&E, 2010: 4 though 8 and Attachments 1 and 4).

- The proposed project would not adversely affect Interstate 40 and U.S. 95 other than adding a relatively small amount of additional vehicles related to project construction activities that would not degrade level of service on roadways or result in congestion at intersections, as described in Section 4.10 "Transportation and Traffic", and would therefore not interfere with the designated evacuation routes defined in the County of San Bernardino 2007 General Plan. Therefore, impacts related to emergency response would not occur and was not considered further in the EIR.
- The combination of several physical factors along the foothills of the San Bernardino Mountains exposes development and natural resources to potential disaster from wildland fires. The physical factors include topography, climate, vegetation, pathogen infestation, and human use and occupancy. Because the proposed project is not located in the foothills of the San Bernardino Mountains or in an area in which dense vegetation exists adjacent to developed areas, the proposed project site is not at risk from wildland fires. The proposed project is not located in or near an identified very high fire hazard severity zones (San Bernardino County 2005). Furthermore, the Colorado River forms a fire barrier to the nearest community of Golden Shores, Arizona. Therefore, no impact would occur related to the exposure of people or structures significant risk of loss, injury or death involving wildfires, and this threshold is not considered further in this analysis.

Hydrology and Water Quality

- Construction and decommissioning activities for the proposed project would not increase flows that would result in flooding on-site or off-site. Operation and maintenance activities associated with the proposed project may include the long-term presence of new impervious surfaces that would increase runoff from the project site; however, these surfaces would be discontinuous and would continue to flow predominantly as sheet flow directly to the Colorado River. Increased flows would be minimal in comparison to total flows to the receiving water and are not expected to result in flooding on-site or off-site. No impacts related to on- or off-site flooding are anticipated and therefore this threshold is not considered further in this analysis.
- All phases of the proposed project would use localized runoff management measures, if needed, to handle on-site flows, and would not require construction of new stormwater drainage facilities or expansion of existing facilities. No impacts related to new stormwater drainage facilities are anticipated and therefore this threshold is not considered further in this analysis.
- In the project area, as well as upstream in the Mohave Valley, a floodplain borders both sides of the Colorado River. Portions of the project area are located on or near the 100-year

floodplain of the Colorado River. However, because of upstream dams and flow regulation, the river no longer floods. The proposed project involves the installation and operation of wells, pipelines, and other remedial facilities and does not include sensitive land uses, such as residential or commercial structures, in a floodplain area. No structures or new infrastructure is planned for the floodplain area that would impede or redirect flood flows in any of the project components. Therefore, no impact would occur related to the existing floodplain.

- The closest dam to the project area is Parker Dam, located 42 miles downstream. Davis Dam and Hoover Dam are located approximately 55 and 108 miles upstream of the project site, respectively. The Hazards Overlay Map of the County General Plan indicates that the project area is not in an area that would be subject to inundation from failure of either dam. Therefore, no impact would occur related to inundation caused by dam failure.
- The project site is not located near a coastline that a tsunami could reasonably be expected to inundate. The local geology, as described in Section 4.5, "Geology and Soils," and the minimal amount of rain received at the site are not favorable to the generation of a mudflow that could significantly affect the project. No potentially significant impacts were found to occur related to inundation by seiche, tsunami, or mudflow.

Noise

- The project site is not located within 2 miles of a public or private airstrip. Needles Airport is located 6 miles from the project area's most western boundary; therefore the last two thresholds listed above related to airport-related noise was not considered further in the EIR.

Finally, as required by Section 15128 of the CEQA Guidelines, the EIR contains a brief discussion stating the reasons that various possible significant effects of a project were determined not be significant and were therefore not discussed in detail in the EIR. In accordance with the CEQA Guidelines, this section discusses the following issue areas that were found to have no significant impacts with implementation of the proposed project: Agricultural Resources, Mineral Resources, Population and Housing, Public Services, and Recreation. (See FEIR, Volume 2, pp. 5-17 – 5-20.)

1.6.2 Significant Effects of the Project

The DEIR identified a number of significant environmental effects (or impacts) that the Topock Compressor Station Groundwater Remediation Project would cause or contribute to. Some of these significant effects can be avoided or reduced to a less-than-significant level through the adoption of feasible mitigation measures. Other effects are significant and unavoidable. Some of these unavoidable significant effects can be substantially lessened by the adoption of feasible mitigation measures. Other significant, unavoidable effects cannot be substantially lessened. For reasons set forth in the Statement of Overriding Considerations in Section 2 below, however, DTSC has determined that overriding economic, social, and other considerations outweigh the significant and unavoidable effects of the Project.

DTSC has reviewed the record and agrees with the conclusion that the following impacts would be significantly affected by the project, and therefore requires findings pursuant to PRC Section 21081 and CCR Section 15091. DTSC's findings with respect to the Topock Compressor Station

Final Remedy project's significant effects and mitigation measures are set forth in the EIR and in the table attached to these findings as **Exhibit 1-A.** This table does not describe the full analysis of each environmental impact contained in the EIR. Instead, the table provides a summary description of each impact, describes the applicable mitigation measures identified in the EIR and adopted by DTSC, and states the DTSC's findings on the significance of each impact after imposition of the adopted mitigation measures. A full explanation of these environmental findings and conclusions can be found in the EIR, and these findings hereby incorporate by reference and in some specified instances update the discussion and analysis in the EIR supporting the determinations regarding the project's impacts and mitigation measures designed to address those impacts. In making these findings, DTSC incorporates the analysis and explanation in the EIR in these findings, except to the extent any such determinations and conclusions are specifically and expressly modified.

DTSC has taken great care to ensure consistency between the FEIR, the Findings and the Mitigation Monitoring Reporting Program (MMRP) for the project. In the event that the language describing the mitigation measures for the proposed project as set forth or as set forth in the FEIR inadvertently differs from that of the MMRP adopted for the project, the language of the MMRP shall govern.

1.6.3 Growth Inducement

CEQA requires a discussion of the ways in which a project could be growth inducing. CEQA also requires a discussion of ways in which a project may remove obstacles to growth, as well as ways in which a project may set a precedent for future growth. CEQA Guidelines section 15126.2, subdivision (d), identifies a project as growth inducing if it fosters economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.

The project site is located in eastern San Bernardino County, California. The U.S. Census Bureau indicates that the population of San Bernardino County grew from 1,709,434 persons in 2000 to 2,007,800 persons in 2007 (U.S. Census Bureau 2008). The city of Needles is the closest urban community to the project area that is located in California. Population data specific to Needles shows the community grew from 4,830 persons in 2000 to 5,290 persons in 2007 (U.S. Census Bureau 2008). This represents an increase of 460 persons, or almost a 10% increase. Based on Southern California Association of Governments (SCAG) projections for San Bernardino County, population growth for the County is expected to continue at a rapid pace, increasing by almost 60% to over 2,397,700 by the year 2020 (San Bernardino County 2007:4A-1).

The proposed project would implement remediation efforts to clean up contaminated groundwater at and in the vicinity of the compressor station. The project would not result in the creation of new residences on or adjacent to the project site. The anticipated employment, both direct and indirect, generated by the proposed project is evaluated in detail in Section 9.2, "Socioeconomics." The estimated total number of new residents as a result of the construction of the proposed project is approximately 590, which would likely be distributed throughout five counties included in the region of influence (ROI). This increase would represent approximately 0.012% growth for the region. The estimated total number of new residents to the ROI as a result of the operations and maintenance of the proposed project is approximately 88, which would

likely be distributed throughout the five counties included in the ROI. This increase would represent approximately 0.0018% growth for the region. The estimated total number of new residents to the ROI as a result of the operations and maintenance of the proposed project is approximately 148, which would likely be distributed throughout the five counties included in the ROI. This increase would represent approximately 0.003% growth for the region. The growth associated with all phases of the proposed project is anticipated to be relatively small in comparison with projected growth for the region and would not be significant.

The project site is currently served by existing roadways, utilities, and public services. Due to the relatively isolated nature of the area, other limiting factors to development, and the projected growth forecasts, the additional infrastructure required for the project (not including extension of the City's existing electrical supply lines which will instead be met by use of a generator during periods of interrupted service due to storm events and/or peak periods). For these reasons, implementation of the proposed project would not result in primary or secondary environmental effects related to additional growth. (FEIR, Volume 2, p. 5-20.)

1.6.4 Significant Irreversible Environmental Effects

CEQA Guidelines section 15126.2, subdivision (c) provides the following direction for the discussion of irreversible changes:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

As discussed in the EIR, the Project will result in the irreversible and irretrievable commitment of energy and natural resources during project construction and maintenance, including the following:

► construction materials, including such resources as soil and rocks; and

► energy expended in the form of electricity, gasoline, diesel fuel, and oil for equipment and transportation vehicles that would be needed for project investigative, construction, maintenance, energy and decommissioning-related activities.

The use of these nonrenewable resources is expected to account for a minimal portion of the region's resources and would not affect the availability of these resources for other needs within the region. Construction activities would not result in inefficient use of energy or natural resources. Construction contractors selected would use best available engineering techniques, construction and design practices, and equipment operating procedures. The relatively small commitment of land to project uses is considered less than significant when compared to other types of development, such as urban development, in a local and regional context. Operation and

maintenance of the proposed project is anticipated to last for 29 years, (but could occur for up to 110 years) and therefore the use of resources is considered temporary for the purposes of this discussion.

Implementation of the project would eliminate the potential for the contaminated groundwater plume to come into contact with surface waters of the Colorado River or users of groundwater (because of institutional controls). In addition, the proposed project would not result in solid waste byproducts (as opposed to alternatives that include ex situ treatment (treatment plant) and therefore environmental accidents associated with the construction and operation of the proposed project are not considered to be significant. (FEIR, Volume 2, p. 5-17.)

1.6.5 Mitigation Measures and Project Modifications Proposed by Commenters

Several commenters on the DEIR suggested additional mitigation measures and/or modifications to the measures recommended in the DEIR. In considering specific recommendations from commenters, DTSC has been cognizant of its legal obligation under CEQA to substantially lessen or avoid significant environmental effects to the extent feasible. DTSC recognizes, moreover, that comments frequently offer thoughtful suggestions regarding how a commenter believes that a particular mitigation measure can be modified, or perhaps changed significantly, in order to more effectively, in the commenter's eyes, reduce the severity of environmental effects. DTSC is also cognizant, however, that the mitigation measures recommended in the Draft EIR reflect the professional judgment and experience of the DTSC's expert staff and environmental consultants. DTSC therefore believes that these recommendations should not be lightly altered. Thus, in considering commenters' suggested changes or additions to the mitigation measures as set forth in the Draft EIR, DTSC, in determining whether to accept such suggestions, either in whole or in part, considered the following factors, among others:

(i) Whether the suggestion relates to a significant and unavoidable environmental effect of the Project, or instead relates to an effect that can already be mitigated to less than significant levels by proposed mitigation measures in the DEIR;

(ii) Whether the proposed language represents a clear improvement, from an environmental standpoint, over the draft language that a commenter seeks to replace;

(iii) Whether the proposal may have significant environmental effects, other than the impact the proposal is designed to address, such that the proposal is environmentally undesirable as a whole;

(iv) Whether the proposed language is sufficiently clear as to be easily understood by those who will implement the mitigation as finally adopted;

(v) Whether the language might be too inflexible to allow for pragmatic implementation;

(vi) Whether the suggestions are feasible from an economic, technical, legal, or other standpoint; and

(vii) Whether the proposal is consistent with the Project objectives.

For this project, several potentially significant and unavoidable impacts were identified and comments were received suggesting ways to further reduce those impacts. Where feasible, the mitigation measures were revised or clarified in response to comments. In some cases, suggested

measures were rejected for not being feasible or for lacking a nexus and rough proportionality to the anticipated significant adverse impacts of the project on the physical environment. These factors were explained in the Final EIR. (See, e.g., Final EIR, Vol. 1; see also Vol. 2, Table 1-2, pp. 1-15 to 1-78.) To the extent that comments on the Draft EIR were received during the comment period, the comments have been addressed in the text of the Final EIR. (See, FEIR, Volume 1, Sections 2 - 4.)

1.6.5.1 Basis To Reject Mitigation Proposed After Close Of The Public Comment Period On The Draft EIR.

Subsequent to comment period on the Draft EIR, DTSC received additional comments on the impacts to cultural resources, and suggestions from the FMIT for additional mitigation measures. These specific proposed measures were not evaluated in the Final EIR because they were received after the comment period. DTSC did, however, consider the additional proposed measures and responded as noted above by either adopting the suggestions, revising the DEIR mitigation measures, or deeming the suggested mitigation measures infeasible. Some comments made after close of the public comment period were similar to comments received on the Draft EIR. With respect to mitigation measures proposed by commenters after the comment period, DTSC adopts the following findings:

The EIR evaluated impacts to cultural resources at length. (See, e.g., Final EIR, Volume 2, pp. 4.4-1 to 4.4-82.) In relevant part, the EIR evaluated impacts to the Topock Cultural Area, and concluded that although the project is designed to avoid direct physical impacts to cultural resources listed in the NRHP or eligible for listing, project-related and project-induced activities would indirectly affect the Topock Cultural Area. (Final EIR, Volume, 2 p. 4.4-60.) The EIR proposes extensive mitigation to reduce the impacts, which have been adopted by DTSC and incorporated into the Project. In fact, substantial changes were made to mitigation measures proposed in June 2010 DEIR in response to comments received and subsequent meeting with, primarily, representatives of the Fort Mojave Indian Tribe. (See Revised Mitigation Measures included in the FEIR at pp. 4.4-62 - 4.4-80.) Even with the implementation of all of the measures, however, the Project retains the potential to result in significant adverse impacts on the Topock Cultural Area (e.g., cultural and noise). (Final EIR, pp. 4.4-61, 4.4-68.)

