



U.S. Department of the Interior  
Bureau of Land Management



# **CULTURAL AND HISTORIC PROPERTIES MANAGEMENT PLAN (CHPMP) TOPOCK REMEDIATION PROJECT Volume I**



Prepared by:  
Department of the Interior  
Bureau of Land Management  
Lake Havasu Field Office  
2610 Sweetwater Avenue  
Lake Havasu City, Arizona 86406

Date: January 19, 2012

**U.S. Department of the Interior**  
**Bureau of Land Management**

---

**CULTURAL AND HISTORIC PROPERTIES MANAGEMENT PLAN (CHPMP)**  
**TOPOCK REMEDIATION PROJECT**

**VOLUME I**

**Prepared by:**  
**United States Department of the Interior**  
**Bureau of Land Management**  
**Lake Havasu Field Office**  
**2610 Sweetwater Avenue**  
**Lake Havasu City, Arizona 86404**

**Date: January 19, 2012**





## 0 EXECUTIVE SUMMARY

### 0.1 REGULATORY CONTEXT

Pacific Gas and Electric Company (PG&E) operates the Topock Gas Compressor Station (TCS), located on the west side of the Colorado River approximately 13 miles southeast of Needles in San Bernardino County, California, and 0.5 mile west-southwest of Topock, Mohave County, Arizona. The station, which began operating in 1951, increases the pressure of natural gas before transporting it through pipelines extending into central and northern California. Prior to the mid-1980s, chromium was used as an anti-corrosion agent in the station's cooling towers. From 1951 to 1964, untreated wastewater from the towers was discharged into Bat Cave Wash, a rocky arroyo on the west side of the station. Chromium has since percolated into the soil and groundwater, where it has been detected at levels exceeding the limits set by federal and state law. Consequently, PG&E is implementing the Topock Remediation Project (the Project) under the direction of the U.S. Department of the Interior (DOI) and the California Department of Toxic Substances Control (DTSC), pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA) and California law, respectively, including both interim and long-term measures, to investigate, characterize, and clean up the affected soil and groundwater. Key Project objectives are to protect the Colorado River, human populations, and other sensitive resources.

Under CERCLA, the selected groundwater remedy and other site activities must comply with the substantive requirements of all Applicable or Relevant and Appropriate Requirements (ARARs). The DOI identified the National Historic Preservation Act (NHPA) as an ARAR for the Project. Additionally, because (1) some Project actions and facilities are or will be located on land administered either by the U.S. Bureau of Land Management (BLM), the U.S. Fish and Wildlife Service (USFWS), or the U.S. Bureau of Reclamation (USBR), (2) the Project is concerned in part with a portion of the Colorado River under the jurisdiction of the USBR, and (3) Federal approvals are required for aspects of the work, the Project is considered an "undertaking" subject to the authority of Section 106 of the NHPA, as amended, and its corresponding regulations, 36 Code of Federal Regulations (CFR), Part 800.

The Undertaking includes the full range of Project plans and actions developed and carried out within the Area of Potential Effects (APE) and subject to any Federal agency jurisdiction, control, or approval as set forth in 36 CFR 800, 40 CFR 300, 43 CFR 7, 43 CFR 10, the Programmatic Agreement (PA), and the CERCLA Administrative Consent Agreement and Record(s) of Decision (ROD). The Undertaking thus encompasses not only such earth-disturbing activities as well drilling, trenching, and pipeline construction, but also planning and management decisions that may affect cultural and historic properties within the APE. Generally, the Undertaking involves three broad categories of plans and actions: (1) those designed to remediate groundwater contamination; (2) those dealing with the continued site investigation, characterization, and (if necessary) subsequent remediation of soils contamination; and (3) the removal of the existing IM-3 treatment plant and other remediation facilities, as appropriate.

Section 106 requires Federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on proposed undertakings.

A historic property is any prehistoric or historic object, building, structure, site, district, or traditional cultural property (TCP) listed in, or eligible for listing in, the National Register of Historic Places (NRHP; 36 CFR 60 and 36 CFR 800.16(l)). Known historic properties exist within the Project's (i.e., the Undertaking's) APE. As presently defined, the Project's APE encompasses 1,600.69 acres of surface area in California and Arizona (BLM et al. 2010:7), and a 9,120-foot (2,780-meter) portion of the Colorado River.

In compliance with Section 106 of the NHPA, and in accordance with 36 CFR 800.14, the BLM, the Arizona State Historic Preservation Officer (SHPO), the California SHPO, and the ACHP executed a PA to resolve the Project's adverse effects (BLM et al. 2010) on historic properties. Nine Indian Tribes were consulted by BLM in the development of the PA. PG&E, USFWS, and the Hualapai Tribe have signed the PA as Invited Signatories. The PA recognizes that adverse effects to cultural and historic properties resulting from Project implementation and other remediation-related work at the site should be avoided, minimized, or mitigated to the extent practicable, provided that the Project measures protect human health and the environment, attain ARARs, and fully comply with all requirements of CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR 300). To facilitate consistency in implementation of any mitigation measures, Stipulation VII of the PA requires the preparation of a *Cultural and Historic Properties Management Plan* (CHPMP). As stipulated further in the PA, the BLM is responsible for preparing and implementing the CHPMP. The CHPMP is a document that can be modified and updated, as needed, to address new information and ongoing activities related to the Undertaking.

## **0.2 PROJECT HISTORY**

A chronology of the investigations and regulatory actions taken with respect to the Project includes:

- In October 1988, Brown and Caldwell, Inc. (B&C) completed a soil investigation in Bat Cave Wash, at the request of the California Department of Health Services (now DTSC) and the U.S. Environmental Protection Agency (EPA), which concluded that a former percolation bed and the surrounding areas contained soil contaminated with chromium (Cr) (B&C 1988). The percolation bed is considered a Solid Waste Management Unit (SWMU), and the surrounding areas were designated an Area of Concern (AOC) (DTSC 1996:2).
- The California Regional Water Quality Control Board (CRWQCB), Colorado River Basin Region (CRBR), issued in May 1989, *RCRA Comprehensive Ground Water Monitoring Evaluation (CME) Report on PG&E Topock* (CRWQCB, CRBR 1989) that described an inactive injection well, which had received treated wastewater containing Cr, in addition to the percolation bed mentioned above. This inactive well was designated a SWMU and the surrounding area an AOC (DTSC 1996:2).

- In 1996, DTSC and PG&E entered into a *Corrective Action Consent Agreement (Revised)* (CACA) (DTSC 1996), under which DTSC determined that immediate action was required to prevent and/or mitigate potential impacts to the Colorado River. The immediate actions required by DTSC, called Interim Measures (IM), involve pumping, transporting, and disposing of groundwater in order to draw the chromium plume in the floodplain away from the Colorado River.
- In March 2004, PG&E began pumping contaminated groundwater from three extraction wells located on a bench (the MW-20 Bench) above the river floodplain. In June 2004, DTSC ordered PG&E to expand its existing groundwater treatment system by installing new groundwater monitoring and extraction wells, a treatment plant, injection wells, and pipelines, conduits, and access roads to connect the wells with the treatment plant. Referred to as Interim Measure No. 3 (IM 3), the expanded groundwater treatment system (covering approximately 1 acre) provides for untreated water flow from the extraction wells to the treatment facilities, and eventually back to injection wells.
- BLM, CA SHPO, and PG&E entered into a Memorandum of Agreement (MOA) in 2004 for the IM-3 project. A *Cultural Resources Management Plan* (CRMP) (Price et al. 2004) was completed in September 2004 and subsequently incorporated into the MOA. The CRMP describes steps to be taken to avoid or minimize harm to cultural resources during implementation of IMs. It includes a plan for identifying, evaluating, and managing cultural resources within the APE, and describes the various treatment measures designed to address effects on historic properties that could result from the Groundwater Extraction and Treatment System (GETS) remediation measures.
- In July 2005, the DOI, BLM, USFWS, and BOR entered into an Administrative Consent Agreement (ACA) with PG&E to guide compliance with the CERCLA (DOI et al. 2005). The ACA addresses PG&E's response actions under CERCLA with respect to historic releases at the Topock site, including coordination with DTSC of interim removal actions being taken under the CACA, as well as federal oversight generally.
- In 2007, PG&E completed and the agencies approved the Revised Final RCRA Facility Investigation and Remedial Investigation Report, Volume 1—Site Background and History (RFI/RI Volume I Report).
- In 2009, PG&E completed and the agencies approved the Revised Final RCRA Facility Investigation and Remedial Investigation Report, Volume 2—Hydrogeological Characterization and Results of Groundwater and Surface Water Investigations (RFI/RI Volume II Report). Also in 2009, PG&E completed the Final Human Health and Ecological Risk Assessment of Groundwater Impacted by Activities at Solid Waste Management Unit (SWMU) 1/Area of Concern (AOC) 1 and SWMU 2, Topock Compressor Station, Needles, California ("GWRA"), and the Final Groundwater Corrective Measures Study/Feasibility Study Report for SWMU 1/AOC 1 and AOC 10 at the Pacific Gas and Electric Company (PG&E), Topock Compressor Station (CMS/FS Report).

- On January 20, 2011, the DOI issued its *Groundwater Record of Decision* (DOI 2011), which sets forth the actions by which the Project is to comply with CERCLA. The ROD presents the Remedial Action (“Selected Remedy”) addressing groundwater contamination resulting from past disposal practices at the PG&E Topock Compressor Station, specifically selecting “Alternative E – In Situ Treatment with Fresh Water Flushing.” The Selected Remedy involves construction of a system of wells to inject carbon and flush freshwater through the groundwater system to achieve biological reduction of the contamination, extraction, institutional controls to restrict surface land uses and prevent the use of groundwater, and monitored natural attenuation as a *long term* component to address residual Cr (VI) that may remain in recalcitrant portions of the aquifer after in-situ treatment.
- The DTSC and the DOI bifurcated the groundwater and soils investigation and determined to expedite the groundwater cleanup after concerns about groundwater contamination were elevated due to the detection in 2004 of Cr (VI) in a new well near the Colorado River. As a result of the DTSC and the DOI decision to separate the soil and groundwater investigations, the soils investigation and characterization is ongoing, and a remedy to address contaminated soils within the APE (should one be necessary) has not yet been selected. As part of the ongoing soil investigation it will be determined whether unacceptable risks or impacts to groundwater occur currently or could occur in the future, and whether soil remediation is required and should be implemented.

### 0.3 ENVIRONMENTAL CONTEXT

The Project area is situated at the far eastern margin of the Mojave Desert, a large and complex geomorphic province featuring the relatively gentle terrain of bolsons separated by rugged but low, eroded mountains. Faulting and evidence of volcanism are also widespread. Many of the bolsons contain playas—the now-dry beds of ancient lakes that brimmed with water and teemed with floral and faunal life at the end of the last Ice Age, ca. 15,000–10,000 years ago. The Project lies within the Mojave Valley, a broad valley surrounded by mountain ranges, through which the Colorado River runs. Outside of the Colorado River floodplain, broad alluvial fans slope gradually down from the surrounding mountain ranges. Within several hundred feet elevation of the river, past erosional episodes of the river have created a series of level terraces or small mesas that are separated by dry washes or arroyos that extend from the surrounding mountains down to the river floodplain.

The Mojave Desert’s climate today is characterized by a long warm season and relatively short cool season. Strong winds often sweep through the desert, especially in winter and spring, and may transport quantities of sand, resulting in aeolian deflation in some areas and dune formation in others. Precipitation is very limited in the Mojave Desert and follows the usual California seasonal pattern—winter maximum/summer minimum—with annual totals ranging from about 15 inches in the west to less than 5 inches in the east.

The Project area includes both typical desert communities of xeric vegetation and unique series of mesic plants sustained by moisture from the Colorado River. The riparian zone shows a dramatic contrast with the surrounding desert vegetation, while vegetation on the terraces and mesa tops beyond the floodplain is dominated by creosote bush scrub. Wildlife in the Project

vicinity is both diverse and abundant, owing in no small measure to the presence of the Colorado River and its adjacent wetlands, and other waterfowl visit during the cool season. The Colorado River has played a major role in providing habitat not only for riparian vegetation, but also for aquatic mammals, waterfowl, amphibians, mollusks, and fishes. The river drains much of the American Southwest and has served both as the route by which fish species have spread throughout this vast region and as a major center of fish evolution.

#### **0.4 HISTORICAL OVERVIEW**

As summarized by Davy et al. (2004), the principal historical themes related to the study area are transportation and energy development. Between 1846 and 1869, the U.S. military surveyed the area for wagon roads and railroads, and in 1857 Captain Edward Beale surveyed a route between Fort Defiance, New Mexico, and the Colorado River (Jackson 1964). Beale's wagon road, however, reached the river about 20 miles north of the Project area at the north end of the Mojave Valley. Early wagon routes crossed the river at that point and continued west toward Barstow.

The Southern Pacific Railroad first bridged the Colorado River near Needles in 1883. A crossing near Topock was not built until 1890, when the Red Rock Bridge replaced several earlier structures near Needles that had been repeatedly washed away by the river (Rowe 1947). The railroad was subsequently acquired by the Atchison, Topeka, and Santa Fe (AT&SF) Railroad. An automobile ferry was built the same year but could not survive the river's swift currents and many shoals. The Old Trails Arch Bridge, a highway bridge erected in 1916, became part of the National Old Trails Highway, the precursor to Route 66.

Subsequent transportation developments included the mid-1940s realignment and expansion of the railroad right-of-way, construction of a new railroad bridge, and rerouting of Route 66. Additional Federal highway construction occurred in the 1950s, and U.S. Interstate Highway 40 (I-40) was built in the 1960s. Today the project area remains an important transportation corridor, with railroad traffic using the Burlington Northern Santa Fe Railway bridge, truck and automobile traffic crossing the river on the I-40 bridge, and natural gas passing through several large interstate pipelines.

#### **0.5 CULTURAL RESOURCE SURVEYS AND ARCHAEOLOGICAL PROPERTIES**

Summarized in Table 2.1 are the cultural resource surveys that have resulted in more than 210 archaeological and historical sites or isolates being documented within the Project area. The inventory of cultural resources (see Table 2.2 and Volume II) includes six sites in Arizona; all the rest are in California. Briefly, there are 144 prehistoric archaeological sites, 39 prehistoric isolates, 24 historic sites, and three sites containing both historical and prehistoric elements. Twenty-five sites represent a variety of other types such as rock alignments, intaglios, trails, ceramic scatters, a rock shelter, and temporary campsites. Notable among these are three loci of the Topock Maze (CA-SBR-219). The 39 prehistoric isolates consist primarily of lithic artifacts (n = 18). The remaining isolates include ground stone, ceramics, cairns, and hearths.



## **0.6 CULTURAL SETTING**

For Chapter 3 of the CHPMP, BLM sought input from the Tribes regarding their cultures and histories. Responses were received from the Hualapai Indian Tribe and the Cocopah Indian Tribe. The Hualapai prepared a summary of their history and culture to be included in this document. The Cocopah requested that information supplied previously for the 2008 CRMP, PA, and other relevant documents be utilized for the CHPMP. Provided in this section are the summary compiled by the Hualapai and information for the Cocopah Indian Tribe, Fort Mojave Indian Tribe, Colorado Indian Tribe, Chemehuevi Indian Tribe, and the Yavapai-Prescott Indian Tribe derived from the 2008 CRMP, draft and final PA, and PA and CHPMP meeting notes.

Although their cultures differ in particulars, all of the Tribes agree that the Colorado River was and is the source of life for native peoples. The various tribal homelands encompass many references to creation, and to events and places significant in tribal origins and history. As a result, the entire landscape—including the river, desert, mountains, and TCPs—is viewed as sacred. The Topock Maze is spiritually one of the more important aspects of this cultural landscape, and the Tribes concur that it must not be disturbed by the Project and that the Tribes be consulted in advance whenever activities are proposed that potentially could affect the Maze/TCP in any way.

## **0.7 PROJECT EFFECTS AND POTENTIALLY AFFECTED PROPERTIES**

According to the Criteria of Adverse Effect set forth at 36 CFR 800, “an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association...[36 CFR 800.5(a)(1)]. The Signatories to the PA have concluded that the Undertaking has the potential to adversely affect cultural and historic properties that are listed in or have been determined eligible for the NRHP, including but not limited to: the Topock Maze (CA-SBR-219); a TCP which encompasses the APE; portions of U.S. Route 66 (CA-SBR-2910H/AZ I:15:156), the Atlantic & Pacific Railroad right-of-way (CA-SBR-6693H/AZ I:14:334), three archaeological sites (CA-SBR-11697, -11700, and -11701), and geoglyphs (including CA-SBR-5237 and others) located within the APE that may be deemed eligible after further review (BLM et al. 2010:3). The Topock Maze, Locus A, CA-SBR-219, was listed in the NRHP during 1978, under Criterion D, for its potential to provide important information to the archaeological record. Route 66, CA-SBR-2910H was listed in the NRHP during 1990. The A&P Railroad right-of-way, CA-SBR-6693H, and the three archaeological sites, CA-SBR-11697, -11700, and -11701 have been determined eligible through consensus with CA SHPO.

Similarly, Davy et al. (2004) found six sites ineligible for the NRHP; however, the vast majority of archaeological and historical sites in the APE have not been evaluated. Stipulation I.I of the PA states that any sites that have not been evaluated formally for inclusion on the NRHP will be treated as eligible for the purposes of the PA (BLM et al. 2010). Any of these sites may be affected by activities designed to remediate groundwater contamination; those dealing with the continued site investigation, characterization, and (if necessary) subsequent remediation of soils contamination; or removal of the existing IM-3 treatment plant and other remediation facilities.

The primary goal in addressing the Undertaking's potential effects is avoidance, that is, to cause no effect or no adverse effect. If avoidance is not possible, then any potential adverse effect should be minimized or mitigated. Appendix B to the PA includes a list of actions that shall be determined to have no effect or no adverse effect.

The BLM has determined that a TCP or property of traditional religious and cultural significance that encompasses the APE is eligible for inclusion in the NRHP under Criterion A (i.e., 36 CFR 60.4(a)) as part of what the Tribes have identified as a larger area of traditional and cultural importance, whose boundaries have yet to be defined and will not be defined within the scope of this Undertaking. The TCP within this area includes but is not limited to the Topock Maze.

In response to the increasing automobile traffic during the first decades of the twentieth century, the National Old Trails Highway (NOTH; also known as the Ocean-to-Ocean Highway) was established in 1912. Much of the former route of the NOTH became Route 66 and I-40. Several segments of Route 66 in Arizona and Illinois are formally listed on the NRHP, while several other SHPOs have offered consensus determinations of eligibility. The California portion of Route 66 was listed in the NRHP in 1990.

The first river crossing in the Topock area was the Red Rock Bridge, erected in 1890 to replace several earlier structures near Needles that had been repeatedly washed away by the river (Rowe 1947). This steel cantilever structure carried the transcontinental railroad until 1947, when a new railroad bridge was built. The bridge carried historic Route 66 from 1947 to 1966, when the current I-40 bridge was erected immediately to the north. The Red Rock Bridge was demolished in 1978. A concrete abutment remains on the California shore, but there are no remnants on the Arizona shore.

The Old Trails Arch Bridge was erected in 1916 to divert automobile traffic on the NOTH from the Red Rock Bridge. The bridge consists of a pair of primary arches bearing steel columns, which in turn carry the roadway. The Old Trails Arch Bridge was listed in the NRHP in 1988 because of its transportation and engineering significance during the period from 1916 to 1948.

Route 66 initially crossed the Colorado River on the Old Trails Arch Bridge. Traffic was diverted back to the Red Rock Bridge in 1947, when the railroad was rerouted, and it followed the abandoned railroad alignment from 1947 to 1966, when the current I-40 bridge was built. The current Park Moabi Road is the same as the 1947–1966 alignment of Route 66; it runs along the base of the Colorado River bluffs to the location of the former bridge.

In addition to the transportation-related features described above, potentially affected historic-era archaeological resources within the APE include the ruins of highway rest stops such as the El Rancho Colorado Roadhouse and Gas Stop, turn-of-the-century to mid-twentieth-century refuse deposits, foundations and other structural remnants, and water management features. In some instances, historical and prehistoric deposits may occupy the same location.

Potentially affected prehistoric archaeological sites are primarily lithic scatters of varying size and content. Other site types include geoglyphs/intaglios, possible temporary camps, rock shelters, trail alignments, rock alignments, ceramic scatters, cairns, hearths, and rock rings. Detailed information regarding all of these historical and prehistoric sites is presented in Volume II of this CHPMP.

## **0.8 CONSULTATION TO IDENTIFY ANY ADDITIONAL EFFECTS**

Throughout the course of the Undertaking, BLM will ensure that the Federal agencies consult with appropriate Signatories, Tribes, and Invited Signatories, as required by 36 CFR 800, 43 CFR 10, and other applicable regulations, and as stipulated in the PA (attached hereto as Appendix A). Some of the Project's effects on cultural and historic properties have already been identified and discussed in the CRMP, PA, and in the present CHPMP. However, additional effects may be identified and/or recognized in the future as a result of discoveries that may be made or of any changes that may occur in the APE, or in the scope of the Undertaking, or in the information provided by Signatories, Tribes, and Invited Signatories. One purpose of the ongoing consultation, therefore, will be to continually seek from all parties any information bearing on potential, presently unanticipated effects on cultural and historic properties within the APE. BLM will continue to serve as lead Federal agency responsible for the gathering and assessment of such information.

## **0.9 GENERAL TREATMENT MEASURES**

Requirements of the PA that relate specifically to components of the remedial action and/or remedial facilities include:

- The PA recognizes that other time-critical removal actions may be potentially identified as part of the Undertaking (BLM et al. 2010:3).
- The PA stipulates, with respect to the Monitored Natural Attenuation component of the Selected Remedy, that "existing monitoring wells and related facilities shall be used to the maximum extent practicable" (BLM et al. 2010:10).
- The PA requires ongoing consultation among the Signatories, Tribes, and Invited Signatories during the soils investigation and potential soil remedy selection, and that every effort shall be made to avoid and/or minimize adverse effects to the maximum extent practicable, in accordance with the principles set forth in Stipulation I. Tribal and archaeological monitors shall be authorized to monitor all such related activities in accordance with Appendix C [Monitoring Protocol] (BLM et al. 2010:12).
- Once a Corrective Measures Study/Feasibility Study for the remediation of soils has been prepared, Stipulation IV.B of the PA states that the Parties will engage in consultation "to determine the need for amendments to this PA or editing and expansion of the CHPMP to incorporate new information regarding soils remediation alternatives, adverse effects, and mitigation" (BLM et al. 2010:12).
- IM-3 treatment plant and other IM infrastructure that are not used for the groundwater remedy are expected to be decommissioned following determination by DOI and DTSC that the groundwater remedy is operating properly and successfully and that IM-3 is no longer needed for the protection of human health and the environment. In conformance with PA Stipulation V(E) and PG&E's Settlement Agreement (PG&E 2006), a plan will be prepared for decommissioning, removal, and restoration of the IM-3 facility prior to implementation of the groundwater remedy, in consultation with all Signatories, Tribes, and Invited Signatories [BLM et al. 2010:13].

- Stipulation I.D of the PA confirms that the Federal agencies, in consultation with the Tribes, SHPOs, ACHP, PG&E, and other interested parties agree to: ensure that PG&E shall, to the extent practicable, restore the areas affected by the Topock Remediation Project within the APE including, but not limited to, the site of the existing treatment plant and related facilities, but excluding the Topock Compressor Station and related facilities, to conditions existing prior to the construction of the PG&E investigation- and remediation-related appurtenances and facilities [BLM et al. 2010:6].

## **0.10 TREATMENT OPTIONS**

Critical to the protection of historic and cultural properties within the APE are general and accepted preservation measures that will occur during all Undertaking activities that have the potential to affect such properties. Measures currently include but are not limited to: avoidance of ground disturbance at historic and cultural properties to the maximum extent practicable; archaeological and Native American monitoring during earth-disturbing construction work; and periodic monitoring to assess site conditions throughout the duration of the Undertaking. Measures to manage historic and cultural properties also include plans for the treatment of unanticipated discoveries or human remains that may occur during the Undertaking's activities (see Appendices B and C). Throughout the Undertaking, BLM will continue to consult with the ACHP, AZ and CA SHPOs, and to consult and coordinate with other Federal agencies, the Tribes, and PG&E, in compliance with NHPA Section 106 and the PA. Moreover, the PA Signatories, Tribes, and Invited Signatories anticipated the need to continually evaluate the effectiveness of management measures. To achieve this, the Signatories, Tribes, and Invited Signatories will continue to consult to evaluate the effectiveness of the CHPMP during its implementation, and will revise the CHPMP as needed.

## **0.11 PROTOCOLS FOR TRIBAL NOTIFICATION AND CONSULTATION IN ADVANCE OF CERTAIN ACTIVITIES**

Requirements for Tribal notification and consultation are set forth generally in 43 CFR 10 and 36 CFR 800, and specifically for the Topock Remediation Project in the PA. Section 6.7 of this CHPMP summarizes many of the events and actions related to the Project that would necessitate notification of and consultation with the Tribes. Through the duration of the Project, BLM will ensure that the Federal agencies consult with the appropriate PA Signatories, Tribes, and Invited Signatories, as required.

The PA, and particularly its Appendix B (Consultation Protocol), identifies the parties to be consulted and sets forth the procedures by which consultation is to occur. Appendix B of the PA acknowledges that federally recognized tribes are sovereign nations entitled to a government-to-government relationship with the U.S. Government. The appendix goes on to prescribe the consulting process, stipulating that: points of contact (POCs) will be established for all Consulting Parties; the BLM will establish an email list and U.S. mail distribution list for all POCs; and that the consultation protocol applies to work plans and action memoranda for ground-disturbing activities, milestone Project documents to be prepared under CERCLA, and various cultural resource management plans and documents (BLM et al. 2010:Appendix B:1–3). Sections III.D–L of PA Appendix B then set forth in detail the consultation process to be

followed, including the roles and responsibilities of the various Consulting Parties (BLM et al. 2010:Appendix B:3–5). The PA’s Consultation Protocol is incorporated herein by reference.

## **0.12 PROTOCOLS FOR TRIBAL AND ARCHAEOLOGICAL MONITORING**

All tribal and archaeological monitoring for the Project will be performed in accordance with PA Appendix C, Topock Remediation Project Programmatic Agreement Tribal and Archaeological Monitoring Protocol, attached hereto as part of Appendix A. That Protocol specifies the goals of the tribal and archaeological monitoring and responsibilities of the tribal and archaeological monitors. The Protocol then lists the required qualifications for Tribal and archaeological monitors, discusses work scheduling, and sets forth monitoring duties and responsibilities (BLM et al. 2010:Appendix C:2–4). This is followed by discussions of discoveries, human remains, reporting requirements, safety, and administrative matters (BLM et al. 2010:Appendix C:4–6). The PA’s Monitoring Protocol is incorporated herein by reference.

## **0.13 CURATION PROCEDURES**

Stipulation XIII of the PA specifies the curation procedures to be followed in the event that any cultural items are collected or removed from any portion of the APE. That section of the PA (CHPMP Appendix A) is incorporated by reference herein. Briefly, Stipulation XIII sets forth the different procedures that would apply if the cultural items were found on and removed from Federal lands, Tribal lands, state lands, or private lands. The Native American Graves Protection and Repatriation Act (NAGPRA), 43 CFR 10, Archaeological Resources Protection Act (ARPA), and 36 CFR 79 are cited as laws and regulations that would govern curation of materials on Federal lands, while ARS 41-841–41-846 and ARS 41-865 apply to lands in Arizona and PRC 5097.98 and 5097.991 to lands in California. Importantly, Stipulation XIII states that any human remains, funerary objects, sacred objects, ceremonial objects, or items of cultural patrimony discovered in the course of the Undertaking will neither be collected nor curated, but rather will be treated respectfully, in a culturally appropriate manner, and in accordance with the Plan of Action (BLM et al. 2010:19–20).

## **0.14 SPECIFIC TREATMENT MEASURES**

Specific treatment measures and mitigations for all activities associated with the Topock Remediation Project will be evaluated as specific actions are identified that have the potential to affect cultural and historic properties. In addition, if there is the potential for an adverse effect, the process outlined in PA Appendix B, Stipulations III.C, III.E, and III.F will be followed.

## **0.15 TREATMENT OF THE TOPOCK MAZE/TCP AND ANY ASSOCIATED CONTRIBUTING PROPERTIES**

Identified treatment measures shall be utilized to avoid further impacts to the Topock Maze/TCP and associated contributing properties. Specific treatment measures shall be developed as Undertaking activities are identified and defined.

BLM will continue seeking additional input from the Tribes on treatment measures in the planning and implementation of activities for this Undertaking.

## **0.16 ACCOMMODATION OF TRIBAL ACTIVITIES AND CEREMONIES INVOLVING THE TOPOCK MAZE/TCP**

The BLM will continue to work with the Tribes to identify tribal activities and ceremonies associated with the Topock TCP. When identified, BLM will consult with the Tribes and PG&E to develop treatment measures to accommodate these cultural activities and ceremonies.

## **0.17 TREATMENT OF OTHER CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL PROPERTIES WITHIN THE APE**

The only properties identified within the APE that are not contributing to the Topock TCP are those from the historic period, i.e. Route 66, AT&SF Railroad Grade, and National Old Trails Road route. None of these properties has been impacted to date by this Undertaking. These properties shall be avoided, to the extent practicable, in the implementation of the Undertaking.

## **0.18 DISCOVERIES**

Through careful planning, thoughtful placement of Project facilities, and installation of barrier fences around significant historic properties, all archaeological and historical sites within or immediately adjacent to the APE will be avoided to the greatest extent feasible, and wherever possible will protect all such resources regardless of their NRHP status. Nonetheless, there is always the possibility that additional prehistoric or historic-period resources may be present, as archaeological remains may be buried and exhibit no surface manifestation, or may otherwise avoid detection during standard archaeological and historical surveys.

PG&E will retain a qualified professional archaeologist to inspect and evaluate any previously unidentified or suspected archaeological or historical remains, including human remains and/or associated funerary objects or graves, uncovered during construction, operation, or decommissioning of the Project. Should any such remains, objects, or features be found, all Project activities will cease immediately within an area extending not less than 5 meters and not more than 50 meters (to be determined in the field on a case-by-case basis) from the potential find. The BLM, and Tribal representatives if the resource is Native American in nature, will be notified immediately of the discovery. No further work will be undertaken until the BLM, in consultation with Tribes and PG&E, has determined the nature of the discovery and developed appropriate measures for its evaluation and/or treatment, consistent with the PA.

If warranted, stabilization measures such as protective covering or fencing may be placed over or around the area of the discovery, which will be identified as an Exclusion Zone (EZ) or an Environmentally Sensitive Area (ESA) to protect any discovery (including human remains, funerary objects, sacred objects, or objects of cultural patrimony) from further disturbance. Ongoing work not within the agreed upon exclusion zone extending 5–50 meters from the discovery may continue. The BLM, in consultation with PG&E and the Tribes, may reduce the size of the EZ/ESA if determined appropriate by parties in the field.

Work will not resume in the area until the discovery has been evaluated in accordance with the procedures specified in Appendix C (Discovery Plan) of this CHPMP, any necessary treatment has been carried out to resolve the effects of the Undertaking, and the BLM and PG&E have authorized such work to continue. If the discovery is judged eligible for listing in the NRHP,

effects shall be treated per the actions specified in the Discovery Plan, which may include further documentation, archaeological data recovery excavations, monitoring, and/or other measures.

#### **0.19 TREATMENT OF ANY HUMAN REMAINS, FUNERARY OBJECTS, CEREMONIAL OBJECTS, AND ITEMS OF CULTURAL PATRIMONY**

Section VII.H of the PA stipulates that the CHPMP will include a Plan of Action (POA) to be implemented if human remains are discovered within the APE, and that the POA will address the roles of the PA Signatories, Tribes, and Invited Signatories. The PA stipulates further that the BLM will be the lead Federal Agency responsible for seeing that the terms of the POA are executed, and that human remains and funerary objects must be treated in a culturally appropriate and respectful manner (BLM et al. 2010:15). The PA also specifies, in Section IX, the procedures to be followed in the event of a discovery (BLM et al. 2010:16). While the steps to be taken in the event of any discovery within the APE are described in Appendix C (Discovery Plan), the responsibilities and procedures specifically related to the discovery and treatment of human remains, funerary objects, ceremonial items, and/or items of cultural patrimony are detailed in Appendix D (Plan of Action).