After several meetings between DTSC and AECOM staff with representatives of the Fort Mojave Indian Tribe, the Tribe proposed a number of additional mitigation measures or conditions of approval. (See email from FMIT counsel, Steve McDonald, to Karen Baker, DTSC (November 15, 2010).) Many of the suggested measures were incorporated into the Final EIR and MMRP. Several proposals, however, were not adopted as they were found to be infeasible or lacking in a nexus or rough proportionality to the impacts caused by the Project. (See CEQA Guidelines, §§ 15041, 15126.4, subd. (a)(4).) Formal responses are not included in the Final EIR as the comments were submitted after close of the public comment period on the Draft EIR. The proposed measures, and reasons why they were determined to be infeasible or unconstitutional for DTSC to require, are nevertheless summarized below:

Proposed Measure: Create Cultural Preserve. Support the FMIT in establishing a conservancy or cultural preserve including lands in the Topock landscape. Contribute sufficient funds to a trust fund to be established and administered by the FMIT for use to acquire, to maintain and to

protect at least 20,000 acres (roughly a 10 to 1 mitigation ratio compared to the APE) of land within the overall Topock landscape (on either side of the River) that are culturally affiliated with Tribal use and experience of the landscape, to be held by or taken into trust for the Tribe. This ratio reflects the extremely high sensitivity and uniqueness of the area to be affected by the proposed action.

Finding: This mitigation measure does not have a nexus or rough proportionality to the identified project impacts and is not supported by law as the establishment of a "conservancy or cultural preserve" outside of the Project area would not mitigate any impacts of the Project. The Project, for example, will not permanently remove or otherwise develop surface lands within the Project area as would a commercial, retail or other development project for which a similar open space or agricultural preservation measure could be required. (See CEQA Guidelines, § 15041 [mitigation under CEQA must have a nexus and rough proportionality to the project impacts]; see also CEQA Guidelines, § 15126.4, subd. (a)(4) [there must be an "essential nexus between the mitigation measure and a legitimate government interest," and the measure must be "roughly proportional to the impacts of the project"].) The proposal is, therefore, not tied to the reasonably foreseeable significant adverse impacts of the project on the physical environment. Even if it could be argued that preserving lands outside the Project area would mitigate impacts to cultural resources within the Project area, there is no evidence demonstrating a reasonable relationship or nexus between the scope of the impacts of the Project and the proposed 10:1 preservation ratio. Moreover, much of the land within the overall Topock area is held by other federal, state and local agencies. DTSC cannot compel those agencies to transfer lands to the Tribe.

Proposed Measure: Close Parts of Park Moabi. Work with the FMIT, BLM, and others to find ways to protect areas outside the immediate vicinity of the Topock landscape that are linked to it in tradition and that function with it as parts of traditional spiritual land use, such as seeking permanent closure of public and private lands containing earth figures north of Park Moabi.

Finding: Again, this mitigation measure does not have a nexus or rough proportionality to the identified project impacts and is not supported by law as the actions taken in Park Moabi, a resource which the Tribe describes as being even outside the immediate vicinity of the Topock landscape, would not mitigate any impacts of the Project to the Topock Cultural Area. (See CEQA Guidelines, § 15041 [mitigation under CEQA must have a nexus and rough proportionality to the project impacts].) Moreover, this mitigation measure is beyond the jurisdiction of DTSC to enforce. (See Pub. Resources Code, §§ 21081.6, subd. (b) [mitigation measures must be enforceable], 21004 [CEQA does not expand agency authority to impose condition]; CEQA Guidelines, § 15126.4, subd.(a)(2),(4) [same].) DTSC cannot compel BLM or private land owners to close lands north of Park Moabi. Moreover, it is unclear how closure of lands in this area containing earth figures would mitigate for the identified indirect impacts to the Topock Cultural Area. Finally, consistent with CEQA, DTSC find that the proposed mitigation is within the responsibility and jurisdiction of another public agency and could be adopted by that other agency. (Public Resources Code Section 21081, subd (a); see also CEQA Guidelines Sections 15091, subd. (a).)

Proposed Measure: Limit Access to Any Portions of the "Topock landscape." In cooperation with the FMIT, BLM, and other land-management authorities, control access by others to any

portions of the Topock landscape and other significant areas over which PG&E retains control, and restrict incompatible land uses (e.g., enhance posting and notices to control access). This includes implementing permanent closure of lands that have been temporarily closed in the area in recent years (except as to Tribal cultural uses).

Finding: This measure lacks a nexus and rough proportionality to the significant impacts of the Project and is outside the jurisdiction and control of DTSC to require of other landowners in the area. (See CEQA Guidelines, § 15041 [mitigation under CEQA must have a nexus and rough proportionality to the project impacts]; Pub. Resources Code, §§ 21081.6, subd. (b) [mitigation measures must be enforceable], 21004 [CEQA does not expand agency authority to impose condition]; CEQA Guidelines, § 15126.4, subd.(a)(2),(4) [same].) DTSC cannot compel BLM or private land owners to close lands off from access by the public in the Topock landscape. While DTSC can impose conditions on land PG&E controls, such land is quite limited and does not appear to include the lands referenced by the FMIT for closure. Further, DTSC cannot compel BLM or other land management agencies to close areas administered by those agencies to all but the Tribe. DTSC therefore finds that the proposed mitigation is within the responsibility and jurisdiction of another public agency and should be adopted by that other agency. (Pub. Resources Code Section 21081, subd (a); see also CEQA Guidelines Sections 15091, subd. (a).)

Proposed Measure: Increase Security to Prevent Trespassing. Work with the FMIT, BLM and PG&E to add security/law-enforcement resources (BLM and/or Tribal and private enforcement officers) to oversee the area and prevent trespassing.

Finding: The Cultural Mitigation Measures contained within the Final EIR have been revised to address this concern of the FMIT to the extent feasible and within the jurisdiction of DTSC's authority. (See Revised MM CUL-1a-3(a)-(d) (requiring tribal monitor, site security plan, communication/education of public and Moabi Regional Park staff, signage, kiosk). DTSC cannot, however, require that PG&E hire full time security officers or pay for additional park rangers as there is no substantial evidence in the record supporting the imposition of such measures based on the significant adverse impacts of the Project (versus an existing ongoing risk of outside disturbances). Some data suggests, moreover, that trespassing has decreased in recent years as recorded through compliance with the ongoing Cultural Resources Management Plan (CRMP) for IM-3. That Plan has required periodic monitoring and condition assessment of archaeological or historical resources located within the Area of Potential Effect (APE) that have been listed or determined eligible for inclusion in the National Register of Historic Places (NRHP). Specifically, the CRMP outlined a program of quarterly visits to each site starting in 2005 to ensure construction activities continue to avoid historic properties, and subsequent annual visits to each site for a minimum of four years to monitor site conditions/ disturbances, and to identify any progressive degradation of sites resulting from IM-3 project activities or other impacts. Evidence in the record reflects that prior to 2004, the sand dunes in the floodplain were frequently used by sand recreationists using dune buggies, ATVs, and motorcycles. The uplands area bounded by National Trails Highway, Park Moabi Road, and the railroad was also considered to be prime off-road territory for motorcycles, ATVs, and 4-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 much less.

DTSC further finds that the additional security measures proposed by the Tribe would require implementation within the responsibility and jurisdiction of another public agency and should be adopted by that other agency (e.g., BLM, the County). (Public Resources Code Section 21081, subd (a); see also CEQA Guidelines Sections 15091, subd. (a).)

Proposed Measure: Close Pirates Cove and Topock Marina. Work with the FMIT, BLM, FWS, BOR and local government to find ways of phasing out or otherwise mitigating the effects of nearby attractive nuisances such as Pirates Cove and the Topock Marina.

Finding: This proposed measure relates to the FMIT's understandable desire to limit or minimize existing noise, lighting and other perceived nuisances which originate from the above business entities. The suggested measure, however, lacks a nexus and rough proportionality to the identified significant adverse impacts of the Project to the Topock Cultural Area. (See CEQA Guidelines, § 15041 [mitigation under CEQA must have a nexus and rough proportionality to the project impacts].) Existing activities in the vicinity of the Project, such as Pirates Cove and Topock Marina, are part of the baseline environmental setting and thus are not impacts of the Project. In any event, there is no indication that the project will cause or encourage use of Pirates Cove or Topock Marina. The measure, moreover, is beyond the jurisdiction of DTSC to enforce. (See Pub. Resources Code, §§ 21081.6, subd. (b) [mitigation measures must be enforceable], 21004 [CEQA does not expand agency authority to impose condition]; CEQA Guidelines, § 15126.4, subd.(a)(2),(4) [same].) DTSC cannot compel private land owners, with no relation to the project, to close Pirates Cove or the Topock Marina or to take other actions. (See also Final EIR, Vol. 1, Response to comment T4-2.)

Proposed Measure: Direct BLM to Manage Its Lands in a Particular Manner. Enter into and implement an agreement with the FMIT and BLM to protect the land, keep rights-of-way clean and minimal in size, and restore the land to its natural state.

Finding: Again, this suggested measure was found by DTSC to lack a nexus and rough proportionality to the identified impacts of the Project within the Topock Cultural Area, and to be outside DTSC's jurisdiction to require. (See CEQA Guidelines, § 15041 [mitigation under CEQA must have a nexus and rough proportionality to the project impacts].) Moreover, this mitigation measure is beyond the jurisdiction of DTSC to enforce. (See Pub. Resources Code, §§ 21081.6, subd. (b) [mitigation measures must be enforceable], 21004 [CEQA does not expand agency authority to impose condition]; CEQA Guidelines, § 15126.4, subd.(a)(2),(4) [same].) DTSC cannot compel BLM to enter into an agreement with the Tribe regarding BLM's management of federal lands.

Proposed Measure: Add Signage on Federal Lands. Provide additional signage that is appropriate and developed with FMIT to act as a deterrent. Include funding for FMIT signs at strategic points on its parcel in the area and funding for ACEC signs on federal lands including reference to ARPA.

Finding: This measure was also found to be outside the scope of DTSC's jurisdiction to require of federal agencies within the Topock Cultural Area. (See Pub. Resources Code, §§ 21081.6, subd. (b) [mitigation measures must be enforceable], 21004 [CEQA does not expand agency authority to impose condition]; CEQA Guidelines, § 15126.4, subd.(a)(2),(4) [same].) DTSC cannot compel BLM post signage on federal lands. DTSC finds, however, that the proposed

mitigation is within the responsibility and jurisdiction of another public agency (e.g., BLM, USFWS) and should be adopted by that other agency. (Public Resources Code Section 21081, subd (a); see also CEQA Guidelines Sections 15091, subd. (a).)

Proposed Measure: Coordinate with the FMIT to Educate Other Private Landowners. Coordinate with FMIT the agency's outreach to Park Moabi or other local users and property owners so that FMIT may present the Tribal point of view directly.

Finding: Additional outreach has been required as part of the revised CUL-1a as noted in the MMRP. DTSC cannot require, however, that other agencies provide the FMIT with an opportunity to speak directly with their staff or members of the public. (See Pub. Resources Code, §§ 21081.6, subd. (b), 21004; CEQA Guidelines, § 15126.4, subd.(a)(2),(4).) DTSC cannot compel private landowners, with no connection to the project, to meet with the Tribe even if DTSC believes that such entities can and should provide such opportunities.

Proposed Measure: Employ docents to explain cultural importance of the area. Require PG&E to contribute to a trust fund to employ Tribal docents to help people understand and appreciate the landscape and its values. Based upon the costs incurred thus far by the Tribe in providing educational programs, PG&E should contribute $100,000 per year to a trust fund until completion of the groundwater remedy is certified by DTSC to train and employ Tribal members to provide cultural education to the public to help people understand and appreciate the landscape and FMIT cultural values.

Finding: The mitigation measures contained within the MMRP include provisions for tribal monitors and public outreach. DTSC, however, finds that substantial evidence does not support the imposition of mitigation requiring a trust fund as suggested above. As such, the measure would lack the constitutionally required nexus and reasonable relationship to the anticipated significant impacts of the project. (See CEQA Guidelines, § 15041.) As noted above, there is no indication that the project will there is no indication that the project will cause or encourage trespassing in the area, or otherwise cause the need for cultural outreach. (See Pub. Resources Code, §§ 21081.6, subd. (b), 21004; CEQA Guidelines, § 15126.4, subd.(a)(2),(4).)

Proposed Measure: PG&E Should Provide Student Scholarships. PG&E should be required to contribute to a trust fund for full-tuition, books, and living expenses for undergraduate or graduate scholarships for up to twenty scholarship-years (e.g., 5 students for four years (undergraduate) each; or 3 students for 6-year program (undergraduate and masters) plus 1 for 2 years (graduate degree)) at appropriate institutions selected by the FMIT in each ten-year period until completion of the groundwater remedy is certified by DTSC to educate Tribal members in fields of study involving the sciences, technologies, and legal aspects of environmental impact assessment, management, remediation, cultural resource management and communication.

Finding: Again, this suggested mitigation measure is found to lack a nexus and rough proportionality to the identified impacts of the Project to the Topock Cultural Area. (See CEQA Guidelines, § 15041.) The funding of education for members of the Tribe, while a benefit to the Tribe, would not mitigate any significant adverse impacts of the Project on the physical environment within the Topock Cultural Area. As such, despite the worthy nature of the request, DTSC cannot legally impose such a requirement on PG&E. (See Pub. Resources Code, §§

21081.6, subd. (b), 21004 [CEQA does not expand agency authority to impose condition]; CEQA Guidelines, § 15126.4, subd.(a)(2),(4) [same].)

Proposed Measure: PG&E Should Fund the Aha Makav Culture Society. Through a trust fund or otherwise, PG&E should be required to provide ongoing financial support to the FMIT to remain involved in the assessment and management of the Remediation Project through remedy completion, and in the management of any industrial facilities that remain in the landscape when the Remediation Project has been completed. This financial support should include all reasonable FMIT oversight costs (including indirect costs), costs associated with activities performed by FMIT, review and comment of removal actions, evaluation of alternative investigative, removal or remedial actions, and review and comment on the implementation of all investigative and remedial actions. These activities would include the cost of three full-time positions with the Aha Makav Culture Society, the cost of the participation of FMIT management in Topock-related activities, time and travel of FMIT personnel, contractor and consultant support, professional services, observation, collection and analysis of cultural resources, consultation with PG&E and government personnel, and the review of reports and other documents prepared by PG&E or other parties related to the Topock Project. Based on experience to date, FMIT estimates the cost of this support to not exceed $1,000,000 per year until completion of construction of the final groundwater and soil remedies, and then FMIT would expect costs in the range of $300,000 per year thereafter until remedy completion, except during years of remedy review, when the oversight costs would be expected to double due to the need for increased participation. PG&E should be made to be responsible for all such reasonable costs that would not have been incurred otherwise by the Tribe but for the need to be involved in this remediation process. Alternatively, for administrative ease for all, a fixed amount in the range of that set forth herein could be required to be paid by PG&E each year into a trust fund to be used only for the items set forth above.

Finding: Through revised MM CUL-1a-4, DTSC has required the establishment of a Technical Review Committee (TRC) to work with representative members of the Interested Tribes (as defined therein) to convene and retain an independent multidisciplinary panel of independent scientific and engineering experts. The TRC would review project-related documents and participate in project related meeting to advise interested tribal members on technical matters related to the final design and remedy. One full time position for the FMIT has also been required as part of revised CUL-1a-11. Although the revised mitigation measures do not require three full-time FMIT positions or substantial funding of the Aha Makav Culture Society, they are in DTSC's determination reasonably related to the significant impacts of the Project and sufficient to enable the Interested Tribes to continue having meaningful participation and input into the final remedy design and implementation process. Requiring more would lack a nexus and rough proportionality to the impacts of the Project.

Proposed Measure: Change Funding Cycles. Funding should better match the fiscal cycles of tribes so that tribes are not forced to front funds for long periods of time which seems to be the case in the current reimbursement program by PG&E.

Finding: See revised MM CUL-1a-11 (requiring funding to be timed to the tribes fiscal cycles).

Proposed Measure: Fund Mesquite Habitat. PG&E should be required to contribute to a trust fund to support a program to restore or create additional mesquite habitat, at least 1,200 acres, or

not to exceed a total acquisition price of $1 million, for use by the Tribe in sustaining the conduct of traditional funerary rituals.

Finding: See revised MM CUL-1a-5, requiring transplanting or replacing at a 2:1 ratio any indigenous plants of traditional cultural significance as listed in Appendix PLA of the Final EIR, including mesquite. DTSC finds, however, that requiring at least 1,200 acres of mesquite habitat lacks a nexus and rough proportionality to the identified impacts of the Project and therefore declines to adopt the suggestion. (See CEQA Guidelines, §§ 15041, 15126.4, subd. (a)(4.) There is, moreover, no evidence in the record to support the contention that that the Project will result in a significant impact to mesquite habitat.

Proposed Measure: Remove IM3. Remove the IM3 treatment facility and other facilities (e.g., ponds, water conveyance systems, access roads, etc.) that have impacted the integrity of the landscape and may no longer be necessary. In concert with the tribes, restore the land insofar as is possible to its pre-PG&E condition. Moreover, while these are important activities to do in consultation with FMIT, they may already be required by permit or other conditions and if so, should not be somehow counted "against" the required mitigation for the groundwater remedy.

Finding: The decommissioning of the interim measures, including IM-3 and related facilities, is dependent on the successful construction and operation of the final remedy and cannot be subject to an arbitrary date certain. Revised MM CUL-1a-8, subdivision (f), however, requires the preparation of decommissioning and removal plan for IM-3 and restoration of the site pursuant as an appendix to the Cultural Impact Mitigation Program (CIMP). 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 FMIT representatives to close and decommission IM-3 as soon as possible, and will do so once the protection of beneficial uses of the Colorado River can be assured and a sound plan prepared.

Proposed Measure: Open PG&E's Property to Aha Makav. Establish ways to ensure that the land is restored, and any land retained for PG&E use, is accessible to the Aha Makav for their use in seeking to heal its wounds and re-establish traditional relationships, notably the unimpeded passage of deceased persons through the landscape to the next world. This includes access to PG&E owned lands, both inside and outside fence lines, with reasonable protocol for each.

Finding: As discussed in Section 4.4.3.3 of the DEIR and Final EIR, tribal access within the Project area is largely open. Tribal access within the compressor station area, however, must be requested through PG&E and only after health and safety factors have been considered. DTSC cannot mandate PG&E to grant such access considering the compressor station facilities and nature of the ongoing uses. 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 revised mitigation measures 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. (See also FEIR, Volume 1, p. 4-121 (Response to Comment T1-34).)

Proposed Measure: Add measures to reduce impacts of existing facilities. FMIT notes that no mitigation measures were proposed by DTSC for minimizing visual intrusion of existing and proposed facilities. This must be part of the EIR and mitigation measures or else significant impacts as described elsewhere by FMIT will remain unmitigated.

Finding: The revised mitigation measures contained within the FEIR and MMRP attempt to further address the FMIT's concerns regarding the aesthetic impacts of the project through, for example, revised CUL-1a-7 (requiring shrouding/shielding and minimization of lighting etc.). The suggested measures for existing facilities attempt to mitigate existing baseline environmental conditions rather than the impacts anticipated from the Project and therefore lack a nexus to the Project. (See Final EIR, Volume 2, pp. 4.1-46 to 4.1-50.) After mitigation, all aesthetic impacts will be less than significant. Additional mitigation is not required. (CEQA Guidelines, § 15126.4, subd.(a)(3).)

Proposed Measure: Fund management plan. Fund the ACEC management plan for this area in consultation with FMIT and other tribes.

Finding: Again, this mitigation measure does not have a nexus or rough proportionality to the identified impacts of the Project to the Topock Cultural Area. (See CEQA Guidelines, § 15041 [mitigation under CEQA must have a nexus and rough proportionality to the project impacts].) There is no indication that the proposed project will undermine the implementation of the ACEC management plan or that funding of the plan will address impacts of the project. (See Pub. Resources Code, §§ 21081.6, subd. (b) [mitigation measures must be enforceable], 21004 [CEQA does not expand agency authority to impose condition]; CEQA Guidelines, § 15126.4, subd.(a)(2),(4) [same].)

Proposed Measure: Fund Cultural Heritage Center. PG&E should be required to contribute into a trust fund to pay for the creation of a cultural heritage center located on Tribal lands that would help Tribal members and others understand the sensitivity of the area, as well as to enhance public awareness and make it possible for Tribal members and others to reconnect with the area through research, study, and the maintenance of archives and artifacts. FMIT has reviewed such cultural centers at other tribes' reservations, and it is estimated that the cost of an appropriate center would be approximately $5 million. This would be an important way to begin to address the Project's long-term, cumulative impacts.

Finding: Again, this suggested mitigation measure does not have a nexus or rough proportionality to the significant adverse impacts of the Project to the physical environment. (See CEQA Guidelines, § 15041.) There is no evidence in the record the proposed project has in any way undermined the public's or the Tribes awareness of its cultural heritage. Further, there is no evidence demonstrating a rough proportionality between the scope of the impacts of the Project and request for $5,000,000 to fund the center. (See CEQA Guidelines, § 15126.4, subd. (a)(4) [there must be an "essential nexus between the mitigation measure and a legitimate government interest," and the measure must be "roughly proportional to the impacts of the project"].)

Proposed Measure: Prevent Development of MWD Land. PG&E to work with FMIT to prevent development or disturbance of land that Aha Makav may be able to acquire. FMIT is interested, for example, in the MWD parcel to the southeast of the Compressor Station.

Finding: Again, this mitigation measure does not have a nexus or rough proportionality to the identified impacts of the Project, and is outside of DTSC's jurisdiction to require. (See CEQA Guidelines, § 15041 [mitigation under CEQA must have a nexus and rough proportionality to the project impacts].) The proposed project has limited development and disturbance of the land in the Topock Cultural Area to the extent feasible. There is also no nexus between the disturbances referenced in the proposed measure on land outside the project area and the impacts of the project. (See CEQA Guidelines, § 15126.4, subd. (a)(4) [there must be an "essential nexus between the mitigation measure and a legitimate government interest," and the measure must be "roughly proportional to the impacts of the project"].)

Proposed Measure: Add measures to reduce noise impacts from the public announcement system at the Topock Compressor Station.

Finding: The existing facilities and their use by PG&E staff are part of the environmental baseline and their impacts cannot be attributed to the project. Moreover, PG&E does not have a public announcement system. The station is, however, equipped with a phone system and an alarm/enunciator system which are required by, and were designed to comply with, California regulations that require such a system for operations of a natural gas pipeline system. (49 C.F.R. §§ 192, 192.736 (b) and 192.605.) In summary, the proposed mitigation is inconsistent with state law and there is no nexus for adoption of the proposed mitigation. Therefore, the suggested measure is rejected.

1.7 BASIS TO APPROVE THE PROJECT RATHER THAN AN ALTERNATIVE TO THE PROJECT

Although an EIR must evaluate a reasonable range of potentially feasible alternatives, an agency decision-making body may ultimately conclude that a potentially feasible alternative is actually infeasible. (*California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 999.) As explained earlier, grounds for such a conclusion might be the failure of an alternative to satisfy a basic fundamental project objective, or objectives deemed important by the agency decision-makers, or the fact that an alternative fails to promote policy objectives of concern to such decision-makers. (*Id.* at pp. 992, 1000-1003.) Thus, even if a project alternative will avoid or substantially lessen any of the significant environmental effects of a propose project as mitigated, the decision-makers may reject the alternative for such reasons, including "desirability."

Under CEQA Guidelines section 15126.6, the alternatives to be discussed in detail in an EIR should be able to "feasibly attain most of the basic objectives of the project[.]" For this reason, the Objectives described above in Section 1.1.3 of these Findings provided the framework for defining possible alternatives. The selection of alternatives took into account the project objectives and primary consideration was given to alternatives that would reduce any of the project's significant impacts while still meeting most of the project objectives as determined, in part, through the CMS/FS process leading up to preparation of the EIR.

In accordance with Section 15126.6 of the State CEQA Guidelines, a range of reasonable alternatives to the project that could feasibly accomplish the basic project objectives was

included in the EIR. The Final CMS/FS presented the identification and evaluation of various remedial alternatives to address the remedial action goals for groundwater contamination associated with the historic discharges to Bat Cave Wash (SWMU 1/AOC 1) and within AOC 10 (East Ravine) at the compressor station. The Final CMS/FS examined a total of nine remedy alternatives (Alternatives A through I). As described in the FEIR, the proposed project is based largely on what is defined as Alternative E—In Situ Treatment with Freshwater Flushing.

The rationale for DTSC's consideration of these alternatives is based on DTSC's review and participation in the Final CMS/FS process, which provided an exhaustive consideration of all potential options and technologies for remediation of the contaminated groundwater plume while meeting the RAOs and other requirements, including the applicable statutory requirements of RCRA/CERCLA and the associated Corrective Action Consent and Administrative Consent Agreements for Topock. Section 21154 of the California Public Resources Code prescribes that "[w]henever any state agency, board, or commission issues an order which requires a local agency to carry out a project which may have a significant effect on the environment, any [EIR] which the local agency may prepare shall be limited to consideration of those factors and alternatives which will not conflict with such order" [emphasis added]. The reasoning behind DTSC's selection of alternatives is consistent with this mandate to local agencies, in that DTSC's decision whether to pursue the proposed project and the selection of alternatives must not conflict with the applicable provisions of RCRA/CERCLA and the Consent Agreements issued for the Topock site.