#### **0.20 CONSULTATION PROCEDURES RELATED TO UNANTICIPATED DISCOVERIES**

The BLM will notify all Signatories of the PA, Tribes and Invited Signatories of the nature and general location of any discovery. If the Tribes, PG&E, and BLM can resolve treatment of the discovery in a manner that does not cause adverse effects to significant cultural and historic properties, BLM shall document the resolution, the activities within the work area may proceed and the AZ SHPO and the CA SHPO shall be notified of the discovery and resolution. The Tribes, PG&E, and BLM will use their best efforts to resolve treatment as quickly as possible.

If there is failure to resolve treatment of the discovery in consultation with the Tribes and PG&E, BLM shall then consult with the AZ SHPO or the CA SHPO to develop a treatment plan that takes into account the effects of the Undertaking on the discovery. Within fifteen (15) days of notification of discovery, BLM shall provide the consulted SHPO(s), via email, a recommendation for resolving the discovery situation that takes into account the potential effects of the Undertaking on the discovery.

If the CA SHPO or AZ SHPO (as appropriate, depending on the location of the discovery) does not object to BLM's recommendation(s) within fifteen (15) days, BLM will implement the recommendation(s). If the consulted SHPO objects to the recommendation, BLM will utilize the dispute resolution process in Stipulation XV of the PA to resolve any objection.

#### **0.21 ADMINISTRATIVE PROCEDURES**

Administrative procedures contained in the PA, and incorporated by reference into this CHPMP include:

- In the event of any imminent threat of contamination to the Colorado River, the CHPMP will continue to be implemented to the extent practicable, provided that any

actions called for by the CHPMP do not impede or interfere with any of the measures prescribed by DTSC or DOI to address the imminent threat.

- Stipulation XI of the PA identifies a number of published standards that will be met by personnel who implement this CHPMP and that will be followed in the course of all actions performed to carry out the purposes of the PA and this CHPMP (BLM et al. 2010:18).
- Stipulation XII of the PA requires Signatories and Invited Signatories, to the maximum extent allowed by law, to “maintain the confidentiality of records, data, and information pertaining to the location, nature, practices and use of cultural resources, including cultural and historic properties about which there are culturally sensitive issues, as consistent with NHPA §304, ARPA §9, and California Government Code §6254.10” (BLM et al. 2010:19). BLM will determine such culturally sensitive issues through consultation with the Tribes. Finally, Stipulation XII shall not be construed to prevent the Tribes from gaining access to cultural resource documentation in Project records held by the Federal and/or state governments. Such documentation may be used by the Tribes for interpreting their history or for other cultural uses (BLM et al. 2010:18).

BLM, in consultation with the Signatories, Tribes, and Invited Signatories, will determine whether and when any revision of the CHPMP may be required. If revision of the CHPMP is needed, BLM will make the necessary changes, in consultation with the other parties. Revision of the CHPMP may be indicated if the PA is amended pursuant to Stipulation XIV (BLM et al. 2010:20).





# CONTENTS

<b>1</b>	<b>INTRODUCTION AND BACKGROUND</b>	<b>1</b>
1.1	PURPOSE, NEED, AND SCOPE OF CHPMP	1
1.2	UNDERTAKING	4
1.3	AREA OF POTENTIAL EFFECTS (APE)	4
1.4	REGULATORY CONTEXT	7
1.4.1	Federal Law	7
1.4.2	State Law	9
1.4.2.1	Arizona	9
1.4.2.2	California	9
1.5	GENERAL PRINCIPLES	10
<b>2</b>	<b>ENVIRONMENTAL, HISTORICAL, AND ARCHAEOLOGICAL SETTING</b>	<b>13</b>
2.1	HISTORY OF THE TOPOCK PROJECT	13
2.2	ENVIRONMENTAL CONTEXT	16
2.2.1	Location and Geomorphic Setting	16
2.2.2	Geology and Soils	17
2.2.3	Past and Present Climates	17
2.2.4	Vegetation	18
2.2.5	Local Fauna	19
2.3	ARCHAEOLOGICAL CONTEXT	20
2.3.1	Cultural Chronology	20
2.3.2	Late Prehistory	21
2.4	HISTORICAL OVERVIEW	23
2.5	PREVIOUS CULTURAL STUDIES AND FINDINGS	23
2.6	HISTORICAL AND PREHISTORIC ARCHAEOLOGICAL PROPERTIES	27
2.6.1	Prehistoric Archaeological Sites	28
2.6.2	Historical Archaeological Sites	29
2.6.3	Resources with Prehistoric and Historical Components	29
<b>3</b>	<b>CULTURAL SETTING</b>	<b>31</b>
3.1	PREVIOUS CONSULTATION AMONG AGENCIES, TRIBES, AND PG&E	31
3.2	TRIBAL DESCRIPTION OF TRADITIONAL CULTURAL PROPERTY IN THE AREA OF THE UNDERTAKING	32
3.3	CULTURAL VALUES/ETHNOGRAPHIES	32
3.3.1	Hualapai History and Culture	33
3.3.1.1	The Hualapai Reservation	33
3.3.1.2	Contact History	36
3.3.1.3	Hualapai Traditional Cultural Properties	38
3.3.1.4	Hualapai and Topock	40

3.4	REFERENCES CITED.....	45
3.5	OTHER TRIBES' HISTORY AND CULTURE.....	48
3.5.1	Cocopah Indian Tribe .....	48
3.5.2	Fort Mojave Indian Tribe.....	50
3.5.3	Colorado River Indian Tribes .....	52
3.5.4	Chemehuevi Tribe.....	52
3.5.5	Yavapai-Prescott Indian Tribe .....	53
<b>4</b>	<b>DESCRIPTION OF UNDERTAKING.....</b>	<b>55</b>
4.1	OVERVIEW OF UNDERTAKING .....	55
<b>5</b>	<b>EFFECTS ON CULTURAL AND HISTORIC PROPERTIES.....</b>	<b>57</b>
5.1	FINDINGS OF EFFECT .....	57
5.1.1	Definition of Adverse Effect.....	57
5.1.2	Effects of the Undertaking.....	57
5.2	SUMMARY OF AFFECTED PROPERTIES .....	59
5.2.1	CA-SBR-219, Topock Maze (all loci).....	59
5.2.2	CA-SBR-6693H/AZ I:14:334(ASM), Atlantic and Pacific (A&P) Railroad Right-of-Way, Atchison, Topeka, and Santa Fe (AT&SF) Railroad Right-of-Way, and Burlington Northern Santa Fe (BNSF) Railway.....	59
5.2.3	CA-SBR-2910H/AZ I:15:156(ASM)/AZ L:15:72(ASM), National Old Trails Highway/U.S. Route 66 Segments .....	60
5.2.4	Other Transportation-Related Properties within the APE .....	60
5.2.5	Prehistoric and Historical Archaeological Sites .....	61
5.3	CONSULTATION TO IDENTIFY ANY ADDITIONAL EFFECTS.....	61
<b>6</b>	<b>GENERAL TREATMENT MEASURES.....</b>	<b>63</b>
6.1	MEASURES AND PRINCIPLES TO AVOID, MINIMIZE, OR RESOLVE ADVERSE EFFECTS .....	63
6.2	REMEDIAL ACTIONS.....	63
6.2.1	Remediating Groundwater Contamination .....	63
6.2.1.1	Temporary Measures .....	63
6.2.1.2	Selected Remedy.....	63
6.2.2	Characterizing, Remediating, and Mitigating Soils Contamination.....	65
6.2.3	Removal of Existing IM-3 Treatment Plant and Other Remediation Facilities .....	66
6.3	ENVIRONMENTAL RESTORATION .....	66
6.4	RESPECT FOR TRIBAL CONCERNS.....	67
6.5	TAKING INTO ACCOUNT TRIBAL AND OTHER CULTURAL VALUES.....	67
6.6	TREATMENT OPTIONS .....	68
6.6.1	NRHP Nomination.....	68
6.6.2	Other Documentation.....	68
6.6.3	Avoidance Measures/Management Thresholds .....	69
6.6.4	Construction Monitoring.....	69

6.6.5	Periodic Site Monitoring.....	70
6.6.6	Road Closure.....	71
6.7	PROTOCOLS FOR TRIBAL NOTIFICATION AND CONSULTATION IN ADVANCE OF CERTAIN ACTIVITIES .....	71
6.8	PROTOCOLS FOR TRIBAL AND ARCHAEOLOGICAL MONITORING.....	72
6.9	STEPS TO BE TAKEN IF THE UNDERTAKING EXTENDS BEYOND THE APE.....	73
6.10	PUBLIC EDUCATION OF CULTURAL, ARCHAEOLOGICAL, AND HISTORICAL VALUES .....	73
6.11	CURATION PROCEDURES.....	73
<b>7</b>	<b>CULTURAL PROPERTY-SPECIFIC TREATMENT MEASURES .....</b>	<b>75</b>
7.1	TREATMENT OF THE TOPOCK MAZE/TCP AND ANY ASSOCIATED CONTRIBUTING PROPERTIES .....	75
7.2	ACCOMMODATION OF TRIBAL ACTIVITIES AND CEREMONIES INVOLVING THE TOPOCK MAZE/TCP .....	77
7.3	TREATMENT OF OTHER CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL PROPERTIES WITHIN THE APE .....	77
<b>8</b>	<b>DISCOVERIES .....</b>	<b>79</b>
8.1	STEPS TO BE TAKEN IF PREVIOUSLY UNRECORDED PROPERTIES ARE FOUND .....	79
8.2	TREATMENT OF ANY HUMAN REMAINS, FUNERARY OBJECTS, CEREMONIAL OBJECTS, AND ITEMS OF CULTURAL PATRIMONY .....	81
8.3	CONSULTATION PROCEDURES RELATED TO UNANTICIPATED DISCOVERIES .....	84
<b>9</b>	<b>ADMINISTRATION OF THE CHPMP .....</b>	<b>85</b>
9.1	IMPLEMENTATION OF THE CHPMP DURING AN IMMINENT THREAT OF CONTAMINATION OF THE COLORADO RIVER.....	85
9.2	STANDARDS.....	85
9.3	CONFIDENTIALITY.....	85
9.4	PROCEDURES FOR AMENDING THE CHPMP.....	86
<b>10</b>	<b>REFERENCES, STATUTES, AND REGULATIONS CITED .....</b>	<b>87</b>
10.1	REFERENCES CITED.....	87
10.2	STATUTES.....	96
10.3	REGULATIONS.....	97
10.4	EXECUTIVE ORDERS AND MEMORANDA .....	97
<b>11</b>	<b>GLOSSARY: TERMS, ABBREVIATIONS, AND ACRONYMS CITED.....</b>	<b>99</b>
11.1	GLOSSARY .....	99
11.2	ABBREVIATIONS AND ACRONYMS .....	102

## **APPENDICES**

- A     Programmatic Agreement**
- B     Tribal Access Plan**
- C     Discovery Plan**
- D     Plan of Action**

## **FIGURES**

- 1.1     General vicinity of the Topock Remediation Project. ....2
- 1.2     Topock Remediation Project Area of Potential Effects.....6

## **TABLES**

- 2.1     Previous Cultural Resource Investigations within the Project's APE .....24
- 2.2     Summary of Historical and Prehistoric Cultural Resources within the APE.....28

## **VOLUME II: Confidential Maps and Records of Cultural and Historic Properties within the APE**

# 1

## INTRODUCTION AND BACKGROUND

### 1.1 PURPOSE, NEED, AND SCOPE OF CHPMP

Pacific Gas and Electric Company (PG&E) operates the Topock Gas Compressor Station (TCS), located on the west side of the Colorado River approximately 13 miles southeast of Needles in San Bernardino County, California, and 0.5 mile west-southwest of Topock, Mohave County, Arizona (Figure 1.1). The station, which began operating in 1951, increases the pressure of natural gas before transporting it through pipelines extending into central and northern California. Prior to the mid-1980s, chromium was used as an anti-corrosion agent in the station's cooling towers. From 1951 to 1964, untreated wastewater from the towers was discharged into Bat Cave Wash, a rocky arroyo on the west side of the station. Chromium has since percolated into the soil and groundwater, where it has been detected at levels exceeding the limits set by federal and state law (see "Regulatory Context," below). Consequently, PG&E is implementing the Topock Remediation Project (the Project) under the direction of the U.S. Department of the Interior (DOI) and the California Department of Toxic Substances Control (DTSC), pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA) and California law, respectively, including both interim and long-term measures, to investigate, characterize, and clean up the affected soil and groundwater. Key Project objectives are to protect the Colorado River, human populations and other sensitive resources.

Under CERCLA, the selected groundwater remedy and other site activities must comply with the substantive requirements of all Applicable or Relevant and Appropriate Requirements (ARARs). The DOI identified the National Historic Preservation Act (NHPA) as an ARAR for the Project. Additionally, because (1) some Project actions and facilities are or will be located on land administered either by the U.S. Bureau of Land Management (BLM), the U.S. Fish and Wildlife Service (USFWS), and the U.S. Bureau of Reclamation (USBR), (2) the Project is concerned in part with a portion of the Colorado River under the jurisdiction of the USBR, and (3) Federal approvals are required for aspects of the work, the Project is considered an "undertaking" subject to the authority of Section 106 of the NHPA, as amended, and its corresponding regulations, 36 Code of Federal Regulations (CFR), Part 800. Section 106 requires Federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on proposed undertakings. A historic property is any prehistoric or historic object, building, structure, site, district, or traditional cultural property (TCP) listed in, or eligible for listing in, the National Register of Historic Places (NRHP; 36 CFR 60 and 36 CFR 800.16(l)). Known historic properties (see Chapter 4 and Volume II) exist within the Project's (i.e., the Undertaking's) Area of Potential Effects (APE).

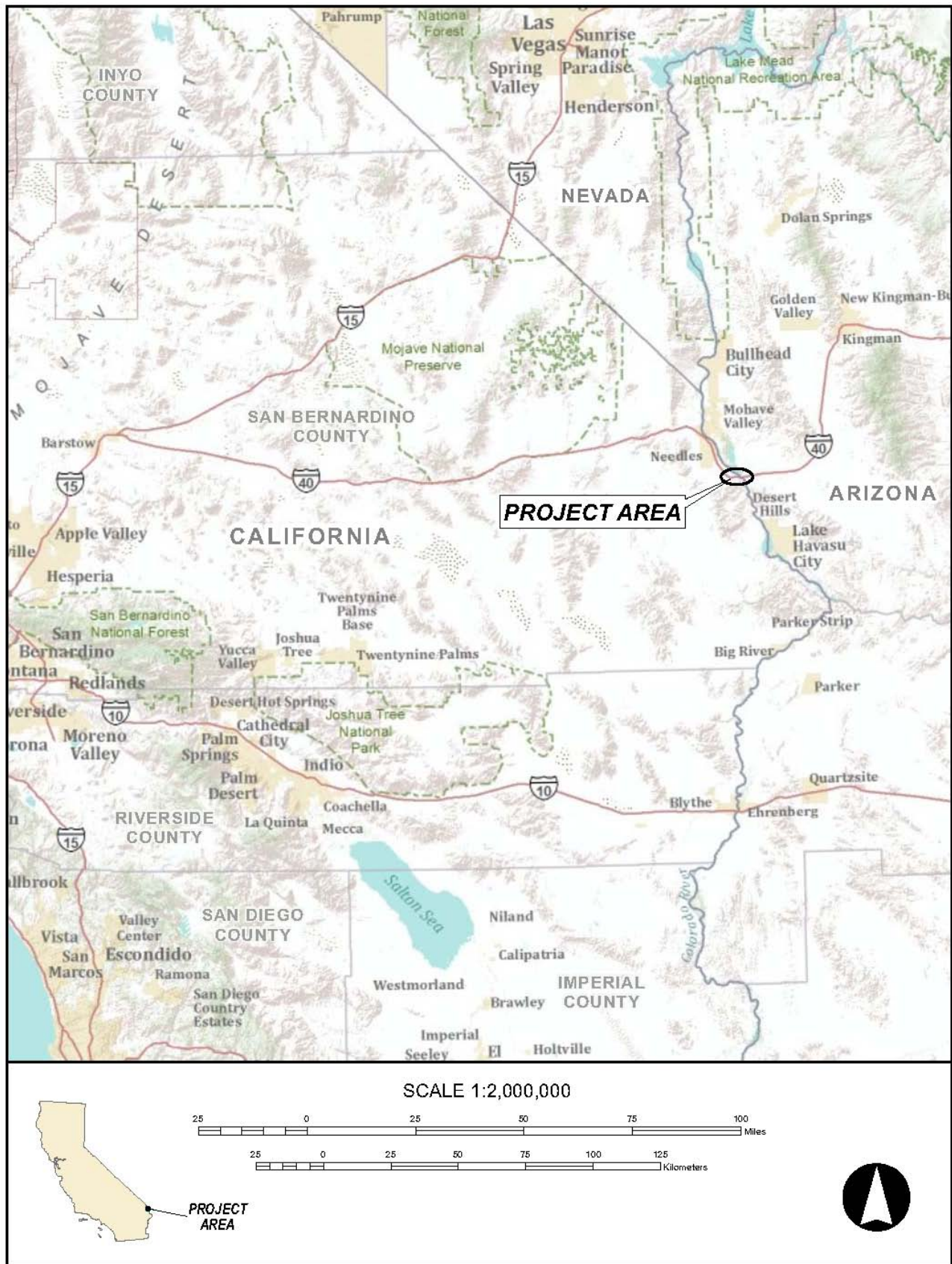


Figure 1.1 General vicinity of the Topock Remediation Project.