As such, the range of alternatives considered in the EIR was based on seven feasible remediation alternatives to the proposed project (Alternative E—In Situ Treatment with Freshwater Flushing) that fell within the parameters of the RAOs for the project identified in the Final CMS/FS (CH2M Hill 2009, included in Appendix CMS of the EIR). These criteria and other factors, expressed in the EIR, resulted in the determination that the alternatives considered represented a reasonable range (for further information concerning project alternative selection, see FEIR, Volume 2, Section 8.2.) The alternatives considered in the DEIR are presented and summarized below. (FEIR, Volume 2, Section 8.) In addition, the feasibility of each of the alternatives evaluated in the DEIR is determined below.

1.7.1 Elements Common to All Active Project Alternatives

Of the seven alternatives, six are considered active remediation. Alternative B as described below would rely on natural attenuation processes, but also includes groundwater monitoring and institutional controls. Alternatives C, D, F, G, H, and I (known as active remediation alternatives) include some combination of the following remedial elements: (i) in situ treatment, (ii) ex situ treatment, (iii) monitoring, (iv) removal, (v) disposal, (vi) institutional controls, and (vii) natural attenuation.

The combination of remedial elements would result in differing lengths of the operation and maintenance phase because of the variation in the duration of time to achieve the cleanup goals of regional background concentration of 32 micrograms per liter (µg/l) of Cr(VI). The following elements would be included in each remediation alternative to differing degrees, as noted below. All of these elements are also common to the proposed project and are described in Chapter 3, "Project Description."

1.7.1.1 Construction Activities

Construction for each of the alternatives would be similar to those construction activities described in Chapter 3 for the proposed project, to varying degrees of intensity and duration as described below for each alterative. Construction would be required for the installation of wells, utilities, pipelines, and other associated facilities required for each alternative. The length of time required for construction depends on a number of factors, including the number of wells, pipelines, and other infrastructure associated with each alternative; 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 conserve energy to the extent practical; however, some nighttime construction efforts may be required. In general, construction activities would include the mobilization of equipment, supplies, and workers to and from the project area. Construction workers would be present on-site each day throughout the duration of construction. Heavy equipment would likely include drill rigs to install remediation wells; trucks and excavators or backhoes to lay the pipeline network; and cranes to erect a treatment plant (in the case of Alternatives F, G, and H) and to place control sheds and reductant storage tanks. Trucks would be necessary for making deliveries and hauling waste from the site. Alternative I would use the existing IM facilities and would not involve constructing new remediation facilities; however, construction activities would occur from time to time over the operational period to replace wells or other structures that may become worn, clogged, or damaged.

Potable water for use during construction activity (e.g., for well installation and dust suppression) would be distributed throughout the project area from the existing water tanks at the compressor station to other locations in the project area for use during drilling. Tanks, bins, or tanker trucks would likely be used to contain excess water and drill cuttings at the drill site and at designated staging areas. Staging areas would most typically be located 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 anywhere within the project area that is defined within each of the exhibits shown for the alternatives.

1.7.1.2 Groundwater Monitoring Network

With the exception of Alternative I, each of the alternatives would enhance the existing groundwater monitoring network with additional groundwater monitoring wells. The maximum number of wells reflects newly installed wells associated with each alternative. Replacement of wells would occur during operation of the alternatives. More than 90% of the wells are assumed to be located in the upland areas, with no more than a few percent in floodplain or bedrock areas (PG&E 2010).

In addition to the newly installed wells to enhance the existing network, monitoring wells would be replaced during the operation of all the alternatives, including Alternative I.

Each of the alternatives (including Alternative I) would include a monitoring program of routine sampling, analysis, and reporting, which would occur until the cleanup goals for Cr(VI) that are

defined in the objectives (32 µg/l) have been met. Long-term monitoring would also occur following completion of the active treatment.

1.7.1.3 Water Conveyance, Utilities, and Roadways

Locations of any necessary utilities and water conveyance structures would depend on the ultimate placement of monitoring and treatment facilities. Depending upon required service life, security, and access, landowner requirements, type of pipeline, and environmental constraints (e.g., subsurface geologic features or cultural resources), pipelines could be installed aboveground or belowground. Alternatives C, D, F, G, and H include constructing new pipelines to convey water between locations such as between wells or to/from an ex situ treatment plant. Utilities and water conveyance pipelines would likely be constructed using standard construction methods, and may need to be constructed beneath or around existing structures such as Interstate 40, railroad tracks, and/or existing pipelines. Piping and utility lines would need to be repaired and replaced as needed during the operation and maintenance period of each alternative. Refer to each alternative discussion below for the proposed pipeline and utility line lengths.

Trenches would be used to place subsurface infrastructure for protection from vandalism and adverse effect from heat. Trenches would be excavated with heavy equipment such as backhoes or excavators to depths of 3 to 4 feet. The top of the trench would be restored to match the surrounding area, whether it is pavement or soil (CH2M Hill 2009: Appendix D, included in Appendix CMS of the EIR).

Depending on the location of extraction, treatment, and injection facilities of Alternatives C, D, F, G, and H, additional access routes could be constructed, or existing roads improved to support the level of activities proposed. Locations of new or improved roads would be within boundaries of the project area defined for each alternative described below, and would be designed to minimize grading, disturbance of sensitive resources and existing structures, and maximize the use of existing roads. Typical road design and construction involves topographic surveying, grading, installing surface drainage systems (culverts, gutters, and riprap for slope protection) and constructing retaining walls. It is assumed that the roads would be maintained through the operation and maintenance period for each specific alternative, as necessary. Some roads may be paved with asphalt, some may be paved with gravel, and some may be unpaved, depending on the location and purpose. The roads would be constructed as needed for construction, operation, and maintenance of remedial and/or monitoring facilities in a currently inaccessible location, which may range from a few years (for injection wells) to decades (for an aboveground treatment structure). Following determination that the remedial or monitoring structure is no longer needed, the road would be closed and restored to pre-project conditions. As such, no permanent roads are proposed under any of the alternatives. Refer to each alternative discussion for the proposed roadway lengths.

1.7.1.4 Optimization of Alternatives

Optimization of Alternatives C, D, F, G, and H would occur throughout the design, construction, and operational phases of implementation. Changes to the 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, as approved by appropriate agencies, may occur

to enhance performance of the remedy to attain the cleanup goals, and to respond to site conditions and performance issues.

1.7.1.5 Decommissioning Of Facilities

Following determination that the cleanup goals for Cr(VI) that are defined in the remedial action objectives (32 µg/l) have been met, the facilities under each alternative (e.g., extraction wells, injection wells, treatment plant, and piping) would be decommissioned. Groundwater monitoring wells throughout the site would be decommissioned following the determination that additional information from the wells would not be needed to evaluate attainment of the cleanup goals. 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 by the land manager.

1.7.1.6 Institutional Controls

Institutional controls are non-engineering mechanisms, such as legal or contractual restrictions on property use, which are used to help minimize the potential for human exposure to contamination and/or protect the integrity of a remedy. Institutional controls work by limiting land or resource use and/or by providing information that helps modify or guide human behavior at a site. Under each alternative, an institutional control would be maintained during the remediation period to restrict use of groundwater in the plume area until the cleanup goals for Cr(VI) that are defined in the objectives (32 µg/l) have been met, thereby eliminating the pathway for human health risk from direct exposure to groundwater. The area subject to the institutional control would include areas affected by the plume to prevent the consumption of contaminated water a result of pumping from hypothetical future local water supply wells. Maintenance of institutional controls would occur for all alternatives and would not require any physical disturbance in the project area.

1.7.2 Alternative B—Monitored Natural Attenuation

1.7.2.1 Summary of Alternative B

Under Alternative B, no active treatment to reduce Cr(VI) concentrations in groundwater would occur. This alternative would rely only on the naturally reducing conditions to remove Cr(VI) from groundwater in the project area's shallow floodplain. These reducing conditions are derived from naturally occurring organic carbon in the fluvial deposits associated with the Colorado River. Wherever the natural reducing capacity of the fluvial material is present, Cr(VI) is converted to its stable and less toxic form of Cr(III), which is essentially immobile. The reducing conditions in the fluvial sediments provide a natural geochemical zone that limits or prevents the movement of Cr(VI) through the fluvial sediments adjacent to and beneath the Colorado River. Under Alternative B, up to 60 additional monitoring wells could be installed, not including replacement wells. No remediation wells or associated facilities (i.e., pipelines, roads, and utility connections) are proposed. While it is likely that Alternative B would have the least amount of initial ground disturbing activity because of the absence of remediation facilities, Alternative B has the longest estimated time to clean up (from 220 to 2,200 years) and resulting ground disturbance from replacement of monitoring wells over this cleanup period.

Alternative B would reduce the Project's significant and unavoidable impacts to cultural resources and significant and unavoidable noise impacts as describe below.

- Cultural Resources. The area where up to 60 new monitoring wells and replacement wells would be located under Alternative B also includes a number of known cultural resources, although the Topock Maze (CA-SBR-219) has been excluded from the area of potential disturbance. The monitoring well area under this alternative is similar to the monitoring well area under the proposed project. It is assumed that the same mitigation measures identified under the proposed project (CUL-1a, CUL-1b, CUL-1c, CUL-2, CUL-3, and CUL-4) would be implemented under Alternative B, to reduce impacts on previously identified or unknown historical resources, as well as any paleontological resource, during the construction, operation, and decommissioning phases. Although this alternative would result in much less ground disturbance initially and fewer newly constructed facilities on the landscape when compared to the proposed project, tribal representatives have expressed during the Native American Communication Plan (NACP) that any new facilities in the project area would significantly affect the Topock Cultural Area. The level of impact on the Topock Cultural Area under Alternative B would be lower in degree than the proposed project, if measured on an annual basis, or higher in degree compared to the proposed project if measured on a total basis, but in either event would still remain significant and unavoidable. The discovery of human remains during ground disturbing activities would be mitigated in a manner similar to the proposed project (CUL-4); however, this impact too would remain significant and unavoidable to the extent that any remains would have to be removed from the project area. While the impact conclusions and mitigation would still be applicable to this alternative, the overall cultural resources impact would be reduced when compared to the proposed project.
- Noise. Alternative B would have similar noise impacts as with the proposed project associated with construction, operation and maintenance, decommissioning, non-transportation sources, and traffic. Remediation facilities (i.e., pipelines, roads, or utility connections) would not be required and construction noise impacts would be reduced compared to the proposed project. This alternative would require 60 new monitoring wells to be constructed as well as replacement wells over the remediation period; however, the potential locations of additional wells remains in both California and Arizona, and Mitigation Measures NOISE-1, NOISE-2, and NOISE-3 would be required to reduce the potential for noise impacts at all sensitive receptors. Alternative B would have lesser noise impacts compared to the proposed project; however impact NOISE-1related to noise levels within the Topock Cultural Area would remain significant and unavoidable.

Alternative B would also reduce or have similar impacts to the potentially significant project impacts as described in the DEIR:

- Aesthetics. While the presence of these wells would be in place for a much longer period than the proposed project, the overall aesthetic impact would be much less than the proposed project and no significant impacts from any key views are anticipated. This alternative thus reduces aesthetic impacts evident at any one time, but substantially increases the duration in which these impacts would exist.
- Air Quality and Global Climate Change. Operational emissions and associated air quality and climate change impacts would occur over a much longer duration under this alternative

than the proposed project, but would still be less than the proposed project if measured on an annual basis, or increased compared to the proposed project if measures on a total basis.

- Biological Resources. Similar to the proposed project monitoring well construction conducted near the Colorado River, this alternative could result in increases in sediments, turbidity, and contaminants that could adversely affect fish and their habitat immediately adjacent to and downstream of construction activities. Because freshwater intake facilities would not be required for this alternative, the potential fish entrainment would not occur. The overall biological resources impact would be reduced compared to the proposed project.
- Geology and Soils. While this alternative would have greatly reduced ground disturbing activities as measured on an annual basis, there would still be the potential for impacts related to soil erosion, loss of top soils, or differential compaction (Impacts GEO-1a and GEO-1b). As with the proposed project, Mitigation Measures GEO-1a and GEO-1b would be required for Alternative B to reduce the potential for substantial erosion, loss of top soils, or differential compaction to a less-than-significant level.
- Hazardous Materials. This alternative would have less potential for hazardous materials impacts related to ground disturbing activity at the outset of construction; however, there would be greater impact because of the need to transport and handle hazardous byproducts from IM-3, which would continue to operate until directed otherwise by the lead agency. As with the proposed project, Mitigation Measures HAZ-1a, HAZ-1b, and HAZ-2 would be required for Alternative B to reduce the potential for dust generation or a release or spill of a contaminant to a less-than-significant level.
- Hydrology and Water Quality. This alternative would still have the potential for hydrology and water quality impacts associated with potential increased runoff, localized alteration of drainage patterns, and exposure of runoff to significant materials. As with the proposed project, Mitigation Measure HYDRO-1 would be required under this alternative to reduce the potential for a water quality standard and objective or waste discharge requirement to be exceeded and for drainage patterns to be locally altered or substantial sources of polluted runoff to be added if pollutants are released and if pollutants could become exposed to stormwater runoff to a less-than-significant level.
- Water Supply. No freshwater would be required for this alternative, when compared to the proposed project. The impact on water supply from Alternative B would be less compared to the proposed project.

While many of these impacts would also be reduced when compared with the proposed project, these project impacts can already be reduced to a less-than-significant level. Moreover while the impacts would be reduced, there would be a greatly extended duration in which impacts would occur.

1.7.2.2 Conclusion

Alternative B would generally meet most project objectives in that institutional controls would prevent ingestion of groundwater as a potable water source and the natural processes would reduce the mass of Cr(T) and Cr(VI) in the groundwater. This alternative would not comply with State Water Resources Control Board Resolution 92-49, however, which states that the regional

water quality control boards shall "Concur with any investigative and cleanup and abatement proposal which the discharger demonstrates and the Regional Water Board finds to have a substantial likelihood to achieve compliance *within a reasonable timeframe*…" (emphasis added). Because Alternative B would not occur within a reasonable time frame (as defined in the applicable or relevant and appropriate requirements [ARARs]), the project objective of reducing the mass of Cr(T) and Cr(VI) in groundwater at the project area to comply with the ARARs would not be met. Also, ongoing monitoring would be needed to assure continued protection of the river over the long duration of this remedy. Because of the slow movement of groundwater at the site, many centuries would pass before the Cr(VI) concentrations everywhere in the plume reached cleanup goals. During this long period of time, changes in groundwater flow directions or geochemical conditions in the reducing State Water Board Resolution 92-49. As described above, because time to achieve cleanup of the contaminated groundwater plume to background levels is an estimated 500 years under Alternative B, and would result in less long-term control over the plume and protectiveness surface and groundwater supplies.

DTSC therefore rejects this alternative as infeasible within the meaning of CEQA because of environmental, social, policy and legal reasons. While Alternative B is the environmentally superior alternative among the alternatives analyzed and generally meets most of the project objectives, it does not meet a fundamental project objective; namely, of achieving compliance with RAOs within a reasonable timeframe, as required by California State Water Board Resolution 92-49, and by achieving remediation of groundwater within a reasonable timeframe. Because the time to achieve cleanup of the contaminated groundwater plume to background levels is an estimated 500 years under Alternative B (but as long as 2,200 years), Alternative B is not feasible or desirable. Thus, a fundamental objective for the proposed project would not be met. In addition, because Alternative B does not require active remediation, the time in which the existing IM-3 Facility would be in operation would likely be much longer than under the Project or other alternatives, thus resulting in impacts related to hazardous waste (from sludge and brine removal), operation and maintenance vehicle trips over many years, and the extended views of the IM-3. Alternative B would also 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. Moreover, this alternative is rejected because it would not meet the applicable or relevant and appropriate to the actions (ARARs), which were determined by DOI, BLM, USFWS, and Bureau of Reclamation (DOI 2009). ARARs must be attained by the remedial action pursuant to Section 121(d) of CERCLA, which assures protection of human health and the environment, and requires attainment of "legally applicable or relevant and appropriate standard(s), requirement(s), criteria, or limitation(s)." Finally, this Alternative would not meet the ongoing Corrective Action Consent Agreement (CACA) between DTSC and PG&E.

DTSC rejects Alternative B on each of these grounds independently. All of the reasons provide sufficient independent grounds for rejecting this Alternative.

1.7.3 Alternative C—High Volume In Situ Treatment

1.7.3.1 Summary of Alternative C

Alternative C would involve active in situ groundwater treatment by distributing an organic carbon substrate across the entire plume through high-volume pumping of wells installed primarily in previously disturbed areas. Under Alternative C up to 310 new wells could be installed, of which 240 would be remediation wells (including extraction, injection, and IRZ wells) and 70 would be monitoring wells. Of the 240 remediation wells, an estimated 50% would be upland remediation wells, 40% would be floodplain remediation wells, and 10% would be bedrock remediation wells (PG&E 2010, PG&E 2009:Table D-19B). This alternative would have the largest amount of remediation wells and infrastructure, and therefore the largest amount of associated ground disturbance.

Alternative C would locate injection wells within the center of the plume and extraction wells at the plume margin. An organic carbon substrate would be injected to create geochemically reduced conditions and convert the harmful and soluble Cr(VI) to the insoluble form of chromium, Cr(III). Since the reduced chromium would be deposited in the soil formation instead of dissolved in groundwater, Cr(VI) would be removed from groundwater. Under Alternative C, groundwater would be extracted along National Trails Highway and along the western margin of the plume, amended with a carbon substrate, and injected into the injection wells within the center of the plume. The extraction/injection well lines would form a recirculation system to induce a hydraulic gradient to distribute the carbon substrate throughout the plume. The implementation of this alternative would consist of two phases: floodplain cleanup and interior plume cleanup. Estimated time to clean up under Alternative C is from 10 to 60 years.

Alternative C would result in similar impacts to the proposed project and greater impacts to aesthetics, air quality, biological resources, geology and soils, hazardous materials, hydrology and water quality, noise, transportation, and utilities and service systems. The potential for hydrology and water quality impacts of Alternative C would be greater than under the proposed project because more land would be disturbed and because more remediation wells and other infrastructure would be built. Because of the increased intensity of the remedial system under Alternative C, however, the time to reach cleanup levels would be reduced to approximately 18 years (verses 29 for the proposed project). Therefore the contamination of the groundwater would be eliminated much sooner under this Alternative. No use of off-site freshwater would be needed for this alternative, therefore, there would be fewer water supply impacts than the proposed project

1.7.3.2 Conclusion

Alternative C is environmentally inferior to the proposed project. While this Alternative meets the objectives stated for the project, DTSC rejects Alternative C for environmental and policy reasons. As described in the EIR, this alternative would have more and more sever significant adverse environmental impacts (e.g., to biological resources, water supply, aesthetics etc.) when compared to the proposed project and is therefore less desirable. Therefore it would not meet the requirements for selection under CEQA. For this reason Alternative C is rejected as infeasible.

1.7.4 Alternative D—Sequential In Situ Treatment

1.7.4.1 Summary of Alternative D

Under Alternative D, treatment of Cr(VI) would occur by injecting an organic carbon substrate throughout the plume to create geochemically reduced conditions to convert Cr(VI) to insoluble Cr(III). Since the reduced chromium would be deposited in the soil formation instead of groundwater, Cr(VI) would be removed from groundwater in a manner similar to Alternative C. Approximately 10 treatment zones consisting of lines of injection and extraction wells would be constructed and operated in phases to distribute an organic carbon substrate over the entire plume. Wells would be switched from extraction to injection as the implementation progress through different phases of treatment. Lines of wells would be constructed with piping and power to allow each line to be operated in either an injection or extraction mode. Water would be pumped from one line of wells and injected into the adjacent line of wells. Carbon substrate would be added to extracted water prior to injection. The carbon would be distributed throughout the aquifer in the area between the active injection and extraction well lines. Under Alternative D, up to 280 new wells could be installed, of which 200 would be remediation wells (including extraction, injection, and IRZ wells) and 80 would be monitoring wells. Of the 200 remediation wells, an estimated 70% would be upland remediation wells, 10% would be floodplain remediation wells, and 20% would be bedrock remediation wells (PG&E 2010, PG&E 2009:Table D-19B).

The floodplain would be treated in the initial phase by pumping from wells near the Colorado River and injecting into wells near National Trails Highway. Once carbon distribution is complete and Cr(VI) is below cleanup goals in the floodplain, the line of wells along National Trails Highway would be converted to extraction wells and injection would be moved to the adjacent line of wells west of National Trails Highway. This “leapfrog” pattern of moving the injection and extraction after each segment of the plume was treated would be repeated throughout all the lines of wells until the entire plume had been treated. Estimated time to clean up under Alternative D is from 10 to 20 years.

Alternative D would result in similar impacts to the proposed project and greater impacts to aesthetics, air quality, biological resources, cultural resources, geology and soils, hazardous materials, hydrology and water quality, noise, transportation, and utilities and service systems. The potential for hydrology and water quality impacts of Alternative D would be greater than under the proposed project because more ground would be disturbed due to more remediation wells and other infrastructure associated with this alternative. However, because of the increased intensity of the remedial system under Alternative D, the time to reach cleanup levels would be reduced to approximately 15 years (verses 29 for the proposed project). Therefore the contamination of the groundwater would be eliminated sooner. No use of off-site freshwater would be needed for this alternative, therefore, there would be fewer water supply impacts than the proposed project

1.7.4.2 Conclusion

Alternative D is environmentally inferior to the proposed project. While this Alternative meets most of the objectives stated for the proposed project, DTSC rejects Alternative D for

environmental and policy reasons. As described in the EIR and above, this alternative would have greater environmental impacts when compared to the proposed project (e.g., to water quality, biological from ground disturbance etc). Therefore it would not meet the requirements for selection under CEQA. For this reason Alternative D is rejected as infeasible.

1.7.5 Alternative F—Pump and Treat

1.7.5.1 Summary of Alternative F

Alternative F would involve pumping groundwater, ex situ treatment in an aboveground treatment plant to remove chromium from the groundwater, and reinjection of the treated water back to the aquifer (known as pump and treat). The pump and treat process would include chemical reduction by addition of ferrous iron; oxidation, pH adjustment, and settling in a clarifier; and final filtration for a process that is essentially similar to the ex situ treatment processes at the current IM-3 Facility, with the exception that it would not include reverse osmosis, as it is assumed salinity removal would not be needed.

Alternative F would include a 1,280 gpm treatment plant to remove Cr(VI) from groundwater prior to injection into injection wells. The treatment plant would be considerably larger than the existing IM-3 Facility. For the purposes of this analysis, it is assumed the treatment plant would be 90,000 square feet and 45 feet high. An additional 100,000 square feet would be needed to accommodate parking and storage for equipment and materials. Location of the treatment plant would most likely be within the lower yard of the compressor station; however an alternate location could be the site of the current IM-3 treatment plant. The current IM-3 would be decommissioned and demolished under this alternative. In addition to the treatment plant, up to 120 new wells could be installed, of which 70 would be remediation wells (including extraction, injection and IRZ wells) and 50 would be monitoring wells. Of the 70 remediation wells, an estimated 60 %would be upland remediation wells and 40 % would be bedrock remediation wells. No floodplain remediation wells are proposed under this alternative (PG&E 2010, PG&E 2009:Table D-19B). Extraction wells would be placed in the plume and East Ravine area to extract groundwater. Extracted groundwater would be transported via piping to the treatment plant for treatment. Treated groundwater would be delivered to injection wells at approximately three locations to the west of the plume and three locations in the southern portion of the plume near the mountain front. Chromium removed from the groundwater via ex situ treatment would be collected in the sludge from the clarifier and filtration systems and would be transported off-site by truck to an appropriately licensed disposal facility. Estimated time to cleanup under Alternative F is from 15 to 150 years.

Alternative F would result in similar impacts to the proposed project and greater impacts to aesthetics, air quality, biological resources, geology and soils, hazardous materials, hydrology and water quality, transportation, and utilities and service systems. The potential for hydrology and water quality impacts of Alternative F would be greater than under the proposed project due to increased scale of this alternative resulting in greater ground disturbance during construction for the increase in remediation and monitoring wells and other infrastructure. The time to reach clean up levels under Alternative F would be approximately 37 years (verses 29 for the proposed project). During operation and maintenance, the potential for release of untreated water is greater

than under the proposed project. No use of off-site freshwater would be needed for this alternative, therefore, there would be fewer water supply impacts than the proposed project

1.7.5.2 Conclusion

Alternative F is environmentally inferior to the proposed project. While this Alternative meets most of the objectives stated for the proposed project, DTSC rejects Alternative F for environmental and policy reasons. As described in the EIR and above, this alternative would have greater environmental impacts when compared to the proposed project. Therefore it would not meet the requirements for selection under CEQA. For this reason Alternative F is rejected as infeasible.

1.7.6 Alternative G—Combined Floodplain In Situ/Pump and Treat

1.7.6.1 Summary of Alternative G

Alternative G would combine floodplain cleanup by in situ treatment with treatment of the upland portion of the plume by extraction and reinjection with ex situ treatment. The floodplain cleanup would involve construction of IRZ lines at National Trails Highway and between National Trails Highway and the Colorado River, as described in the initial phase of Alternative C. Chromium in the upland portions of the project area would be addressed by pumping groundwater, ex situ treatment to remove chromium from the groundwater, and reinjection of the treated water back to the aquifer.