In compliance with Section 106 of the NHPA, and in accordance with 36 CFR 800.14, the BLM, the Arizona State Historic Preservation Officer (SHPO), the California SHPO, and the ACHP executed a programmatic agreement (PA) to resolve the Project's adverse effects (BLM et al. 2010) on historic properties. PG&E, USFWS, and the Hualapai Tribe have signed the PA as Invited Signatories. The PA recognizes that adverse effects to cultural and historic properties resulting from implementation of the Selected Remedy and other remediation related work at the site should be avoided, minimized, or mitigated to the extent practicable, provided that the Selected Remedy protects human health and the environment, attains ARARs, and fully complies with all requirements of CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR 300). To facilitate consistency in implementation of any mitigation measures, Stipulation VII of the PA requires the preparation of a *Cultural and Historic Properties Management Plan* (CHPMP). Stipulation VII of the PA further states:

- A. The BLM will be responsible for the development of a CHPMP that specifies how cultural and historic properties within the APE are to be treated during implementation of the Undertaking. BLM will consult with all Signatories, Tribes, and Invited Signatories to this PA in the development of the CHPMP. The CHPMP will be finalized by the BLM no later than one year after signing of the ROD [Record of Decision] for the groundwater remediation phase of the Undertaking. The requirements of the CRMP as distributed to all Signatories, Tribes, and Invited Signatories in March of 2008 (attached hereto as Appendix H) for IM-3 will remain in effect until execution of the CHPMP. Upon execution, the CHPMP will supersede the CRMP.
- B. The CHPMP will provide a Treatment Plan which incorporates and is consistent with the principles in Stipulation I and the mitigation measures contained in this PA to avoid, minimize, or mitigate adverse effects to cultural and historic properties within the APE. The Treatment Plan will provide a description of known cultural and historic properties within the APE (see Stipulation VII). For each type of historic property, the Treatment Plan will describe mitigation measures, and including those taken from this PA, that might be used to avoid, minimize, or mitigate adverse effects to the cultural and historic properties within the area of the Undertaking. Should a proposed action be determined to have an adverse effect, the Treatment Plan would be used as the first point of reference in developing a specific course of action that would address how best to avoid, minimize, or mitigate the adverse effect.
- C. The stipulations within the CRMP for IM-3 shall be considered for adoption in the CHPMP.
- D. The CHPMP will include a listing and maps of all cultural and historic resources associated with the Undertaking within the APE, including properties already on [in] the NRHP, and properties determined eligible for inclusion on [in] the NRHP (in a manner consistent with Stipulation XII, Confidentiality).
- E. The CHPMP will include sections that describe the specific steps to be taken if previously unrecorded resources are located or if the Undertaking extends beyond the APE (as defined in Stipulation II(A); see also Appendix A Map), relative to identification, evaluation and treatment of cultural and historic resources.



- F. After consultation with all Signatories, Tribes, and Invited Signatories, the BLM may amend the finalized CHPMP as additional information is developed regarding cultural and historic resources within the APE, in the event that the APE is revised, and for any other reason deemed appropriate by BLM. Revision of the CHPMP shall not require an amendment of the PA. The CHPMP may be revised in phases as the Undertaking progresses.
- G. The CHPMP will include a discovery plan consistent with Stipulation IX(C) [see Appendix C].
- H. The CHPMP will contain a Plan of Action (POA) [see Appendix D] for use in the event of discovery of human remains within the APE, which will address the roles of the Signatories, Tribes and Invited Signatories. The BLM will be the Lead Federal Agency responsible for seeing that the terms of the POA are executed. The POA will specify how each tribe wishes to be contacted in the event of an unanticipated discovery of human remains within the APE, as described in NAGPRA and all other applicable State and Federal laws pertaining to human remains and funerary objects, ceremonial items, and items of cultural patrimony. Human remains and funerary objects must be treated in a culturally appropriate and respectful manner.
- I. BLM shall remain responsible for making all recommendations and determinations of significance, eligibility, and treatment of cultural and historic properties related to the Undertaking. BLM will consult with all Signatories, Tribes and Invited Signatories according to the procedures contained in Appendix B of this PA before finalizing recommendations, determinations and treatment plans.

This stipulation of the PA, together with the background information in the opening paragraphs of this section, set forth the scope and purpose of the present *Cultural and Historic Properties Management Plan*.

## **1.2 UNDERTAKING**

Chapter 3 provides a full description and discussion of the Topock Remediation Project, including both groundwater and soils investigation and remediation, hereafter referred to as the Undertaking. Here, by way of introduction, the Undertaking is defined as the sum total of Project-related plans and activities developed, authorized, and carried out under the jurisdiction of the BLM and other Federal agencies and subject to the requirements of NHPA Section 106. More precisely, the Undertaking includes all aspects of the Project covered by the PA (BLM et al. 2010). The Undertaking encompasses not only earth-disturbing activities such as well drilling and pipeline construction, but also the full range of planning and management decisions that could result in effects to cultural and historic properties within the APE associated with the selected groundwater remedy as well as continued soils investigation, characterization, and (if needed) remedy selection and implementation.

## **1.3 AREA OF POTENTIAL EFFECTS (APE)**

As defined in the ACHP regulations, the term Area of Potential Effects means “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of

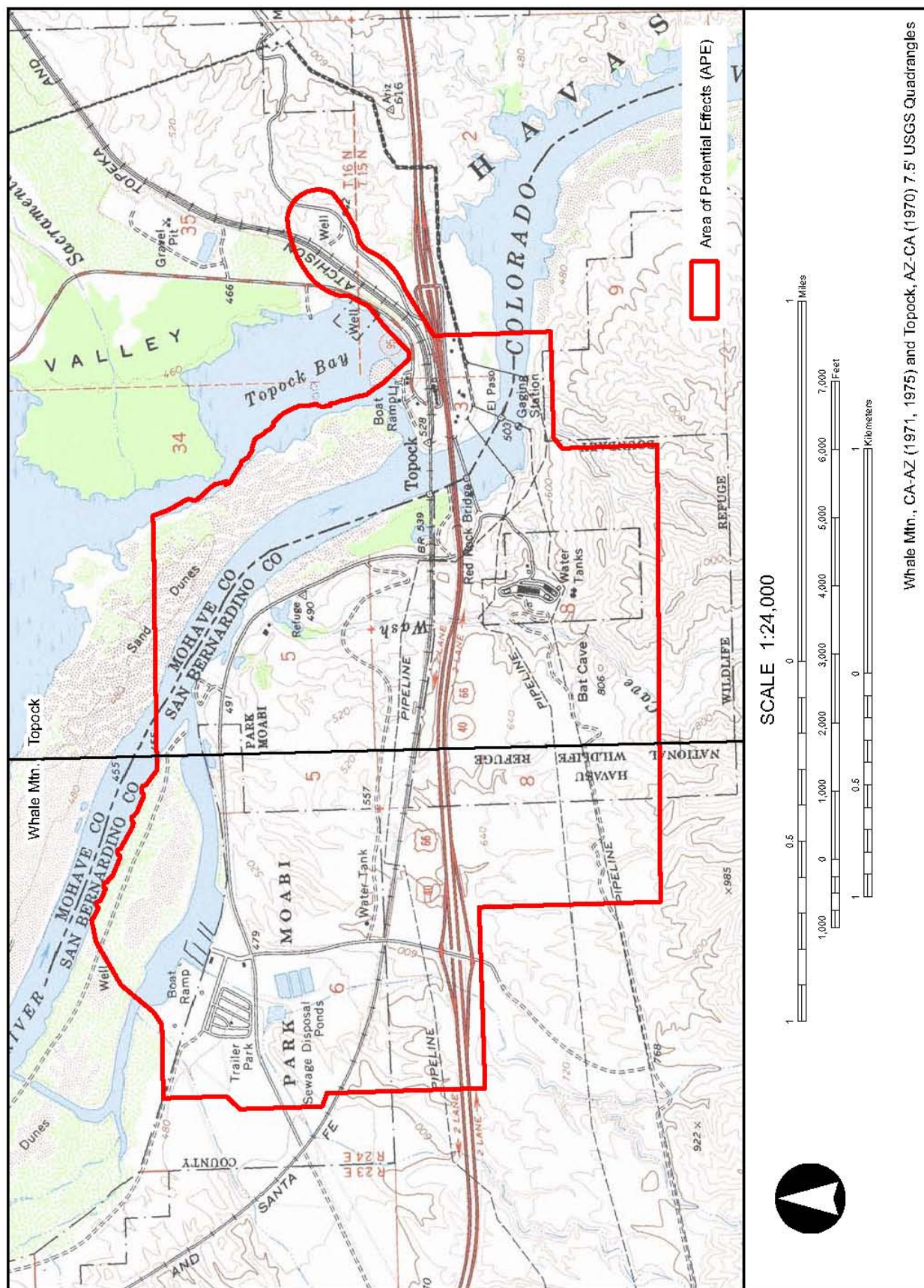
effects caused by the undertaking” (36 CFR 800.16(d)). The APE of the Topock Remediation Project is shown in Figure 1.2 and discussed below.

The original APE for the Project encompassed the sites of existing and planned extraction wells, treatment facilities, injection wells, and water conveyance systems required in the 1996 Corrective Action Consent Agreement. This APE covered 155 acres and encompassed a 100-acre area owned by the Metropolitan Water District of Southern California to the north of the TCS; the MW-20 Bench pumping area and its parking lots located east of the TCS; and other locations where wells, access roads, and other facilities already were planned or in place (Price et al. 2004). In response to DTSC directives in 2004 (referred to as IM-3), the area of the Groundwater Extraction and Treatment System (GETS) was expanded to encompass a substantially larger APE including terrain on both the California and Arizona sides of the Colorado River. Minor adjustments to the APE boundaries have been made since that time, adding small parcels on the east, west, and north sides of the IM-3 study area.

As presently defined, the Project’s APE encompasses 1,600.69 acres of surface area in California and Arizona (BLM et al. 2010:7), and a 9,120-foot (2,780-meter) portion of the Colorado River (Figure 1.2). The legal status of lands within this area is complex, as exemplified by this excerpt from Section II of the PA:

The APE includes land and property interests owned or managed by public and private entities including BLM, USBR, USFWS, Fort Mojave Indian Tribe, San Bernardino County, Burlington Northern Santa Fe Railroad, PG&E, and the Los Angeles Metropolitan Water District [*sic*; i.e., the Metropolitan Water District of Southern California]. In addition, several entities have easements and/or rights-of-way, including California Department of Transportation, San Bernardino County, Mohave County, Southern California Gas, Transwestern Gas Pipeline Company, Mojave Gas Pipeline Company, PG&E, City of Needles Electric, Southwest Gas Corporation, and Frontier Communications. The Undertaking will occur in an environmental setting that includes the Topock Maze and its relationship and association to other sites and properties which are outside the APE but may relate to the historic and cultural significance of the Topock Maze that could be affected by implementation of the Undertaking [BLM et al. 2010:7–8].

The APE may be revised as needed to accommodate changed conditions. For example, “if additional information reveals indirect and/or cumulative effects on other properties eligible for listing on [in] the NRHP, revision of the APE may be appropriate” (BLM et al. 2010:7–8). Any change in the geographic extent of the Project also may result in revision of the APE. Moreover, “at each phase (work plan or design document) of implementation of the Undertaking, an evaluation will occur to determine if the APE should be amended...” and “prior to implementation of each phase (work plan or design document) of the Undertaking, BLM will determine, in consultation with the AZ SHPO, CA SHPO, Tribes and PG&E, what, if any, changes are required in the APE” (BLM et al. 2010:8). Additional details regarding the APE and procedures for modifying it are presented in the PA (BLM et al. 2010:7–8).



In the event that revision of the APE is needed, “BLM will amend the CHPMP, to include any changes to the APE” (BLM et al. 2010:8). Changes in the CHPMP may also be required as a result of the ongoing soil investigations and any soils remedy that may be prescribed. Accordingly, the Federal Agencies will ensure that:

Consultation between [among] the Signatories, Tribes and Invited Signatories shall continue during development of the work plans for Soil Part A, Phase II Investigation and Soil Part B Investigation. Should additional adverse effects be identified through consultation on future studies or work plans, the Federal Agencies will incorporate mitigation measures in the Treatment Plan included in the CHPMP as described in Stipulation VII(B) of this PA [BLM et al. 2010:11–12].

## **1.4 REGULATORY CONTEXT**

### **1.4.1 Federal Law**

Numerous Federal and State laws, regulations, and other legal authorities are applicable to the Topock Remediation Project. As discussed in Section 1.1 of the CHPMP, the Project is a Federal undertaking and a Project-identified ARAR that must comply with the substantive requirements of Section 106 of the NHPA and its implementing regulations, 36 CFR 800. BLM is the lead Federal Agency responsible for compliance with Section 106; accordingly, in 2004, it entered into a Memorandum of Agreement (MOA) with CA SHPO and PG&E for the Topock Interim Measures No. 3 Project (BLM et al. 2004). Also in 2004, as required by the MOA, a *Cultural Resources Management Plan for the Topock Compressor Station Expanded Groundwater Extraction and Treatment System, San Bernardino County, California*, was developed (Price et al. 2004). More recently, BLM entered into a PA with the AZ SHPO, CA SHPO, and ACHP for the purpose of Section 106 compliance related to the Topock Remediation Project (BLM et al. 2010). BLM’s Lake Havasu Field Office acts locally as the lead Federal Agency for Section 106 compliance on behalf of the DOI, USBR, and USFWS.

The Project is also governed by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, which was designed to respond to situations involving the past disposal of hazardous substances (see Lee 1995). Under the CERCLA, PG&E is the Potentially Responsible Party (PRP) performing the remedial investigations and groundwater and soil removal and response actions. These actions are under the direction of DOI and the California Environmental Protection Agency’s (Cal/EPA’s) DTSC. The DOI is the lead Federal Agency with regulatory authority for compliance with CERCLA. In 2005, PG&E entered into an Administrative Consent Agreement (ACA) under CERCLA with DOI, BLM, USBR, and the USFWS (“the Federal Agencies”) (DOI et al. 2005).

CERCLA response actions are guided primarily by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP; 40 CFR 300 *et seq.*), which sets forth the procedures that must be followed in selecting and implementing the response actions. CERCLA further mandates that remedies achieve all Applicable or Relevant and Appropriate Requirements (ARARs). After completion of an investigation into the scope of contamination, a Record of Decision (ROD) is issued, which presents the selected remedy as well as the factors upon which the remedy is based. For the Topock Remediation Project, a ROD covering groundwater remediation dated December 2010 (DOI 2011) was executed on January 20, 2011. The soils

investigation is still ongoing and, after further study, will be the subject of another ROD if it is determined that a soils remediation is needed for the Topock site. The Federal CERCLA site investigation and cleanup is being conducted in cooperation with the DTSC, which is directing PG&E under California law pursuant to federal Resource Conservation and Recovery Act (RCRA) delegated authority.