Concurrent with the floodplain cleanup, treatment of the plume in the upland portions of the site would be by an ex situ process similar to the treatment processes at the current IM-3 treatment plant: chemical reduction by addition of ferrous iron; oxidation, pH adjustment, and settling in a clarifier; and final filtration. Alternative G would include a treatment plant of the same dimensions and at the same potential locations as defined under Alternative F. In addition, up to 200 new wells could be installed, of which 140 would be remediation wells (including extraction, injection and IRZ wells) and 60 would be monitoring wells. Of the 140 remediation wells, an estimated 30 %would be upland remediation wells, 50 % would be floodplain remediation wells, and 20 % would be bedrock remediation wells (PG&E 2010, PG&E 2009:Table D-19B). Extraction wells would be placed in the central portions of the plume and the East Ravine area to extract groundwater. Extracted groundwater would be transported via piping to a treatment plant for treatment and treated groundwater would be piped to injection wells. The assumed combined flow rate is approximately 1,230 gpm. Treated groundwater would be delivered to injection wells at approximately three locations to the west and north of the plume and three locations in the southern portion of the plume near the mountain front. Chromium removed from the groundwater via ex situ treatment would be collected in the sludge from the clarifier and filtration systems and would be transported off-site by truck to an appropriately licensed disposal facility. Estimated time to cleanup under Alternative G is from 10 to 90 years.

Alternative G would result in similar impacts to the proposed project and greater impacts to aesthetics, air quality, biological resources, geology and soils, hazardous materials, hydrology

and water quality, transportation, and utilities and service systems. The potential for hydrology and water quality impacts of Alternative G would be greater than under the proposed project due to increased scale of this alternative resulting in greater ground disturbance during construction for the increase in remediation and monitoring wells and other infrastructure. The time to reach cleanup levels under Alternative G would be less than the proposed project (22 years). During operation and maintenance, the potential for release of untreated water is greater than under the proposed project. No use of off-site freshwater would be needed for this alternative, therefore, there would be fewer water supply impacts than the proposed project

1.7.6.2 Conclusion

Alternative G is environmentally inferior to the proposed project. While this Alternative meets most of the objectives stated for the proposed project, DTSC rejects Alternative G for environmental and policy reasons. As described in the EIR and above, this alternative would have greater environmental impacts when compared to the proposed project. Therefore it would not meet the requirements for selection under CEQA. For this reason Alternative G is rejected as infeasible.

1.7.7 Alternative H—Combined Upland In Situ/Pump and Treat

1.7.7.1 Summary of Alternative H

Alternative H would combine in situ treatment in the upland portions of the plume with pump-and-treat technology in the floodplain. While both Alternative G and Alternative H include a combination of in situ treatment and pump and treat, this alternative differs from Alternative G by relying on in situ to be the dominant feature of the cleanup rather than pump and treat. The upland in situ cleanup would involve construction of several IRZ lines across the length and width of the plume. Organic carbon would be injected in the IRZ lines to treat the existing Cr(VI) in the alluvial zone of the aquifer. IRZ lines would be constructed by recirculating between adjacent wells within each line or by use of vertical circulation wells.

The ex situ process would be similar to the treatment processes at the existing IM-3 Facility: chemical reduction by addition of ferrous iron; oxidation, pH adjustment, and settling in a clarifier; and final filtration. Following ex situ treatment, treated groundwater would be transported via pipeline to injection wells. Treated groundwater would be reinjected into injection wells at approximately four locations within and outside the plume boundary. Chromium removed from the groundwater via ex situ treatment would be collected in the sludge from the clarifier and filtration systems and would be transported off-site by truck to an appropriately licensed disposal facility. While Alternative H would include a treatment plant, it would be considerably smaller than that proposed for Alternatives F and G. The treatment plant under Alternative H would be a 200–300 gpm facility with a 120,000 square foot overall facility footprint, including the 55,000 square foot treatment facility. As with the other alternatives, the current IM-3 would be decommissioned and demolished.

In addition, up to 210 new wells could be installed under Alternative H, of which 140 would be remediation wells (including extraction, injection and IRZ wells) and 70 would be monitoring

wells. Of the 140 remediation wells, an estimated 70 % would be upland remediation wells, 20% would be floodplain remediation wells, and 10% would be bedrock remediation wells (PG&E 2010, PG&E 2009:Table D-19B).

Under Alternative H, approximately one-half the extracted groundwater would be transported to the ex situ treatment process described above. The remaining approximately one-half of the extracted water being transported to the western edge of the plume, amended with carbon, and reinjected at approximately four locations near the western edge of the plume. The primary purpose of this reinjection is to increase the flushing efficiency by providing additional "push" to move the plume through the IRZ lines. Sufficient carbon would be added to this water to reduce the Cr(VI) in the injected water, thereby providing treatment of this water concurrent with reinjection. The flows would be balanced so that the treated water injection provides containment of all the flow lines emanating from the amended water injection wells, thus limiting the spread of the amended water and forcing it to flow back through the IRZ lines toward the extraction wells. Estimated time to cleanup under Alternative H is from 10 to 70 years.

Alternative H would result in similar impacts to the proposed project and greater impacts to aesthetics, air quality, biological resources, cultural resources, geology and soils, hazardous materials, hydrology and water quality, transportation, and utilities and service systems. The potential for hydrology and water quality impacts of Alternative H would be greater than under the proposed project due to increased scale of this alternative resulting in greater ground disturbance during construction for the increase in remediation and monitoring wells and other infrastructure. The time to reach cleanup levels under Alternative H would be less than the proposed project (18 years). During operation and maintenance, the potential for release of untreated water is greater than under the proposed project. No use of off-site freshwater would be needed for this alternative, therefore, there would be fewer water supply impacts than the proposed project

1.7.7.2 Conclusion

Alternative H is environmentally inferior to the proposed project. While this Alternative meets most of the objectives stated for the proposed project, DTSC rejects Alternative H for environmental and policy reasons. As described in the EIR and above, this alternative would have greater environmental impacts when compared to the proposed project. Therefore it would not meet the requirements for selection under CEQA. For this reason Alternative H is rejected as infeasible.

1.7.8 Alternative I—No Project Alternative/Continued Operation of Interim Measure

A comprehensive evaluation of the no project alternative, as required by Section 15126.6(e) of the CEQA Guidelines, was included in the EIR. As described in the Final CMS/FS, Alternative I would involve continued operation of the IM-3 Facility as the final remedial action at the site. The IM-3 system would operate with the existing equipment with existing procedures using the existing process at the existing flow rate until cleanup goals are attained. As a continuation of existing operations with no new remediation facilities, this alternative is considered as the No Project Alternative in the EIR.

If a final remedy is not approved and an alternative remedial action cannot be selected, PG&E must still protect the beneficial water resource of the Colorado River from the potential impacts of the Cr(VI) plume contamination. Thus, the interim measure to continue extraction of contaminated groundwater, treatment, and reinjection of the treated water would continue to be required by DTSC under Section IV.A of the 1996 Correction Action Consent Agreement, which was entered into pursuant to California Health and Safety Code, Section 25187, until such treat is property mitigated. Therefore, it would not be feasible to abandon the IM-3 Facility if a final remedy were not approved. Although it has been determined that the operation of IM-3 would not meet ARARs for final remedy, the continued operation of IM-3 (Alternative I) represents the No Project Alternative required to be evaluated under the CEQA Guidelines.

Alternative I would reduce the Project's significant and unavoidable impacts to cultural resources and significant and unavoidable noise impacts as describe below.

- Cultural Resources. Alternative I would use the existing IM-3 Facility and would not involve any new construction of remediation facilities; however construction activities would occur from time to time over the operation and maintenance phase to replace wells or other structures that may become worn, clogged, or damaged. The IM-3 Facility would continue operation as the final remediation at the site. While no new monitoring wells or extraction wells are proposed under Alternative I, replacement of existing structures associated with operations and maintenance activities would occur as needed. Thus, the impact on cultural and paleontological resources would be less than under the proposed project. As discussed in Chapter 7 of the EIR, the operation of the IM-3 Facility has created a significant impact on the Topock Cultural Area, however. These impacts would remain under Alternative I and would be significant and unavoidable. The overall cultural resources impact would be less than the proposed project.
- Noise. Alternative I would not result in additional construction activities associated with wells, remediation facilities, treatment plants, or increase traffic volumes from existing conditions. Continued operation of IM-3 would not change the existing noise levels that can be heard at sensitive receptors associated with operation of IM-3. Decommissioning of IM-3 would have similar noise impacts for construction activities and increased traffic volumes as compared to the proposed project. No mitigation measures would be required for Alternative I. Noise impacts of Alternative I would be lesser compared to the proposed project, but would occur for a longer duration.

Alternative I would also reduce or have similar impacts to the potentially significant project impacts as described in the DEIR:

- Aesthetics. Alternative I would involve the continued operation of the existing IM-3 Facility until cleanup goals are reached, which could be up to 960 years. The existing IM-3 Facility is visible from sensitive key views, including key views 6 and 10. Alternative I would not require additional facilities or structures besides monitoring wells (both 60 new wells and replacement wells). While this alternative would have no substantial changes from current conditions, the conditions would persist for much longer than under the proposed project. The proposed project would result in the decommissioning of the IM-3 Facility much earlier than Alternative I, which could occur for up to 960 years. As such, aesthetic impacts related to Alternative I would be greater than under the proposed project.

- Air Quality and Global Climate Change. Alternative I would result in no significant air quality or climate change impacts because no changes from existing conditions would occur. These emissions however, are greater than those anticipated under the proposed project. Mobile source activity related to Alternative I would be the same as existing conditions (see Table 4.2-3 of the air quality "Existing Setting" subsection). Emissions from mobile sources and stationary sources would not combine to exceed significance thresholds set by the MDAQMD and no new emissions sources would result from this component. Alternative I would result in greater air quality impacts annually, and duration of Alternative I would far exceed that of the proposed project, and emissions would occur for up to 960 years, as opposed to 110 years.
- Biological Resources. Alternative I would use the existing IM-3 Facility and would not involve any new construction of remediation facilities; however construction activities would occur from time to time over the operation and maintenance phase to replace wells or other structures that may become worn, clogged, or damaged. IM-3 is currently operating under the PBA, which concluded that the project may affect but would not likely adversely affect listed species. Under the PBA, actions including groundwater monitoring, daily activities, and permitted future activities are governed by avoidance and minimization measures. Should IM-3 operate beyond the PBA cutoff date of 2012, actions associated with the IM-3 would fall under new permit conditions. No significant biological impacts are anticipated by continued operation of IM-3. Impacts associated with Alternative I less than the proposed project.
- Geology and Soils. Existing procedures for the extraction system, treatment system, and injection system would continue to be implemented under Alternative I to ensure existing performance standards for the remedial components are maintained. The existing monitoring systems and program would be used to evaluate system performance; no additional monitoring wells would be constructed initially, but replacement wells would be constructed from time to time over the operation and maintenance period. New or improved existing roadways would be constructed and maintained to provide access to the various elements (wells, conveyance piping, and potential treatment plant). As with the proposed project, Alternative I would have the same potentially significant geology and soils impacts (Impacts GEO-1a and GEO-1b) related to the potential for substantial erosion, loss of top soils, or differential compaction that would occur during the operation and maintenance phase, which could be for up to 960 years. As with the proposed project, Mitigation Measures GEO-1a and GEO-1b would be required to reduce the potential for substantial erosion, loss of top soils, or differential compaction to a less-than-significant level. While the impacts would occur over a much longer duration under Alternative I than the proposed project, the amount of new infrastructure needed would be less than that of the proposed project, and the overall geology and soils impact would be reduced compared to the proposed project.
- Hazardous Materials. Existing procedures for the extraction system, treatment system, and injection system would continue to be implemented under Alternative I to ensure existing performance standards for the remedial components are maintained. The existing monitoring systems and program would be used to evaluate system performance; no additional monitoring wells would be constructed initially, but replacement wells would be constructed from time to time over the operation and maintenance period, which could occur for up to

960 years. No additional roadways or infrastructure would be required. The hazardous materials usage and waste generation would be consistent with the current IM-3 operations, which includes sludge (hazardous waste) and brine (nonhazardous) byproducts that require offsite disposal. Mitigation measures associated with the generation of dust and the exposure of construction workers to airborne contaminants during operation and maintenance would be required (Impact HAZ-1). Operation activities associated with implementation of the Continued Operation of IM-3 component may result in potential hazardous materials impacts associated with the potential release of chemicals as a result of component failure, tank failure, or human error (Impact HAZ-3). As with the proposed project, Mitigation Measures HAZ-1a, HAZ-1b, and HAZ-2 would be required for Alternative I to reduce the potential for dust generation or a release or spill of a contaminant to a less-than-significant level. Because the ex situ treatment process would continue, there is the potential for greater impacts related to hazardous materials than the proposed project.

- Hydrology and Water Quality. Existing procedures for the extraction system, treatment system, and injection system would continue to be implemented under Alternative I to ensure existing performance standards for the remedial components are maintained. The existing monitoring systems and program would be used to evaluate system performance; no additional monitoring wells would be constructed initially, but replacement wells would be constructed from time to time over the operation and maintenance period, which could occur for up to 960 years. No additional roadways or infrastructure would be required. The hazardous materials usage and waste generation would be consistent with the current IM-3 operations. Operation activities associated with implementation of the continued operation of IM-3 may result in potential hydrology and water quality impacts associated with localized alteration of drainage patterns (Impact HYDRO-2) during grading of existing roadways. As with the proposed project, Mitigation Measure HYDRO-1 would be required for Alternative I to reduce the potential localized alteration of drainage patterns to a less-than-significant level. Because no additional wells would be constructed under Alternative I, the overall hydrology and water quality impacts would be reduced compared to the proposed project.
- Transportation. As with the proposed project, Alternative I would generate additional daily trips during operations and maintenance activities, and decommissioning activities. Alternative I would not result in additional construction trips during the initial construction phase because this alternative assumes the existing conditions of the IM-3 are in place, but it would require a greater amount of construction over the long-term because of the length of the operation and maintenance period when compared to the proposed project. Alternative I would result in more daily trips compared to the proposed project, with over 300 trips for operations and maintenance and 152 trips for decommissioning. Additionally, the operation and maintenance phase would extend for decades, up to 960 years. However, even with this increase in traffic, as shown in Table 4.10-8 and 4.10-9, all roadway segments and study intersections currently operate at an acceptable level of service and will continue to operate acceptably during operations and maintenance, and decommissioning. While Alternative I would result in more trips than the proposed project, this alternative is not anticipated to degrade intersection or roadway segment operations below an acceptable level of service. Overall, the transportation impacts of Alternative I would be greater compared to the proposed.

- Utilities and Service Systems. Alternative I would not result in a change to existing operations of the IM-3 Facility, which currently discharges nonhazardous wastewater to a 2,000-gallon tank on-site. The impact on wastewater facilities would be negligible. Hazardous and nonhazardous wastes (sludge and brine, respectively) would continue to require off-site disposal that would not be required by the proposed project. Energy demands required by the continued operation of IM-3 (1.8 million kilowatt hours per year) would be slightly greater than that required by the proposed project (1.6 million kilowatt hours per year) and would be met by on-site generators when needed as the City has stated that the existing electrical line would not be able to accommodate up to 1.6 million kilowatt-hours. The overall impact on utilities would therefore be roughly the same when compared to the proposed project.
- Water Supply. No freshwater would be required for this alternative, when compared to the proposed project. The impact on water supply from Alternative B would be less compared to the proposed project.

Alternative I would have greater impacts aesthetic, air quality, transportation, and utilities and service systems that the proposed. While many of these impacts would also be reduced when compared with the proposed project, these project impacts can already be reduced to a less-than-significant level. Moreover while the impacts would be reduced, there would be a greatly extended duration in which impacts would occur.

1.7.8.1 Conclusion

Alternative I would generally meet most project objectives in that institutional controls would prevent ingestion of groundwater as a potable water source and the natural processes would reduce the mass of Cr(T) and Cr(VI) in the groundwater. This alternative would not comply with State Water Resources Control Board Resolution 92-49, however, which states that the regional water quality control boards shall "Concur with any investigative and cleanup and abatement proposal which the discharger demonstrates and the Regional Water Board finds to have a substantial likelihood to achieve compliance within a reasonable timeframe…" (emphasis added). Because Alternative I would not occur within a reasonable time frame (as defined in the applicable or relevant and appropriate requirements [ARARs]), the project objective of reducing the mass of Cr(T) and Cr(VI) in groundwater at the project area to comply with the ARARs would not be met. Also, ongoing monitoring would be needed to assure continued protection of the river over the long duration of this remedy. Because of the slow movement of groundwater at the site, many centuries would pass before the Cr(VI) concentrations everywhere in the plume reached cleanup goals. During this long period of time, changes in groundwater flow directions or geochemical conditions in the reducing zone around the river could occur, which leads to uncertainty in the long-term protectiveness of this alternative. In addition, further studies to assess the effectiveness of long-term natural attenuation in the East Ravine would continue during remedial design.

DTSC rejects this alternative as infeasible within the meaning of CEQA because of environmental, social, policy and legal reasons. Alternative I does not meet a fundamental project objective; namely, of achieving compliance with RAOs within a reasonable timeframe, as required by California State Water Board Resolution 92-49. Alternative I would involve the

continued operation of the existing IM-3 Facility until cleanup goals are reached, which could be up to 960 years. Alternative I would not occur within a reasonable timeframe. Thus, a fundamental objective for the proposed project would not be met. In addition, because Alternative I does not require active remediation, the time in which the existing IM-3 Facility would be in operation would likely be much longer than for the other alternatives, thus resulting in impacts related to hazardous waste (from sludge and brine removal), operation and maintenance vehicle trips over many years, and the extended views of views of the IM-3 Alternative I would also 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. Moreover, this alternative is rejected because it would not meet the applicable or relevant and appropriate to the actions (ARARs), which were determined by DOI, BLM, USFWS, and Bureau of Reclamation (DOI 2009). ARARs must be attained by the remedial action pursuant to Section 121(d) of CERCLA, which assures protection of human health and the environment, and requires attainment of "legally applicable or relevant and appropriate standard(s), requirement(s), criteria, or limitation(s)."

DTSC rejects Alternative I on each of these grounds independently. All of the reasons provide sufficient independent grounds for rejecting this Alternative.

1.7.9 Alternatives Considered but not Analyzed in Detail

Section 15126.6(c) of the State CEQA Guidelines provides that an EIR "should also identify any alternatives that were considered by the lead agency but rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination." This section provides a discussion of three alternatives raised in scoping comments and explains the reasons for rejecting these alternatives from further consideration.

The following alternatives described in the Final CMS/FS, as stand-alone remedies, have been considered but rejected because they either are infeasible, did not meet the project objectives and RAOs, or would cause environmental consequences that are greater than the options presented in Chapter 3, "Project Description."

The objectives are defined based on the conclusions of the groundwater human health and ecological risk assessment and identification of ARARs. The 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 guidance in CERCLA, RAOs specify the contaminant of concern, 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 the EIR). Protective measures can be achieved by limiting or eliminating the exposure pathway, reducing or eliminating chemical concentrations, or both. RCRA corrective action guidance describes goals for final cleanup in terms of both protecting human health and the environment and performance standards that must also include controlling future sources of releases (EPA 2004).

The proposed project's 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 that 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, 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 does not permanently expand following completion of the remedial action.

The identification and screening approach is consistent with CERCLA guidance.

The purpose of initially considering a wide range of technologies and process options was to ensure that any potentially applicable options were not overlooked. The screening of these remedial technologies and process options is accomplished in three steps under the RCRA/CERCLA process:

1. Technical implementability screening
2. Evaluation of process options
3. Selection of representative process options

The first step in the process involves screening an initial list of technologies and process options against the criterion of technical implementability. This first screening eliminates those technologies or process options that are not applicable or not implementable because of the type and extent of contaminants and/or site characteristics found at the site. A second screening of the remaining process options against the criteria of effectiveness, implementability (both technical and administrative), and relative cost further reduces the list of remedial alternatives through a formal evaluation process. The last step involves selecting representative process options for each technology type to simplify the subsequent development and evaluation of remedial alternatives. Process options are specific categories of remedies within each remedial technology. The process options are used to implement each remedial technology.

1.7.10 Selection of Representative Alternatives

Following evaluations of effectiveness, implementability, and relative cost, process options are chosen to represent the range of options within a remedial technology type. These representative process options are chosen for each technology type by considering the screening results and by identifying those that can represent the entire range of process options. The representative process option may be chosen because performance and cost information is readily available, it has been previously identified or used at the site, or it otherwise ranks favorably among the other process options. The purpose of selecting a representative process option from all remaining options for each technology type (rather than including every remaining process option) is to simplify the subsequent development and evaluation of alternatives by reducing the number of alternatives formulated (EPA 1988a, cited in CH2M Hill 2009: 3-7, included in Appendix CMS of the EIR).

The representative process options that were not selected to be included in the alternative evaluations in the Final CMS/FS, and therefore are treated as alternatives that were considered but rejected in the EIR, are presented in the Table below (See also FEIR, Volume 2, Chapter 8, Table 8-4.)

Table 8-4 Summary of Alternatives Considered but Rejected				
General Response Actions	Remedial Technology Types	Process Options	Description	Explanation of Rejection
Containment	Vertical Barriers	Soil- and Cement-Bentonite Slurry Walls	Slurry wall barriers consist of a vertical trench perpendicular to the groundwater flow direction, filled with bentonite slurry to support the trench, and backfilled with either soil or cement.	Lack of continuous aquitard at depth that is within the vertical limits of traditional trenching equipment, requiring extensive surface disturbance.
		Vibrating Beam Barrier Installation	Vibrating force is used to advance steel beam into ground; a thin wall of cement or bentonite is injected as beam is withdrawn.	See above reasons for slurry walls.
		Grout Curtains	Grout is pressure-injected along contamination boundaries in a regular overlapping pattern of drilled holes.	See above reasons for slurry walls.
Treatment	Ex Situ Physical/ Chemical Treatment	Chemical Oxidation	Oxidizing agents are used to oxidize organic contaminants or inorganic reagents in an ex situ reactor. Potential oxidizing agents are ultraviolet radiation, ozone, and/or hydrogen peroxide/ferrous iron, or permanganate.	Other treatment methods are better suited for use as a secondary process in an ex situ treatment train.
		Electrocoagulation Process	Electricity is passed through iron plates to reduce the chromium and precipitate it from solution. The resulting sludge is settled in a clarifier for disposal.	Harder to control and offers no advantage over chemical dosing. Energy intensive.
Disposal	Treated Groundwater Discharge	Publicly Owned Treatment Works	Aqueous streams are discharged to a publicly owned treatment works for treatment.	Long distances and availability of publicly owned treatment works capacity reduce likelihood of implementing this option.
		Surface Waters	Aqueous streams are discharged to surface receiving streams.	Not favorable because of sensitivities associated with the receiving waters.
		Deep Well Injection	Aqueous streams are injected into Class I wells. Recent guidance may further regulate this practice.	More difficult and expensive and less favorable than shallow reinjection.
		Agricultural	Treated water is distributed for agricultural use.	Limited agriculture surrounding the site.
Source: CH2M Hill 2009:Table 4-2, included in Appendix CMS of the EIR				

1.7.11 Rejection of Final CMS/FS Alternative A—No Action

In addition to those specific process options listed above, Alternative A or "No Action" as described in the Final CMS/FS, was also rejected from further analysis in the EIR. Under Alternative A, no active construction or operational activities would occur. The operation of the existing IM-3 Facility would not continue; however, it would not be decommissioned. There would be no active treatment to reduce Cr(VI) concentrations in groundwater. Although the natural attenuation would occur within most of the fluvial sediments near the Colorado River, no land ownership changes would be initiated as part of the remedy and no institutional controls would be imposed to restrict use of groundwater in locations where Cr(VI) concentrations exceed the cleanup goals. No additional groundwater monitoring facilities would be constructed under this alternative, nor would any ongoing sampling or well maintenance activities occur. This alternative would not include decommissioning of the existing wells or the IM-3 Facility.

This alternative would not provide adequate protection of human health or the environment, and does not meet defined ARARs. No active remediation would occur, and no institutional controls would exist to prohibit groundwater use for potable water supply. The existing contaminated groundwater plume would be left on surrounding landowner property without ongoing oversight. This alternative would not include monitoring to verify the effectiveness of the natural recovery process in fluvial sediments near the Colorado River over time, or to assess the effectiveness of natural recovery processes in the East Ravine bedrock. The estimated time to attain RAOs for this alternative is between 220 and 2,200 years, which is not considered a reasonable time frame. In addition, existing facilities would not be operational, but would also not be properly decommissioned and removed from the site.

Although this alternative was rejected from further analysis because it would not meet the RAOs, it was also rejected because it would result in potentially significant environmental impacts related to potential ingestion of groundwater known to be contaminated with Cr(VI), and long-term presence of contaminated groundwater could also potentially harm the environment. In addition, improper handling of existing infrastructure that has been used to monitor and remediate the contamination through the lack of a formal decommissioning process could result in significant environmental impacts. For the above reasons, Alternative A was rejected from further analysis.

1.7.12 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) requires that an EIR identify an "environmentally superior alternative" among the alternatives and the proposed project. The environmentally superior alternative causes the fewest or least significant environmental impacts as compared to the other alternatives.

The EIR evaluates seven alternatives to the proposed project, as described above, which present a reasonable range of potential remedial options to clean up the contaminated groundwater in the project area. These alternatives present a range of process options (in situ, ex situ, and natural attenuation), which involve differing degrees of infrastructure and associated ground disturbing activities, intensities of cleanup activities, and duration of clean up.

As described in the EIR, several alternatives which have very limited ground-disturbance activities, including Monitored Natural Attenuation (Alternative B) and the No Project Alternative. Because these alternatives have limited project activities, they would generally have the least environmental impacts. As summarized in Sections 8.4.1 and 8.4.7, Monitored Natural Attenuation and the No Project Alternative would result in substantially reduced impacts on all issue areas, except to cultural resources in the case of Alternative B. When considering the full range and extent of environmental impacts alone, both Alternative B and the No Project Alternative could be considered environmentally superior to the proposed project.

The CEQA Guidelines Section 15126.6(e)(2) requires that "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Accordingly, DTSC has identified Alternative B as the environmentally superior alternative.