Additionally, the Project is subject to the requirements of the American Indian Religious Freedom Act (AIRFA) of 1978 because it is a Federal undertaking and the APE encompasses a place or places of traditional cultural and religious significance to Native Americans:

BLM has determined that a traditional cultural property (TCP) or property of traditional religious and cultural significance within the APE...is eligible for inclusion...[in] the National Register of Historic Places (NRHP) under criterion A, as part of what the Tribes have identified as a larger area of traditional and cultural importance, whose boundaries have yet to be defined and will not be defined within the scope of this Undertaking, and will not be subject to any further concurrence regarding this determination of effect... [BLM et al. 2010:3].

The purpose of AIRFA is to “ensure that the policies and procedures of various Federal agencies, as they may impact upon the exercise of traditional Indian religious practices, are brought into compliance with the constitutional injunction that Congress shall make no laws abridging the free exercise of religion” (Udall 1978:1).

Beyond AIRFA itself, the policies set forth in the Act have been expanded upon and clarified in subsequent laws, Executive Orders (EOs), and memoranda, notably: EO 12875, “Enhancing the Intergovernmental Partnership” (26 October 1993; 58 FR 58093); the Religious Freedom Restoration Act of 1993 (42 U.S.C. 2000bb); a Memorandum for the Heads of Executive Departments and Agencies, entitled “Government-to-Government Relations with Native American Tribal Governments” (29 April 1994; 59 FR 22951); EO 13007, “Indian Sacred Sites” (24 May 1996; 61 FR 26771); and EO 13175, “Consultation and Coordination with Indian Tribal Governments” (9 November 2000; 65 FR 218). It is thus the Federal Agencies’ responsibility in overseeing the Undertaking to consult with Native American tribes and ensure that agency policies and procedures do not interfere with the free exercise of traditional religious practices in a manner consistent with Federal law (see also McKeown and Sucec 1997; Vecsey 1991). Appendix B, the Tribal Access Plan, responds to these legal requirements.

Another Federal law applicable to the Project is the Archaeological Resources Protection Act (ARPA) of 1979, as amended. ARPA typically requires a permit issued by a Federal Land Manager (FLM) for any excavation or removal of archaeological resources from Federal or Indian land (Carnett 1991; Hutt et al. 1992). In accordance with Section 10 of ARPA, four Federal agencies have published uniform regulations for the protection of archaeological resources; of these, the DOI’s regulations, 43 CFR 7, cover archaeological resources on Federal and Tribal lands within the Project’s APE. ARPA also authorized the Secretary of the Interior to promulgate regulations governing the curation of Federally-owned and Federally-administered archaeological collections. These regulations, set forth at 36 CFR 79, apply to archaeological materials recovered in the course of the Project.



The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, as amended, and the corresponding regulations, 43 CFR 10, would be brought to bear in the event that any Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered inadvertently or in the course of intentional archaeological excavations related to the Project. NAGPRA requirements applicable to the Project are discussed in Appendix C, which includes the Plan of Action (POA) called for by 43 CFR 10.3(c)(2).

## **1.4.2 State Law**

### **1.4.2.1 Arizona**

Chapter 41 of the Arizona Revised Statutes (ARS) contains sections that apply to those parts of the APE in Arizona, or that would apply if human remains were to be discovered in the course of Project activities. Particularly relevant are Sections 841, 842, and 865. ARS 41-841, Part A, specifies that on State lands,

a person shall not knowingly excavate in or upon any historic or prehistoric ruin, burial ground, archaeological or vertebrate paleontological site, or site including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature, except when acting as a duly authorized agent of an institution or corporation referred to in 41-842.

Part B of ARS 41-841 typically requires a permit for the collection of archaeological or vertebrate paleontological specimens from State lands. ARS 41-842 provides the criteria and procedures by which the Director of the Arizona State Museum (ASM) may grant such permits to “institutions, organizations, or corporations organized for scientific, research, or land use planning purposes” (ARS 41-842(A–C)).

ARS 41-865 governs the discovery and intentional or unintentional disturbance of human remains or funerary objects, including those of Native Americans, on non-public lands in Arizona. The provisions of ARS 41-865 are summarized in Chapter 7 of this CHPMP and integrated into the Plan of Action presented in Appendix C.

### **1.4.2.2 California**

Beginning in 1972 with passage of the Hazardous Waste Control Act (HWCA), numerous amendments and companion statutes enacted during the past four decades have resulted in a substantial corpus of law governing the storage, disposal, treatment, cleanup, and management of hazardous materials in California. This law is implemented by the Department of Toxic Substances Control, a division of the California Environmental Protection Agency (Cal/EPA), in accordance with the DTSC’s regulations. The Federal EPA has officially authorized the HWCA to serve in lieu of the RCRA within California (Manaster and Selmi 2011).

Pursuant to the HWCA and related authorities, DTSC in 1996 issued and entered into with PG&E a *Corrective Action Consent Agreement (Revised)* to control the Project’s hazardous waste (i.e., chromium) investigation, characterization, and cleanup activities. Two key elements of the CACA are DTSC’s Findings of Fact, upon which the prescriptive aspects of the document are based, and six items of work to be performed: (1) Interim Measures; (2) RCRA Facility

Investigation (RFI); (3) Corrective Measures Study (CMS); (4) Remedy Selection; (5) determination by DTSC whether or not the California Environmental Quality Act (CEQA) is applicable; and (6) Corrective Measures Implementation (CMI) (DTSC 1996). This CACA continues to govern the Project's hazardous waste corrective actions.

Several State laws would apply in the event that human remains were to be discovered within the California portion of the Project area. Section 7050.5(b) of the California Health and Safety Code (H&SC) prescribes the steps to be taken and parties to be notified whenever human remains are discovered or recognized in any location other than a dedicated cemetery. Additional measures are required by Section 5097.98(a, b) of the California Public Resources Code (PRC), which describes in detail the procedures to be followed by the Native American Heritage Commission (NAHC) and other parties whenever a county coroner notifies the NAHC of a discovery of Native American human remains. Chapter 7 of this CHPMP summarizes, and Appendix C describes in detail, the specific measures by which the Project will comply with these State, as well as Federal, laws related to the discovery of any Native American or other human remains within the APE.

## **1.5 GENERAL PRINCIPLES**

This CHPMP and its Treatment Plan are based upon and guided by the General Principles set forth in Section I of the PA. The PA is provided in Appendix A of this document. In the PA, BLM agrees to ensure that the following stipulations are carried out:

The Federal Agencies, in consultation with the Tribes, SHPOs, ACHP, PG&E, and other interested parties agree to:

- A. Select and implement, or cause to be implemented, an alternative or combination of alternatives to remediate the groundwater and soil contamination a manner that fulfills CERCLA and the CERCLA Records of Decision (RODs) and protects the Colorado River, human populations, and the natural environment to the maximum extent practicable.
- B. Subject to I(A) above, carry out, and require others under their jurisdiction to carry out, all investigative, testing, and remediation activities, including all supporting and maintenance activities, in ways that avoid, minimize, or mitigate adverse effects to cultural and historic properties within the APE, to the maximum extent practicable.
- C. Respect Tribes' rights to express their traditional cultural values, including those associated with their religions, and their right to access Federally managed lands to conduct cultural and religious practices, as variously specified in E.O. 13007, the Religious Freedom Restoration Act (RFRA), and the American Indian Religious Freedom Act. Additionally, the BLM, USFWS, USBR, and PG&E shall consult with the tribes that attach cultural significance to the TCP within the APE to develop a plan to ensure Tribal access to areas within the APE for traditional religious, cultural, or spiritual purposes [see Appendix B]. Access shall be consistent with applicable laws, regulations, and agreements governing property within the APE and may not impede the Topock Remediation Project, may not create health and safety concerns, and shall exclude the Topock Compressor Station and related facilities.

- D. Ensure that PG&E shall to the extent practicable restore the areas affected by the Topock Remediation Project within the APE, including but not limited to the site of the existing treatment plant and related facilities but excluding the Topock Compressor Station and related facilities, to the conditions existing prior to the construction of the PG&E investigation and remediation related appurtenances and facilities.
- E. Consult with the other Signatories, Tribes, and Invited Signatories, following the guidelines in Appendix B of this PA regarding actions proposed in this Undertaking, including the establishment of any rights of way, time critical or emergency actions.
- F. Recognize that the environmental setting for the Topock Maze and its relationship and association to cultural and religious sites which are outside the APE relates to the historic and cultural significance of the Topock Maze.
- G. Recognize that on-going consultation between the Invited Signatories and the Tribes will continue outside of this PA to further address mitigation of direct, indirect, and cumulative effects of the Topock Project. Mitigation topics may include but not be limited to:
  - 1. Measures to restore the land and its life-forms, to improve Tribal access, and reduce incompatible uses.
  - 2. Measures to strengthen traditional spiritual, cultural, and funerary traditions.
  - 3. Specific measures to mitigate adverse effects or adverse cumulative effects important to the Tribes will be addressed in the development of the CHPMP specified in Section VII of this PA.
- H. Endeavor, in consultation with the Tribes, to manage Federal lands, Federal assistance activities, and Federal permitting and licensing responsibilities in ways that reduce adverse effects to the Topock Maze and other geoglyph sites in the area, and that facilitate Tribal access to them, and allow continuance of Tribal cultural practices in accordance with the principles set forth in this Stipulation. Cumulative effects to both tangible and intangible cultural resources in areas occurring beyond the Maze but within the APE will be considered during the consultation process. The Agencies will consult with Tribes to identify Tribal concerns prior to initiating or permitting activities that may create such effects.
- I. Acknowledge that one hundred sixty five (165) archaeological sites consisting of (143) prehistoric and (23) historic sites, and an additional (36) isolated prehistoric artifacts or features, and (3) isolated historic artifacts are identified in Appendix E, the most current inventory of archaeological and historical resources within the Original APE and Expanded APE of the Topock IM No. 3 Project [cf. Vol. II of this CHPMP], that any of the 165 archaeological and historic sites that have not been formally evaluated for inclusion on [in] the National Register of Historic Places (NRHP) will be treated as eligible for inclusion on [in] the NRHP for purposes of this PA [BLM et al. 2010:6–7].





## 2

# ENVIRONMENTAL, HISTORICAL, AND ARCHAEOLOGICAL SETTING

### 2.1 HISTORY OF THE TOPOCK PROJECT

Between 1951 and 1964, untreated wastewater containing chromium was discharged from the cooling towers at the Topock Compressor Station into adjacent Bat Cave Wash. As a result, hexavalent chromium percolated into the groundwater, where it has been detected at levels exceeding those permitted for drinking water in California. Although chromium has not been found in Colorado River water near the TCS, the presence of a contaminated plume so close to a significant source of drinking water prompted the Cal/EPA's DTSC to order actions to investigate and clean up affected soils and groundwater (Price et al. 2004:1).

In October 1988, Brown and Caldwell, Inc. (B&C) completed a soil investigation in Bat Cave Wash, at the request of the California Department of Health Services (now DTSC) and the U.S. EPA. The resultant report indicated that a former percolation bed and the surrounding areas contained soil contaminated with chromium (B&C 1988). The percolation bed is considered a Solid Waste Management Unit (SWMU) and the surrounding areas were designated an Area of Concern (AOC) (DTSC 1996:2).

The California Regional Water Quality Control Board (CRWQCB), Colorado River Basin Region (CRBR), issued in May 1989, *RCRA Comprehensive Ground Water Monitoring Evaluation (CME) Report on PG&E Topock* (CRWQCB, CRBR 1989) that described an inactive injection well, which had received treated wastewater containing Cr, in addition to the percolation bed mentioned above. This inactive well was designated a SWMU and the surrounding area an AOC (DTSC 1996:2).

PG&E notified CRWQCB, CRBR in May 1995, that chromium had been detected as a groundwater contaminant in samples obtained from two abandoned water production wells (No. 6 and 7) located on the east side of Bat Cave Wash. Each well was then designated as a SWMU and the areas encompassing the wells as AOCs (DTSC 1996:2).

In 1996, DTSC and PG&E entered into a *Corrective Action Consent Agreement (Revised)* (CACA) (DTSC 1996). Pursuant to Section IV.A of that Agreement, in 2004 DTSC determined that immediate action was required to prevent and/or mitigate potential impacts to the Colorado River. The immediate actions required by DTSC, called Interim Measures (IM), involve pumping, transporting, and disposing of groundwater in order to draw the chromium plume in the floodplain away from the Colorado River.

In March 2004, PG&E began pumping contaminated groundwater from three extraction wells located on a bench (the MW-20 Bench) above the river floodplain. Water from these wells was temporarily stored in steel holding tanks and then transported to a licensed waste treatment facility in Los Angeles. In June 2004, DTSC ordered PG&E to expand its existing GETS by installing new groundwater monitoring and extraction wells, a treatment plant, injection wells,

and pipelines, conduits, and access roads to connect the wells with the treatment plant. Referred to as Interim Measure No. 3 (IM 3), the expanded GETS provides for untreated water flow from the extraction wells within the chromium plume to the treatment facilities, and eventually back to injection wells located outside the chromium plume. Treatment facilities include storage tanks, processing equipment, and instrumentation covering approximately one acre (Davy et al. 2004: 1-1).

BLM, CA SHPO, and PG&E entered into a Memorandum of Agreement (MOA) in 2004 for the IM-3 project. One of the treatment stipulations proposed by the BLM and approved by the SHPO required PG&E to develop and implement a Cultural Resources Management Plan (CRMP) for the Project's remediation activities. Accordingly, a CRMP (Price et al. 2004) was completed in September 2004 and subsequently incorporated into the MOA. The CRMP describes steps to be taken to avoid or minimize harm to significant cultural resources during implementation of Interim Measures. It includes a plan for identifying, evaluating, and managing cultural resources within the APE, as then defined (encompassing 155 acres), and describes the various treatment measures designed to address effects on historic properties that could result from the GETS remediation measures. While the APE for IM-3 was defined as an area of 155 acres, the CRMP also defines an Expanded APE of 1,815 acres for anticipated future remediation activities.

An important element of the CRMP is the Transportation Management Plan (TMP), which analyzes the expected amount and types of road traffic and its anticipated effects on segments of old Route 66, an important historic property eligible for listing in the NRHP. The TMP also specifies measures to control the amount of vehicular traffic on the roadbed to levels that would not cause significant harm to the roadway and includes specific measures to avoid or minimize damage (Price et al. 2004:Section 3.1.2 and Appendix C). The TMP measures have been successfully implemented.

In July 2005, the DOI, BLM, USFWS, and BOR entered into an Administrative Consent Agreement (ACA) with PG&E to guide compliance with the CERCLA (DOI et al. 2005). The ACA addresses PG&E's response actions under CERCLA with respect to historic releases at the Topock site, including coordination with DTSC of interim removal actions being taken under the CACA, as well as federal oversight generally.

Since 2005, investigative and remedial activities have been performed in accordance with the requirements of both RCRA and CERCLA. As outlined in the ROD:

PG&E completed the *Revised Final RCRA Facility Investigation and Remedial Investigation Report, ("RFI/RI") Volume 1 – Site Background and History* ("RFI/RI Volume I Report") in August 2007 and DTSC and DOI approved it later in 2007. The RFI/RI Volume 1 Report contains information on Compressor Station operations; history; and descriptions of SWMUs, Areas of Concern ("AOCs"), and other undesignated areas.

The Revised Final RCRA Facility Investigation and Remedial Investigation Report, Volume 2 - Hydrogeological Characterization and Results of Groundwater and Surface Water Investigations ("RFI/RI Volume II Report") was completed in February 2009 and was approved by DTSC and DOI in 2009. The RFI/RI Volume 2 Report contains information on the hydrogeologic characterization and results of groundwater, surface water, pore water, and river sediment investigations to evaluate and characterize the

nature and extent of groundwater contamination resulting from the past discharge of wastewater from the Compressor Station.