While Alternative B - Monitored Natural Attenuation is the environmentally superior alternative among the alternatives analyzed and generally meets most of the project objectives, but it does not meet a fundamental project objective; namely, of achieving compliance with RAOs within a reasonable timeframe, as required by California State Water Board Resolution 92-49. As described above, because time to achieve cleanup of the contaminated groundwater plume to background levels is an estimated 500 years under Alternative B (but as long as 2,200 years), Alternative B would not occur within a reasonable timeframe. Thus, a fundamental objective for the proposed project would not be met. In addition, because Alternative B does not require active remediation, the time in which the existing IM-3 Facility would be in operation would likely be much longer than for the other alternatives, thus resulting in impacts related to hazardous waste (from sludge and brine removal), operation and maintenance vehicle trips over many years, and the extended views of views of the IM-3 Facility. As explained above, DTSC has rejected this alternative as infeasible on environmental, social, and policy reasons.

1.7.13 Conclusions Regarding Project Alternatives

Based on the foregoing analysis and pursuant to CEQA Guidelines Section 15126.6, DTSC has considered a range of reasonable alternatives to the proposed project, which could feasibly attain most of the basic objectives of the project but would avoid or substantially lessen certain significant effects of the project. DTSC has evaluated the comparative merits of the various alternatives and identified and analyzed potentially environmentally superior alternatives. Based on this analysis and substantial evidence in the record, DTSC finds and determines that none of the alternatives is feasible within the meaning of CEQA and therefore rejects each alternative in favor of the proposed project.

1.8 MITIGATION MONITORING REPORTING PROGRAM

CEQA Section 21081.6 requires that when a public agency is making the findings required by Section 21081, the public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval to mitigate or avoid significant effects on the environment. Because mitigation measures have been adopted to mitigate or avoid significant environmental effects of the project, a Mitigation Monitoring Reporting Program has been

prepared for the proposed project and is adopted along with these findings. The Mitigation Monitoring Reporting Program is attached to the Statement of Decision and Resolution of Approval for the Topock Compressor Station Groundwater Remediation Project as Exhibit 2. DTSC will use the MMRP to track compliance with project mitigation measures. The MMRP will remain available for public review during the compliance period.

2.0 STATEMENT OF OVERRIDING CONSIDERATIONS

CEQA requires all public agencies to balance the benefits of a proposed project against its unavoidable environmental effects in determining whether to approve the project or not. The DTSC proposes to approve the proposed Topock Compressor Station Groundwater Remediation Project despite the significant unavoidable adverse impacts identified in the EIR. The FEIR for the Project consists of the following: (1) a revised version of the DEIR incorporating changes accepted by the lead agency and provided as Volume 2 of the FEIR; (2) comments and recommendations received on the DEIR either verbatim or in summary—Chapters 2 through 4 of Volume 1 of the FEIR; (3) a list of persons, organizations, and public agencies commenting on the DEIR—located at the beginning of Chapters 2 through 4 of Volume 1 of the FEIR; (4) responses of the lead agency to significant environmental points raised in the review and commenting process—Chapters 2 through 4 of Volume 1 of the FEIR; and (5) the mitigation monitoring and reporting program (MMRP)—Chapter 5 of Volume 1 of the FEIR.

The EIR identifies and discusses unavoidable significant effects that will occur as a result of the proposed project, in addition to addressing comments received on the Draft EIR. These impacts will result from implementation of the 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) (see Appendix CMS of the FEIR) and those identified in the Addendum to the 2008 Revised Work Plan (ERGI/TCS Addendum Work Plan, see Exhibit 3-5 of the FEIR).

With the implementation of the Mitigation Monitoring Reporting Program adopted by DTSC, which includes changes to the project to mitigate or avoid significant effects on the environment, most of the environmental impacts of the project can be mitigated to less-than-significant levels. The FEIR and Findings of Fact for the project determined that the project is expected to result in significant unavoidable impacts to cultural resources (project and cumulative) and noise (project and cumulative).

2.1 IMPACTS OF THE PROJECT

The EIR identifies significant impacts to a number of environmental resources, including aesthetics (project and cumulative), air quality (project and cumulative), biological resources (project and cumulative), cultural resources (project and cumulative), geology and soils (project and cumulative), hazardous materials (project and cumulative), hydrology and water quality (project and cumulative), noise (project and cumulative) and water supply (project and cumulative). As described herein, mitigation measures have been imposed to reduce each of these impacts to a less-than-significant level to the extent feasible, and DTSC has adopted such measures.

The EIR also identifies significant and unavoidable impacts to a number of environmental resources, including cultural resources (project and cumulative) and noise (project and cumulative). DTSC has adopted all feasible measures to reduce these significant impacts, yet they remain significant after adoption of mitigation measures.

2.2 BENEFITS OF THE PROJECT

DTSC has determined that the economic, legal, social, technological and other benefits of implementing the project outweigh and override the unavoidable adverse effects of the project. DTSC has determined that the benefits of the project, when balanced against all adverse effects, cause those effects remaining after mitigation to be acceptable because of the following considerations:

- The Topock Compressor Station Groundwater Remediation Project will prevent and 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;
- The Topock Compressor Station Groundwater Remediation Project will avoid and reduce the cumulative impacts on the environment and minimize risks to human health from contaminated groundwater;
- The Topock Compressor Station Groundwater Remediation Project will cleanup of groundwater contamination, which is designated by the Regional Water Quality Control Board as a groundwater body suitable for beneficial use for drinking water supply;
- The Topock Compressor Station Groundwater Remediation Project will meet the substantive provisions of promulgated requirements that are applicable or relevant and appropriate to the actions (ARARs), which were determined by DOI, BLM, USFWS, and Bureau of Reclamation (DOI 2009). ARARs must be attained by the remedial action pursuant to Section 121(d) of CERCLA, which assures protection of human health and the environment, and requires attainment of "legally applicable or relevant and appropriate standard(s), requirement(s), criteria, or limitation(s);" and
- The Topock Compressor Station Groundwater Remediation Project would bring an economic benefit to Eastern San Bernardino County through the employment of additional workers and experts needed to implement the remedy and mitigation measures.

These considerations are further explained below.

2.2.1 Prevent or Minimize Migration of Cr(T) and Cr(VI) In Groundwater To Support the Designated Beneficial Uses of the Colorado River

One of the main objectives of the proposed project is to prevent and 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 FEIR, Volume 2, Section 3.4.) The background and environmental setting discussions of the

EIR explain the importance of the river for drinking water, recreational, and cultural uses (see FEIR, Volume 2, Sections 4.7.1., 4.4.1, and 4.1.1 of the DEIR).

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 measures of extraction, treatment, and reinjection of treated water have been successful at keeping the groundwater plume from damaging the river which continues to be a valuable drinking water resource for millions of Southern 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. (FEIR, Volume 1, p. 3-102.)

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). (FEIR, Volume 1, p. 3-255.)

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.

2.2.2 Reduce Cumulative Impact on Human Health and the Environment

As noted in the EIR, the Project is consistent with DTSC's policy to protect and promote public health and the environment. (See FEIR, Volume 2, p. 9-10.) The Project will continue to ensure that Cr(VI) will not enter the Colorado River, an important source of water for municipal, agricultural, and other uses and an important habitat corridor for numerous special status species. (*Ibid.*) Moreover, as described in Section 1.7.12 of these findings, both Alternative B and the No Project Alternative could be considered environmentally superior to the Topock Compressor Station Final Remedy project. However, both these Alternatives would have a higher cumulative impact on human health and the environment when compared with the proposed project. Under these alternatives remediation efforts would likely be much longer than for the other alternatives, thus resulting in impacts related to hazardous waste (from sludge and brine removal), operation and maintenance vehicle trips over many years, and the extended views of views of the IM-3 Alternative B would also 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. In comparison to the other alternatives, Alternative E (the Project) is the only feasible remedy that would reduce cumulative impacts to human health and the environment within a reasonable period of time and with the least environmental effects. Therefore, DTSC made the policy determination to move forward with Alternative E.

2.2.3 Cleanup of Groundwater Contamination, Which Is Designated by the Regional Water Quality Control Board as a Groundwater Body Suitable for Beneficial Use for Drinking Water Supply.

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. (FEIR, Volume 1, p. 3-255.)

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 less to remediate the groundwater basin in the long-term. 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. (FEIR, Volume 1, p. 3-113.)

The benefit in an expedited cleanup to protect the Colorado River and return of the groundwater basin to beneficial use outweighs the significant and unavoidable impacts of the Project. (See FEIR, Volume 1, p. 3-113.) Therefore, DTSC has made the policy determination to move forward with the Project to ensure protection and long-term remediation of surface and groundwater.

2.2.4 Meet the Substantive Provisions of Promulgated Requirements That Are Applicable or Relevant and Appropriate To the Actions

As described in the EIR and in Section 1.1.3 of these Findings, remedial actions taken under CERCLA authority must meet the substantive provisions of promulgated requirements that are applicable or relevant and appropriate to the actions (ARARs), which were determined by DOI, BLM, USFWS, and Bureau of Reclamation (DOI 2009). ARARs must be attained by the remedial action pursuant to Section 121(d) of CERCLA, which assures protection of human health and the environment, and requires attainment of "legally applicable or relevant and appropriate standard(s), requirement(s), criteria, or limitation(s)." In fact this is the fundamental project objective; namely, of achieving compliance with RAOs within a reasonable timeframe, as required by California State Water Board Resolution 92-49. The Project is the only feasible alternative that will achieve cleanup of the contaminated groundwater plume to background levels within a reasonable timeframe. (See Section 1.7 of the Findings.) Therefore, DTSC has made the policy determination to move forward with the Project as it complies with the requirements that are applicable or relevant and appropriate to the actions (ARARs) in compliance with CERCLA as well as the requirements of California State Water Board Resolution 92-49.

2.2.5 Bring an Economic Benefit to Eastern San Bernardino County

The proposed project would create tangible and environmental benefits that would accrue to the environment and the public at large. (FEIR, Volume 2, p. 9-10.) Among these benefits, the proposed project would provide a modest economic benefit to the surrounding region, which

may attract new residents resulting in some indirect growth. (FEIR, Volume 2, p. 9-29.) While this is not DTSC's primary reason for adopting this Statement of Overriding Considerations, DTSC, the economic benefits from the project provide additional support.

Economic Benefits from Construction

Cost estimates provided by PG&E, along with standard ratios of employment for the region per employment sector embedded in the IMPLAN model, estimate that approximately $14.5 million would be spent on well installation, $2.0 million would be spent on the decommissioning of IM-3, $11.3 million would be spent on pipelines and other conveyance infrastructure, $62,000 would be spent on access roads, and $23.7 million would be spent on a mix of construction personnel, project management, operations, and monitoring. A total of 155 jobs are directly modeled as part of the construction of the proposed project. Table 9-13 of the Final EIR presents the anticipated direct, indirect, and induced output and employment associated with the proposed project.

Approximately $21.9 million is anticipated to be directly produced annually by the proposed project, with $17.1 million anticipated in the professional, scientific, and technical services, $2.7 million in the mining industry, and $2.1 million in construction. The total anticipated output is approximately $39.5 million, with real estate, professional services, and health and social service industries being the most affected by indirect and induced economic activity. The indirect and induced employment effects resulting from construction of the proposed project include small gains in retail trade, administrative and waste services, and professional services. (FEIR, Vol. 2, p. 9-29.)

Economic Benefits from Operations

Price estimates provided by PG&E, along with standard ratios of employment for the region per employment sector embedded in the IMPLAN model, estimate that approximately $1.3 million would be spent on maintenance of facilities, $0.4 million would be spent on monitoring, $0.8 million will be spent on operations and environmental studies, and $2,600 would be spent on road maintenance. A total of 24 jobs are directly modeled as part of the operations and maintenance of the proposed project. Table 9-14 presents the anticipated annual direct, indirect, and induced output and employment under operations of the proposed project.

Approximately $4.0 million is anticipated to be directly produced annually by the proposed project, with $1.4 million anticipated in the mining industry, $1.4 million in construction, and $1.2 million in professional services. The total anticipated annual output is approximately $6.6 million, with real estate and rental industries being the most affected by indirect and induced economic activity. The annual employment effects under the operation of the proposed project include small gains in the retail trade, health and social services, and professional services industries, to name a few. An annual total of just over 44 new jobs is anticipated as a result of the operation and maintenance of the proposed project. (FEIR, Volume 2, pp. 9-29 – 9-32.)

Economic Benefits from Decommissioning of the Proposed Project

Decommissioning of the proposed project would last several years. Estimates provided by PG&E, along with standard ratios of employment for the region per employment sector embedded in the IMPLAN model, assume that approximately $5.2 million will be spent on decommissioning of wells, $1.3 million on restoration of the environment, and $0.9 million on

decommissioning of roads and small structures. A total of 36 jobs are directly modeled as part of the decommissioning of the proposed project. Table 9-16 presents the anticipated direct, indirect, and induced output and employment under decommissioning of the proposed project. (FEIR, Volume 2, pp. 9-32 – 9-35.)

2.3 CONCLUSION

Each of the above considerations is sufficient to approve the project. For each of the reasons stated above, and all of them, the project should be implemented notwithstanding the significant unavoidable adverse impacts identified in the EIR.