In November 2009, PG&E completed the Final Human Health and Ecological Risk Assessment of Groundwater Impacted by Activities at Solid Waste Management Unit (SWMU) 1/Area of Concern (AOC) 1 and SWMU 2, Topock Compressor Station, Needles, California (“GWRA”). The GWRA evaluated potential risks to human health and ecological receptors associated with groundwater affected by past discharges to supplement the RFI/RI Volume 2 Report. The GWRA provides information to assist risk management decision making about the constituents of concern (“COCs”) in groundwater and risk-based concentrations of those constituents. DTSC and DOI approved the GWRA in December 2009.

In December 2009, PG&E completed the Final Groundwater Corrective Measures Study/Feasibility Study Report for SWMU 1/AOC 1 and AOC 10 at the Pacific Gas and Electric Company (PG&E), Topock Compressor Station (“CMS/FS Report”). The purpose of the CMS/FS Report was to identify and evaluate groundwater remedial alternatives and to provide the basis for the identification of a preferred alternative to address the defined objectives for the remedial action.

Subsequent to the RFI/RI Volume 2 and Volume 2 Addendum, PG&E completed additional hydrogeologic and groundwater characterization activities in the East Ravine. The additional hydrogeologic and groundwater characterization in the East Ravine has been incorporated into the conceptual site model for the Selected Remedy and was included as an addendum to the CMS/FS Report [DOI 2011:12–14].

Following completion of additional soil investigations at the site, PG&E will prepare RFI/RI Volume 3. RFI/RI Volume 3 will include final soil and sediment characterization data to complete the RFI/RI requirements to fully characterize the nature and extent of contamination resulting from Compressor Station operations, including the results of investigations of the other SWMUs, AOCs, and undesignated areas. To supplement RFI/RI Volume 3, PG&E will also prepare a risk assessment that evaluates potential risks to human and ecological receptors that could be exposed to contaminants in soils and other media at the other AOCs and undesignated areas at the Compressor Station. A separate CMS/FS and/or an addendum to this CMS/FS Report will be prepared for additional media and SWMUs/AOCs at the Compressor Station, if appropriate, based on the conclusions and recommendations in RFI/RI Volume 3 and the associated risk assessment.

In October 2010, BLM, AZ SHPO, CA SHPO, and ACHP executed a PA regarding the treatment of cultural and historic properties within the APE of the Topock Remediation Project (BLM et al. 2010). PG&E, USFWS, and the Hualapai Tribe also signed the PA as Invited Signatories. The PA, which recognizes that adverse effects to cultural and historic properties resulting from implementation of the Selected Remedy and other remediation related work at the site should be avoided, minimized, or mitigated to the extent practicable, provided that the selected remedy protects human health and the environment, attains ARARs and fully complies with all CERCLA and NCP requirements, and which discusses how the Project will comply with NHPA Section 106, is included in this CHPMP as Appendix A. The PA is the document that calls for the preparation of this CHPMP and specifies its scope and purpose (see Section 1.1, above).

In December 2010, the DOI issued its *Groundwater Record of Decision* (DOI 2011) which sets forth the actions by which the Project is to comply with CERCLA. The ROD presents the Remedial Action (“Selected Remedy”) addressing groundwater contamination resulting from past disposal practices at the PG&E Topock Compressor Station, specifically selecting “Alternative E – In Situ Treatment with Fresh Water Flushing.” The Selected Remedy involves construction of a system of wells to inject carbon and flush freshwater through the groundwater system to achieve biological reduction of the contamination, extraction, institutional controls to restrict surface land uses and prevent the use of groundwater, and monitored natural attenuation as a *long term* component to address residual Cr (VI) that may remain in recalcitrant portions of the aquifer after *in-situ* treatment. Implementation of the Selected Remedy may require additional site investigation activities, as outlined in the ROD. As noted above, additional site investigation and characterization of soils contamination is ongoing which will determine whether unacceptable risks or impacts to groundwater occur currently or could occur in the future, and whether soil remediation is required and should be implemented.

## **2.2 ENVIRONMENTAL CONTEXT**

### **2.2.1 Location and Geomorphic Setting**

The Project area is situated at the far eastern margin of the Mojave Desert (Figure 1.1), a large and complex geomorphic province featuring the relatively gentle terrain of bolsons (basins) separated by rugged but low, eroded mountains (Peters et al. 1999:3, 68–69). Faulting and evidence of volcanism are also widespread. Many of the bolsons contain playas—the now-dry beds of ancient lakes that brimmed with water and teemed with floral and faunal life at the end of the last Ice Age, ca. 15,000–10,000 years ago.

The Project lies within the Mojave Valley,

a broad valley with a gently sloping valley floor, surrounded by mountain ranges, through which the Colorado River runs. The Mojave Valley is unique along the Colorado River in that it contains a broad valley, within which the Colorado River developed a very broad floodplain.... This floodplain contains well-watered side channels, oxbow lakes, and a riparian forest, and is subject to massive overflow during the spring floods fed by large quantities of snowmelt in the Rocky Mountains and on the Colorado Plateau upstream. The valley is approximately 30 miles long and, at its maximum, the floodplain is up to 5 miles wide. The Mojave Valley is bordered by the Newberry Mountains to the north, Black Mountains to the east, the Dead and Sacramento Mountains to the west, and the Chemehuevi Mountains to the south [Davy et al. 2004:Figure 2-1]. The Project area is located at its extreme southern end, where the Colorado River enters the Topock Gorge near the sharp peaks, known as the “Needles,” to pass through the Chemehuevi Mountains [Davy et al. 2004:2-1].

Outside of the Colorado River floodplain, broad alluvial fans or bajadas slope gradually up to the surrounding mountain ranges. Within several hundred feet elevation of the river, past erosional episodes of the river have created a series of level terraces or small mesas that are separated by dry washes or arroyos that extend from the surrounding mountains down to the river floodplain [Davy et al. 2004:Figure 2-2].

The tops of the mesas themselves are relatively stable, and the surface of these features is armored with a well-developed desert pavement. The less extensive ridges and the arroyos are undergoing active erosion, with the terraces often covered with a lag of dispersed gravel and cobbles, and the arroyos filled with gravels and sands eroded from the topographic highs. In some areas there is an erosional lag of Colorado River gravels deposited on top of fine-grained valley fill, and in other areas, the mesa or terrace is composed of Colorado River gravel, exposed on the surface as a desert pavement [Davy et al. 2004:2-1].

### **2.2.2 Geology and Soils**

The local geology is complex. In the Project area and immediate vicinity are Quaternary lake deposits and Pleistocene non-marine sediments, with remnants of Tertiary non-marine deposits less than two miles to the west (Bishop 1963). Among the geologic units identified in the Project vicinity are: Middle Tertiary fanglomerate of local origin; clays and silts representing estuarine/marine sediments of the Bouse Formation; younger valley fill composed chiefly of silts, sands, and gravels; and Colorado River gravels that are frequently composed of large cobbles and small boulders and gravel (Davy et al. 2004:2-1).

The older fanglomerate and younger valley fill are dominated by fine-grained silts and are frequently buff to reddish in color. The clays and silts of the Bouse Formation are gray to off-white or buff in color and frequently exhibit patches of evaporite encrustations (gypsum or salt). In contrast, Colorado River gravel deposits contain little fine-grained material and, moreover, contain a suite of exotic lithologies. These include common fine-grained quartzite cobbles and small boulders, and less common chert nodules. The availability of silicate rocks of some value, such as toolstone, in these gravels is significant to the extent that the mountains surrounding this part of the valley are composed chiefly of low-grade metamorphic rock and lack fine-grained lithic materials [Davy et al. 2004:2-2].

Immediately south of the Project area is the east-west trending Chemehuevi Fault that marks the contact between the lithologic units mentioned above and the Pre-Tertiary gneiss, schist, metadiorite, and granitic rocks of Whale Mountain, a part of the Chemehuevi Mountains (Bishop 1963; Davy et al. 2004:Figure 2-4). On the eastern side of these mountains, west of the river and approximately 4.5 miles south-southeast of the Project area, rise The Needles—prominent, spire-like peaks of eroded Tertiary non-marine rocks (Bishop 1963) and the namesake of the town farther upriver.

### **2.2.3 Past and Present Climates**

The Mojave Desert's climate today is characterized by a long warm season and relatively short cool season. Temperature ranges, both seasonal and diurnal, are wide, and summer maxima well above 100 degrees Fahrenheit (°F) are frequent. Winter daytime temperatures tend to be 50–70°F, except when polar air masses push southward or cyclonic storms are passing through (Peters et al. 1999:70). In the Needles/Topock locality, “summers are long and hot, with the average high temperature in July, the warmest month, at 108.3 °F (average low 88.3°F). Winters are mild, with the average high temperature in December, the coolest month, at 63.4°F (average low 42.0°F)” (Davy et al. 2004:2-2) Strong winds often sweep through the desert, especially in

winter and spring, and may transport quantities of sand, resulting in aeolian deflation in some areas and dune formation in others.

Precipitation is very limited in the Mojave Desert and follows the usual California seasonal pattern—winter maximum/summer minimum—with annual totals ranging from about 15 inches in the west to less than 5 inches in the east (Peters et al. 1999:69). “Average annual precipitation at Needles is approximately 4.5 inches, and annual evaporation rates exceed 6 feet. Most months receive 0.4 to 0.5 inches of rainfall, although rainfall in May and June is very rare, and rainfall in August is above the monthly average” (Davy et al. 2004:2-2).

Climatic regimes in the Mojave Desert have changed significantly during the millennia since humans first occupied this region. Late Pleistocene conditions were generally cool and wet, resulting in numerous lakes and shallow marshes surrounded by woodlands and cold steppe (Moratto 1984:35–36). During the early Holocene (ca. 9000–6000 B.C.), temperatures were cooler and precipitation levels higher than they are today. Middle Holocene (6000–3000 B.C.) climate in the desert was substantially warmer and drier. After 3000 B.C., the climate has been relatively cool and moist but was punctuated with periods of drought (Sutton et al. 2007:230–231). Intense droughts that parched the land between ca. A.D. 800 and 1350 characterize the Medieval Climatic Anomaly or MCA—a time of severe environmental and demographic stress (Gardner 2006; Jones et al. 2004).

#### **2.2.4 Vegetation**

The Project area includes both typical desert communities of xeric vegetation and unique series of mesic plants sustained by moisture from the Colorado River. The riparian zone:

shows a dramatic contrast with the surrounding desert vegetation. The native vegetation of the floodplain zone included forests of cottonwood (*Populus fremontii*), coyote willow (*Salix exigua*), and Goodding’s willow (*S. gooddingii*), along with dense stands of cane and arrowweed (*Pluchea sericea*), and various grasses and forbs that flourished as a result of annual inundation and its repeated fresh deposits of fertile silt. Along with recent efforts to subdue the seasonal flooding of the Colorado River, the spread of exotic plant species on the floodplain, especially salt cedar (*Tamarix ramosissima*) and Athel tamarisk (*T. aphylla*) have dramatically changed the appearance and plant composition of these bottomlands.

Vegetation on the terraces and mesa tops beyond the floodplain is dominated by creosote bush (*Larrea tridentata*) scrub. Common associates in this generally sparse scrub vegetation include burro-bush (*Ambrosia dumosa*) and cheese weed (*Hymenoclea salsola*). Cheese weed is the dominant shrub in areas where the soils have been disturbed in the historic past. With the exception of beaver-tail prickly pear (*Opuntia basilaris*) and Mojave golden-cholla (*O. echinocarpa*) succulents are not common. Arroyos in the study area support desert riparian vegetation characterized by palo verde (*Cercidium floridum*), with desert lavender (*Hyptis emoryi*), sweet bush (*Bebbia juncea*), and ratany (*Krameria grayi*). Where the arroyos intersect the water table close to the Colorado River, dense thickets of the non-native salt cedar are found. Prehistorically, mesquite (*Prosopis glandulosa* var. *torreyana*) and the related screwbean (*P. pubescens*) grew in these washes and in the Colorado River floodplain. These provided an important staple food for prehistoric people [Davy et al. 2004:2-2].

### 2.2.5 Local Fauna

Wildlife in the Project vicinity is both diverse and abundant, owing in no small measure to the presence of the Colorado River and its adjacent wetlands. Among the large and medium-sized animals who find habitats in this area are the bighorn sheep (*Ovis canadensis*), “wild” (feral) burro (*Equus asinus*), mountain lion (*Felis concolor*), bobcat (*Lynx rufus*), badger (*Taxidea taxus*), and coyote (*Canis latrans*). The roster of smaller mammals lists skunks (*Mephitis mephitis* and *Spilogale putorius*), cottontails (*Sylvilagus* sp.), the black-tailed jackrabbit (*Lepus californicus*), beaver (*Castor canadensis*), ground squirrels (*Spermophilus* sp.), kangaroo rats (*Dipodomys* sp.), the desert woodrat (*Neotoma lepida*), and several species of mice (*Chaetodipus* sp. and *Perognathus* sp.) and bats (Cornett 2012; Ingles 1965).

Numerous species of reptiles also occupy the Project vicinity, notably, the desert tortoise (*Gopherus agassizii*), various lizards, snakes, turtles, frogs, and toads. Birds are even more varied locally and include both resident and visitant species. Among the former are the vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), prairie falcon (*Falco mexicanus*), doves (*Zenaida* sp.), Gambel’s quail (*Callipepla gambelii*), owls, and a host of smaller birds (Cornett 2012). Ducks, geese, coots, and other waterfowl visit during the cool season.

The Colorado River has played a major role in providing habitat not only for riparian vegetation, but also for aquatic mammals, waterfowl, amphibians, mollusks, and fishes. The river drains much of the American Southwest and has served both as the route by which fish species have spread throughout this vast region and as a major center of fish evolution (Moyle 1976:23). The portion of the river bordering California has changed greatly over the past 150 years.

The flows have been reduced and confined behind dams, forming large reservoirs like Lake Havasu. The formerly heavy silt load has been reduced, the reservoirs acting as settling basins, but in its place are salts, fertilizers, and other products of irrigation agriculture. Not surprisingly, the fish fauna has changed drastically, more so than in any other river system in California [Moyle 1976:43].

The native fish fauna of the Colorado River was simple, “since the California portion of the river was an ecologically uniform deep, muddy, sluggish channel with fluctuating flows and no large tributary streams” (Moyle 1976:42). In the main channel were humpback sucker (*Xyrauchen texanus*), bonytail (*Gila elegans*), and giant Colorado squawfish (*Ptychocheilus lucius giard*), along with the occasional mullet (*Mugil cephalus*) wandering up from the Gulf of California, while desert pupfish may have occupied shallow marshes along the river’s edge (Moyle 1976:43).

Today, with the exception of mullet, the native fishes are extinct or rare in the California portion of the river. The river and reservoirs contain instead a conglomeration of introduced species: carp, red shiner, threadfin shad, several species of catfish, largemouth bass, striped bass, bluegill, green sunfish, mosquitofish, Mozambique mouthbrooder, etc. Obviously, this is an unstable assemblage of fishes that will keep changing as long as man keeps changing the nature of the river and introducing new species into it [Moyle 1976:43].



## **2.3 ARCHAEOLOGICAL CONTEXT**

Overviews of archaeological research and prehistory in southeastern California have been compiled over the years by various scholars, notably Irwin-Williams (1979), McGuire and Schiffer (1982), Rogers (1945), Schroeder (1979), Wallace (1962), and Warren (1984). More recent syntheses have been published by Arnold et al. (2004), Basgall (2003), Cleland (1998), Davy et al. (2004), Huckell (1996), Moratto and Horne (2011), Reid and Whittlesey (1997), Sutton (2011), and Sutton et al. (2007). The present section, adapted mostly from Moratto and Horne (2011), provides a brief synthesis of cultural chronology in southeastern California with emphasis on late prehistoric developments in the eastern Mojave Desert.

The prehistory and archaeology of the Project area are not well understood for various reasons. Dispersed settlement patterns, poor conditions for preservation, the destruction or inundation of sites during dam, reservoir, and highway construction, and limited inventory and investigation of known sites have contributed to the lack of knowledge. Based on archaeological studies in better known areas to the east and west, it seems likely that human occupation of the Needles/Topock locality began during the terminal Pleistocene (ca. 15,000–11,000 years before present [B.P.]), when the eastern Mojave Desert was cooler, received substantially more rainfall, and supported far more vegetation and large animals than it does today. By 10,000 B.P., the Paleoindian adaptations—characterized by high mobility and an emphasis on hunting—were replaced by Archaic subsistence patterns focused on broad-spectrum hunting/gathering and increasing reliance on vegetal foods that required milling. Around A.D. 700–900, Archaic modes of adaptation gave way when agriculture spread throughout the lower Colorado River country.

### **2.3.1 Cultural Chronology**

Excluding various controversial claims of human activity in the California deserts 20,000 to more than 100,000 years ago (see the critical assessment by Taylor et al. [1985]), scholars have not yet determined when people first entered the Mojave Desert. Based upon the facts that (1) fluted Clovis points and “Clovis-like” bifaces have been found throughout much of North America, including at dozens of sites in California (Dillon 2002; Moratto 1984), (2) such artifacts evidently were produced approximately 13,250–12,800 calendar years B.P. (Waters and Stafford 2007:1123), and (3) evidence for pre-Clovis occupation has been found widely in South and North America (Waters et al. 2011), it seems probable that humans first arrived in southeastern California more than 130 centuries ago.

People who lived in this area witnessed great environmental changes. During the Pleistocene-to-Holocene transition, temperatures became warmer, precipitation declined, evapotranspiration increased, and desert conditions spread northward from Mexico into the American Southwest. Coincident with these changes, the great Rancholabrean animals (“megafauna”) vanished, and a host of smaller, desert-adapted creatures came to occupy the emerging arid environments (Kurtén and Anderson 1980; Martin 2005). By middle Holocene times, the earlier steppe and woodland landscapes featuring numerous pluvial lakes had given way to xerophytic vegetation, dry lakebeds (playas), and sere desert landscapes.

However, the environmental changes were neither persistent nor unidirectional. Rather, they fluctuated throughout the Holocene epoch. As a result of variable climatic regimes and geomorphic conditions: droughts came and went; lakes appeared, filled, and receded; the species

composition, density, and distribution of vegetation were dynamic; and the availability of faunal resources (mollusks, fish, reptiles, waterfowl, upland birds, and game animals) varied concomitantly. These environmental changes significantly affected human adaptive strategies and demographic patterns. Thus, the archaeological record of late Pleistocene and early-through-middle Holocene prehistory is one of “punctuated equilibrium” characterized by abrupt cultural change separating intervals of relatively stable adaptation. Many of the cultural and environmental shifts seem to be correlated, and some of the former may reflect not only the advent of new adaptive modes but also the replacement of older populations by new arrivals.

Various attempts have been made over the years to define, classify, and determine the age of archaeological cultures in the California deserts (see Altschul 1993; Hall 2000; Laylander 2010; McDonald 1992; Rogers 1966; Schaefer 1994; Schaefer and Laylander 2007; Sutton 1996, 2011; Sutton et al. 2007; Warren 1984; Weide 1976). Without delving into minute details of local sequences, the following broad “cultural periods” are employed in this CHPMP:

**Historic Period** (A.D. 1540–1850). The initial date for this period varies from one locality to another, depending on when contacts between Native Americans and outsiders actually began.

**Late Prehistoric Period** (ca. A.D. 700–1800). Various local cultural manifestations are recognized. *Patayan I–III* (previously called Yuman I–III) phases are assigned to this period. Recently, Sutton (2011) has proposed and defined Peninsular I, II, and III phases of the Palomar Tradition within what was previously called Patayan III.

**Late Archaic Period** (ca. 2500 B.C.–A.D. 700). This interval coincides more or less with the previously defined *Gypsum*, *Newberry*, and *Amargosa* periods (cf. Warren 1984 and Sutton 2011:Fig. 2).

**Early Archaic Period** (ca. 6500–2500 B.C.). This is largely synonymous with the term *Pinto* period as used elsewhere in the deserts of southeastern California (see also Schroth 1994).

**Late Paleoindian Period** (ca. 10,800–6500 B.C.). In time this period coincides with the *Western Pluvial Lakes Tradition* in interior southern California and the related, perhaps entailed, *San Dieguito Complex*.

**Middle Paleoindian Period** (ca. 11,200–10,800 B.C.). The *Clovis* cultural tradition was widespread in North America during this interval (Waters and Stafford 2007).

**Early Paleoindian Period** (pre-11,200 B.C.). This *Pre-Clovis* period is suggested, but not yet evinced in the lower Colorado River area, by the discovery of pre-Clovis cultural remains elsewhere in North (as well as South) America (cf. Waters et al. 2011).

### 2.3.2 Late Prehistory

The Late Prehistoric Period in the eastern Mojave Desert and far western Arizona is marked by certain kinds of artifacts and technological innovations, and is defined as the Patayan Pattern (Cleland 1998; Cultural Systems Research, Inc. [CSRI] 1986; Reid and Whittlesey 1997:111–

130; Schaefer 1994, 1995) or the Palomar Tradition, including Patayan I and II and Peninsular I–III phases (Sutton 2011). This period is characterized by the introduction of ceramics, including Tizon Brown Ware from the Peninsular Range, Colorado Buff Wares from the Colorado River region, and Salton Buff Ware from Lake Cahuilla (Schaefer 1995; Waters 1982). New projectile point types, including Desert Side-notched and Cottonwood Triangular points, signify the advent of the bow and arrow. Floodplain horticulture also appears along the Colorado River at about the same time as ceramics. Additionally, mortuary practices changed from extended burial to cremation, with the burned remains sometimes buried in ceramic vessels. Typical of the Hohokam culture in southern Arizona (cf. Haury 1976), these traits were introduced to the Colorado River inhabitants and gradually spread west to the Peninsular Range and Coastal Plains of Southern California. Only agriculture remains a problematic trait in regard to its uncertain spread beyond the Colorado River and Imperial Valley in late prehistoric times (CSRI 1986:35).

The Patayan Pattern or Palomar Tradition (Sutton 2011) is typified by several different settlement and economic systems (Schaefer 1995). Along the Colorado River, dispersed seasonal settlements were composed of *jacal* structures, semi-subterranean pit houses, *ramadas*, or brush huts, depending on the season, type of settlement, and resources available locally. Occupants of larger villages would disperse to upper terraces of the Colorado River and to special collection areas during the summer months, coinciding with the flood phase of the river, and return to the lower terraces for crop harvesting. At the eastern base of the Peninsular Range, the settlement pattern was typified by dispersed villages situated at the mouths of canyons with perennial streams, at the base of alluvial fans near springs, or where wells could be dug (e.g., at Indian Wells). In addition to such villages, specialized sites were located in all of the micro-environmental zones that were exploited seasonally. Archaeologically, these sites range from bedrock mills and pot-drops along trails, to toolstone quarries and workshops, to temporary camps containing bone, shell, ceramics, flaked and ground stone tools, and ornamental items such as beads and pendants, as well as other occupational debris.

Three phases of Patayan are generally recognized in addition to the pre-ceramic phase (Schaefer 1995). These are defined by changes in pottery frequencies and by the cultural and demographic effects of the filling and desiccation of ancient Lake Cahuilla. The Patayan I phase appears to have been confined to the Colorado River vicinity and began approximately 1,200 years ago with the introduction of pottery. The artifact assemblage of this phase bears the closest similarity to that of the Hohokam whose cultural geography was focused on the Phoenix locality in Arizona (Schaefer 1995; Waters 1982; cf. Cordell 1997; Haury 1976).

The Patayan II phase, beginning about 950 years ago, is contemporary with Lacustrine Interval 5 of Lake Cahuilla. Attracted to highly productive microenvironments along the Lake Cahuilla shoreline, people on both its eastern and western shores were making pottery by the time the lake was full. New ceramic types indicate that sedimentary, non-marine clays from the Peninsular Range were being selected.

The final phase, Patayan III, began approximately 500 years ago, coinciding with Lake Cahuilla Lacustrine Interval 2. This phase, encompassing Sutton's (2011) Peninsular I–III phases, is characterized by new pottery types that reflect changes in settlement patterns, as well as intensified communication among tribes of the Colorado River and Peninsular Range. Long-distance travel increased as people living around the former Lake Cahuilla shore dispersed

to their base territories, and the Imperial and Coachella valleys became increasingly xeric (Schaefer 1995). Wilke (1978) has postulated that by approximately 250 years ago, with the final desiccation of Lake Cahuilla prior to the twentieth century, the native occupants of its shores began moving westward into areas such as Anza-Borrego, Coyote Canyon, the Upper Coachella Valley, the Little San Bernardino Mountains, the San Jacinto Valley, and Perris Plain. The Patayan III phase continued into the early historic period, ending in the late nineteenth century when Euro-American incursions disrupted the traditional culture. The Patayan III peoples include the Cahuilla who occupied the western Colorado Desert, as well as the Quechan, Mojave, and Cocopa of the Colorado River region.

## **2.4 HISTORICAL OVERVIEW**

As summarized by Davy et al. (2004), the principal historical themes related to the study area are transportation and energy development. Between 1846 and 1869 the U.S. military surveyed the area for wagon roads and railroads, and in 1857 Captain Edward Beale surveyed a route between Fort Defiance, New Mexico, and the Colorado River (Jackson 1964). Beale's wagon road, however, reached the river about 20 miles north of the Project area at the north end of the Mojave Valley. Early wagon routes crossed the river at that point and continued west toward Barstow.

The Southern Pacific Railroad first bridged the Colorado River near Needles in 1883. A crossing near Topock was not built until 1890, when the Red Rock Bridge replaced several earlier structures near Needles that had been repeatedly washed away by the river (Rowe 1947). The railroad was subsequently acquired by the Atchison, Topeka, and Santa Fe (AT&SF) Railroad. An automobile ferry was built the same year but could not survive the river's swift currents and many shoals. The Old Trails Arch Bridge, a highway bridge erected in 1916, became part of the National Old Trails Highway, the precursor to Route 66.

Subsequent transportation developments included the mid-1940s realignment and expansion of the railroad right-of-way, construction of a new railroad bridge, and rerouting of Route 66. Additional Federal highway construction occurred in the 1950s, and U.S. Interstate Highway 40 (I-40) was built in the 1960s. Today the project area remains an important transportation corridor, with railroad traffic using the Burlington Northern Santa Fe (BNSF) Railway bridge, truck and automobile traffic crossing the river on the I-40 bridge, and natural gas passing through several large interstate pipelines.

No features associated with ranching, farming, or historical settlements are located in the study area. Abandoned segments of Route 66 and its predecessor, the National Old Trails Road, are located within the Project APE. Davy et al. (2004) presents a detailed historical context for the evaluation of transportation-related features, and the reader is referred to that document for further information.

## **2.5 PREVIOUS CULTURAL STUDIES AND FINDINGS**

Listed in Table 2.1 are previous cultural resource studies that have involved lands now encompassed by the APE of the Topock Remediation Project. In the mid-1970s, an archaeological survey by Arizona State University (ASU) of the proposed Park Moabi motorcycle race course (Fryman 1976) overlapped much of the Project's APE. The ASU study

**Table 2.1**  
**Previous Cultural Resource Investigations within the Project's APE**

<b>Citation</b>	<b>Title</b>
Cunkelman (2002)	An Archaeological Survey of Five Monitoring Wells for PG&E, San Bernardino County, California
Davy et al. (2004)	Cultural Resources Investigations for Interim Measure No. 3: Topock Compressor Station Groundwater Extraction and Treatment System, San Bernardino County, California
Earle (2005)	National Register of Historic Places Nomination Supplement for Topock Maze (CA-SBR-219), Needles, California, Register Entry No. 78000745, 10/05/1978. This involves archival research only; work is in progress.
Earle (2007)	National Register of Historic Places Registration Form: Route 66, National Old Trails Highway / Park Moabi Road to Colorado River, San Bernardino County, California.
Fryman (1976)	An Archaeological Survey of the Proposed Park Moabi Motorcycle Race Course Area, San Bernardino County, Ca.
Hoffman (1995)	A Cultural Resources Assessment of the Topock Lateral Expansion Project, Mohave County, AZ, and San Bernardino County, CA
Horne (2006a)	Cultural Resources Investigations, Fifth Addendum: Additional Groundwater Characterization Beneath the Colorado River by Slant Boring in California for Topock Remediation Project—Topock Compressor Station, San Bernardino County, California.
Horne (2006b)	Cultural Resources Investigations, Sixth Addendum: Upland In-Situ Pilot Study, Well Maintenance and Hydraulic Testing, and the Decommissioning of Well PGE-6 for Topock Remediation Project – Topock Compressor Station, San Bernardino County, California
Horne (2007)	Archaeological and Historical Investigations, Seventh Addendum: Well Installation and Groundwater Characterization on Arizona Shore of the Colorado River at Topock, Arizona for Topock Remediation Project—Topock Compressor Station, San Bernardino County, California
Leonard (1976)	An Archaeological Assessment of the Proposed Pipeline Route in the Vicinity of Needles, California
McDougall (2004)	Cultural Resources Investigations, Second Addendum: Cultural Resources Survey of Seven Proposed Compliance Monitoring Well Locations and Access Routes for Interim Measures No. 3: Topock Compressor Station Expanded Groundwater Extraction and Treatment System, San Bernardino County, California
McDougall (2005)	Cultural Resources Investigations, Fourth Addendum: Upland and Floodplain Locations for the In-Situ Hexavalent Chromium Reduction Pilot Test for Interim Measures No. 3: Topock Compressor Station Expanded Groundwater Extraction and Treatment System, San Bernardino County, California.
McDougall and Horne (2005)	Cultural Resources Investigations, Third Addendum: Survey of the Original and Expanded APE for Interim Measures No. 3: Topock Compressor Station Site Vicinity, San Bernardino County, California, Mohave County, Arizona
McDougall et al. (2004)	Cultural Resources Investigations, First Addendum: North Access Route for Interim Measures No. 3: Topock Compressor Station Site Vicinity, San Bernardino County, California
McGuire (1990)	A Cultural Resources Inventory and Limited Evaluation of the Proposed Mojave Pipeline Corridor in California and Arizona
Moloney and Haidu (2010)	Archaeological and Historical Investigations for the PG&E Topock Compressor Station, Addendum 9: Survey Within the Fence Line of the Topock Compressor Station
Peyton (1987)	Ground Drawings of the Lower Colorado River: An Analysis of Technique, Context, and Design
Price et al. (2010)	Archaeological and Historical Investigations for the PG&E Topock Compressor Station, Addendum 8: Survey of Additional Areas Outside the Expanded Area of Potential Effects
Reynolds (1979)	Cultural Resources Survey: Southern California Gas Company Alternative B Pipeline Corridors, Needles Area, San Bernardino County, California
Shannon (2008)	An Archaeological Survey for Pirate Cove Marina Upgrade, Park Moabi, U. S. Bureau of Reclamation Lease No. 14-06-300-1496, San Bernardino County, California.
Van Bueren (1986)	Topock Evaporation Pond Project: Intensive Cultural Resources Survey
Weber (1979)	An Archaeological and Paleontological Assessment of the Southern California Gas Company's Alternative Pipeline Route in the Vicinity of Needles, California

identified 16 cultural features, some of which are located within the current Project area. Four surveys of gas pipeline routes at various times from the mid-1970s to 1990 did not identify any cultural resources within what is now the Project APE (Leonard 1976; McGuire 1990; Reynolds 1979; Weber 1979). During an intensive survey for the Topock Evaporation Pond Project, INFOTEC Research, Inc. recorded an abandoned, paved segment of U.S. Route 66 between Park Moabi Road on the west and the existing National Trails Highway on the east (Van Bueren 1986). In the following year, Peyton (1987) completed a study of geoglyphs, including the Topock Maze, in the lower Colorado River region. Two later surveys—one for the Topock Lateral Expansion Project (Hoffman 1995) and the other of five monitoring well locations (Cunkelman 2002)—did not result in the discovery of any cultural resources.

Between May and July 2004, CH2M Hill, Inc. investigated the original 155-acre GETS APE for the IM-3 project. This study began with a records search covering all lands within 1.0 mile (1.6 km) of the Project area. Previously recorded cultural resources identified during the records search include Route 66 (CA-SBR-2910H), the Topock Maze (CA-SBR-219), the route of the Atlantic and Pacific (A&P) Railroad (CA-SBR-6693H), and the cultural features that had been documented in 1976 by ASU (Fryman 1976). CH2M Hill then performed a field survey and sought to find and rerecord these known resources and to identify and record any previously undocumented resources. Although 11 of the cultural features that had been recorded by ASU initially appeared to lie within the GETS APE, further study showed that only 10 of these are located within the APE (Davy et al. 2004). Although the ASU documentation of the features' locations and contents is scant, CH2M Hill was able to locate nine of the 10 features either "confidently" or "probably." Eight of the revisited features were incorporated into newly discovered sites. One was determined to be of modern origin and thus was removed from the site inventory. Altogether, CH2M Hill documented eight newly discovered sites, revisited CA-SBR-6693H, and re-recorded CA-SBR-219 and CA-SBR-2910H. In addition, CH2M Hill discovered five new features associated with Route 66 (Davy et al. 2004).

As part of the cultural resource studies for the IM-3 project, CH2M Hill in 2004 identified archaeological and historical sites and site loci within the GETS APE, evaluated their eligibility for the NRHP, and assessed the project's potential effects on these properties. Three of these sites—the Topock Maze, the Atlantic and Pacific/Atchison Topeka and Santa Fe Railroad grade, and Route 66—were already listed in or determined eligible for the NRHP at the time of CH2M Hill's study. Of the remaining sites, two prehistoric sites were judged NRHP-eligible under Criterion D (36 CFR 60.4(d)), while five other sites (all lithic scatters) were deemed ineligible. Three historical features were evaluated as significant because of their association with Route 66 and the National Old Trails Road, while three other historical features did not meet the NRHP criteria (Davy et al. 2004).

The 2004 MOA among the BLM, CA SHPO, and PG&E for the IM-3 Project (BLM et al. 2004) required development of a CRMP to avoid, minimize, or mitigate Project effects on significant resources. The CRMP was prepared for the expanded GETS in September 2004 (Price et al. 2004). Concurrently with preparation of the CRMP, a series of archaeological and historical surveys was initiated for proposed project access roads, monitoring wells, and other locations where ground disturbance would occur during the implementation of the interim measures, the first two of which are known as Addenda 1 and 2 (McDougall 2004 and McDougall et al. 2004, respectively).

Between September 21 and December 23, 2004, a comprehensive archaeological and historical survey was completed of the entire Expanded APE, as well as a resurvey of the 155-acre Original APE. This survey resulted in the identification and documentation of 136 prehistoric archaeological sites, 14 historical sites, and 33 isolated finds or artifacts; these include the 11 cultural resources previously documented by CH2M Hill (Davy et al. 2004). The results of this comprehensive inventory are presented by McDougall and Horne (2005).

Since that time, several additional archaeological and historical surveys of the Undertaking APE were performed and six additional addenda reports were produced (McDougall 2005; Horne 2006a, 2006b; Horne 2007; Price et al. 2010; Moloney and Haidu 2010). Addendum 4 (McDougall 2005) examined five alternative pilot test areas (PTAs) within the upland portion of the previously surveyed project area where PG&E proposed to assess in-situ techniques for reduction of hexavalent chromium (Montgomery Watson Harza [MWH] 2005a). Addendum 4 also examined four alternative PTAs along the Colorado River floodplain portion of the study area (MWH 2005b). No additional resources were discovered during these surveys.

Addendum 5 (Horne 2006a) examined a location on the California shoreline of the Colorado River selected for slant drilling and well installation to provide additional groundwater characterization data needed for the final RFI/RI, while Addendum 6 (Horne 2006b) examined a 0.5-acre area north of the Topock Compressor Station, south of I-40, east of Bat Cave Wash, and west of the National Trails Highway where an additional PTA would be placed, three nearby monitoring wells would be tested and maintained, and a fourth well would be decommissioned. Addendum 7 (Horne 2007) examined locations proposed for additional groundwater characterization studies along the Arizona shore of the Colorado River. All three of these addenda covered previously surveyed areas within the Expanded APE and no new resources were discovered during the additional examinations.

Addendum 8 (Price et al. 2010) examined three small tracts of land which extended beyond the western, northern, and eastern boundaries of the Expanded APE as previously defined in the CRMP (Price et al. 2004). The total size of three areas was approximately 99.2 acres. No archeological resources were discovered in the approximately 5.9-acre New Western Area, which extended beyond the Expanded APE just west of Park Moabi north and east of the BNSF line, or the approximately 47.6-acre New Northern Area, which extended northward beyond the Expanded APE in the vicinity of Park Moabi and includes a sand island in the Colorado River floodplain on the north side of a river channel immediately northeast of Park Moabi.

The approximately 45.7-acre New Eastern Area extended easterly and northeasterly from the Colorado River in Arizona to encompass a ridge on the southeast side of Sacramento Wash. It also included a smaller area of flat terrain lying on the southeast margin of the mouth of the wash and bordering Topock Bay on the east. To the north and west was the historic location of Topock Bay, a river bay lying between the westerly protruding delta of Sacramento Wash and the rocky Topock peninsula. One previously undocumented prehistoric archaeological site, one large archaeological site with both prehistoric and historic components, and three historic-period linear resources were identified in the New Eastern Area. Additionally, Addendum 8 presented newly developed information on Mojave Indian settlement and land use in the Project area, the historical development of railroad and automobile transportation through the area, and environmental changes during the historic era (Price et al. 2010).

Addendum 9 (Moloney and Haydu 2010) examined the 10.19-acre area within the security fence of the Topock Compressor Station. This area is located within the Expanded APE but was not surveyed during the prior archaeological and historical studies due to safety and security concerns. No archaeological or historical resources were discovered within the central area of the compressor station. However, CA-SBR-2910H (National Old Trails Highway/U.S. Route 66) traverses a portion of the compressor station, entering the site from the east approximately midway along the eastern boundary (where the current entrance gate to the compressor station is located), turning sharply to the northwest, and continuing along the eastern boundary of the compressor station before exiting the northern end. This portion of CA-SBR-2910H is currently covered by tarmac and serves as part of the station entrance and access loop road. As described in previous reports, it retains little to no integrity in this location.

In addition, the northern portion of the compressor station includes the site of the Teapot Dome restaurant and gas station, which were formerly located along a stretch of the National Old Trails Highway/U.S. Route 66 on a leveled bench above the Colorado River just north and west of the Old Trails Arch Bridge. It is unknown when the Teapot Dome was built; however, based on aerial photography, it was present at the site in 1936 (the earliest aerial photograph available). It was still present in 1947 but appears to have been demolished prior to, or during, construction of the compressor station in 1951. Several items of modern metal (bolts, wire, etc) and three railway ties protrude from a bank that has been graded and backfilled repeatedly in this area. Though obviously out of context, these wood items may have formed part of a previous structure which, according to PG&E, may have made been part of the back porch of the restaurant. Because the Teapot Dome restaurant was leveled either before or during construction of the compressor station in 1951, any associated materials in this particular area would be out of context secondary deposits. For this reason, and the dubious nature of the historical associations, these wood items were not recorded as a site (Moloney and Haydu 2010).

Beyond these studies, Shannon (2008) completed an archaeological survey of the Pirate Cove Marina Upgrade at Park Moabi, on the Colorado River, within U. S. Bureau of Reclamation Lease No. 14-06-300-1469 I San Bernardino County. A Class III survey was performed to determine if any future development (marina upgrades) at Park Moabi would have an adverse effect on any newly discovered cultural resources. No archaeological sites or other cultural resources were identified during the survey.

Finally, Earle and Associates, conducted archival and historical research on the Topock Maze (CA-SBR-219) and the Park Moabi Road to Colorado River segment of the National Old Trails Highway/Route 66 (CA-SBR-2910H). While research on the Maze remains a work in progress (Earle 2005), a new NRHP nomination form has been prepared for “Route 66, National Old Trails Highway, Park Moabi Road to Colorado River, San Bernardino County, California” (Earle 2007).

## **2.6 HISTORICAL AND PREHISTORIC ARCHAEOLOGICAL PROPERTIES**

The inventory of cultural resources within the APE includes 210 archaeological and historical sites (see Table 2.2 and Volume II). Six of these are in Arizona, while all the rest are in California. Briefly, there are 144 prehistoric archaeological sites, 39 prehistoric isolates, 24 historic sites, and three sites containing both historical and prehistoric elements.



**Table 2.2****Summary of Historical and Prehistoric Cultural Resources within the APE**

---

Resources: **210**Sites: **171**Historical: **24**Transportation: **10**Highway/Highway Related: **7**Railroad/Railroad Related: **3**Refuse: **5**Structural Remains: **3**Other: **6**Prehistoric: **144**Lithic Artifacts: **119**Intaglios: **7**Lithics/Ceramics: **5**Rock Alignments: **5**Trails: **3**Temporary Camp: **3**Ceramics: **1**Rock Shelter: **1**Multicomponent Sites: **3**Historical Refuse over Lithics: **1**Historical Foxholes and Refuse over Lithics: **1**Historical Foundations, Refuse and Borrow Pits over Lithics and Ceramics: **1**Prehistoric Isolates: **39**Lithic items: **18**Ceramics: **11**Ground Stone: **3**Hearth: **3**Cairn: **2**Other: **2**

---

**2.6.1 Prehistoric Archaeological Sites**

Of the 144 prehistoric sites in the inventory, most ( $n = 119$ ) are considered to be lithic procurement and processing locations. These sites are typically small locations where available toolstone has been assayed or minimally reduced. Such sites usually contain few if any formed tools or time/culture markers; however, some extensive scatters of flaked and ground stone artifacts also are present. One of these sites is located on the Arizona side of the Colorado River, while the others are in California. Twenty-five sites represent a variety of other types such as rock alignments, intaglios, trails, ceramic scatters, a rock shelter, and temporary campsites. Notable among these are three loci of the Topock Maze (CA-SBR-219). The 39 prehistoric isolates consist primarily of lithic artifacts ( $n = 18$ ). The remaining isolates include ground stone, ceramics, cairns, and hearths.

### **2.6.2 Historical Archaeological Sites**

Ten of the 24 historical sites in the inventory are related to railroad (n = 3) or automobile (n = 7) transportation. Notable among these are multiple segments of the National Old Trails Highway and U.S. Route 66. Other historical sites are turn-of-the-century to mid-twentieth-century refuse deposits, structural remains, and water management features. Four historical sites are in Arizona, while 20 are in California.

### **2.6.3 Resources with Prehistoric and Historical Components**

Three sites contain both historical and prehistoric elements; typically, these take the form of historic-era refuse and other features overlying lithic scatters. One large site in Arizona (AZ L:7:16) manifests a complex of historical foundations, refuse, and borrow pits emplaced over a scatter of prehistoric lithic and ceramic artifacts.



### 3 CULTURAL SETTING

#### 3.1 PREVIOUS CONSULTATION AMONG AGENCIES, TRIBES, AND PG&E

Pursuant to NHPA Section 106, the ACHP regulations require the Agency Official responsible for an undertaking to “involve the consulting parties...in findings and determinations made during the section 106 process” and “should plan consultations appropriate to the scale of the undertaking and the scope of Federal involvement and coordinated with other requirements of other statutes...” (36 CFR 800.2(a)(4)). Among the parties with consultative roles in the Section 106 process are Indian tribes, and the regulations prescribe in detail the steps to be taken in consulting with tribes regarding historic properties on both tribal and non-tribal lands (36 CFR 800.2(c)(2)(i–ii)). With respect to the latter:

Section 101(d)(6)(B) of the act [i.e., NHPA] requires the agency official to consult with any Indian tribe...that attaches religious and cultural significance to historic properties that may be affected by an undertaking. This requirement applies regardless of the location of the historic property. Such Indian tribe...shall be a consulting party [36 CFR 800.2(c)(2)(ii)].

Nine Indian tribes have been consulted by the BLM in the development of the PA:

The BLM has invited the Chemehuevi Indian Tribe, Cocopah [Indian] Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe, Hualapai Tribe, Havasupai Tribe, Twenty-nine Palms Band of Mission Indians, and the Yavapai-Prescott Indian Tribe (hereinafter, the Tribes) to participate in the Section 106 consultation process and to be Invited Signatories, and the Tribes provided significant input into the development of this PA [BLM et al. 2010:1–2].

These consultations were initiated in 2008 by the BLM with the Tribes, ACHP, AZ SHPO, CA SHPO, and PG&E to develop a PA. Monthly meetings were held from December 3, 2009 to June 15, 2011. The Hualapai signed the PA on July 20, 2011. BLM will continue to consult with all of the Tribes as the Project is implemented.

The PA also observes that:

The Tribes, as full participants in carrying out their respective Tribal sovereign governmental obligations, accept the BLM as the lead Federal Agency regarding the Project. Participation and consultation will be in accordance with both the DOI’s authorities and responsibilities under the above referenced Federal authority frameworks and with any applicable State laws and guidance. The BLM agrees that regulations implementing Section 106 of the NHPA recognize the historic and traditional interests of the Tribes [BLM et al. 2010:2].

Moreover, the PA contains a consultation protocol as Appendix B, which defines how consultation will be conducted under the PA during Project implementation.

As part of the PA consultation process, the BLM

determined that a traditional cultural property (TCP) or property of traditional religious and cultural significance within the APE as defined in Stipulation II of the PA is eligible for inclusion on the National Register of Historic Places (NRHP) under criterion A as part of what the Tribes have identified as a larger area of traditional and cultural importance, whose boundaries have yet to be defined and will not be defined within the scope of this Undertaking...[BLM et al. 2010:3].

The BLM found that while

the boundaries for this TCP may extend beyond the present boundaries of the...APE...we believe that the Topock Remediation Project is not the proper forum for a determination of a proposed cultural landscape beyond what is required to complete the project for CERCLA cleanup actions....The BLM will not consider the designation of areas larger than the APE as properties eligible for listing on the National Register of Historic Places in the context of this undertaking because of the implications to what this designation would mean to other agencies, State and local Government entities and especially private landowners [see Letter from J. Kenna, BLM Arizona State Director to Chairman Williams, Fort Mojave Indian Tribe, dated April 13, 2010].

This identified TCP within the APE is referred to throughout this document as the “Topock TCP.”

### **3.2 TRIBAL DESCRIPTION OF TRADITIONAL CULTURAL PROPERTY IN THE AREA OF THE UNDERTAKING**

Tribal members widely believe that the area known as the Topock TCP is part of a broader cultural landscape that includes the Colorado River, extending beyond the limits of the currently designed APE, and should not be understood as a discrete or detached site, but as part of a larger area of cultural significance. The Tribes assert that the boundary of this TCP, and its intersection with other places of traditional religious and cultural value, including existing and potential TCPs, must also be given systematic attention in order to completely identify the current TCP. The Tribes hold that the exact nature and dimensions of the “Topock Maze TCP” have not been documented. A contracted study may be undertaken to gather additional information regarding the Topock TCP, and, if provided, will be included in future iterations of the CHPMP.

### **3.3 CULTURAL VALUES/ETHNOGRAPHIES**

The cultural values associated with the Topock TCP are very important to all the Tribes involved in this Undertaking, and at the February 16–17, 2010 PA meeting the Hualapai Tribe offered that,

We are involved in this project because our ancestral, traditional homeland and the Topock and the Needles land, have always been significant to us. Hualapai people came from Spirit Mountain and the Creator told us where to live. The Creator marked the landscape with these landforms and each one has a story and history to it. And the Needles and Topock has the tradition as to why they look the way they look and these stories are real for us and they are part of our ancestral background. We lived within this landscape, along the Needles and Topock, to the Hoover Dam all the way back to Little Colorado River and all the way down to Prescott down the Santé Maria and Bill

Williams. We have maintained as a people through generations, we are entitled to these resources within this landscape and we want to be a part of the negotiations not just with the federal agencies but with public and private agencies, as well.

BLM will continue to seek additional input regarding cultural values from the Tribes. A contracted study may be undertaken to gather this information and, if provided, will be included in future iterations of the CHPMP.

### **3.3.1 Hualapai History and Culture**

The Hualapai have provided the following summary of their history and culture for this document.

#### **3.3.1.1 The Hualapai Reservation**

The Hualapai Reservation, established in 1883, is located on one million acres of Hualapai ancestral lands, within the southern portion of the Colorado Plateau and the Grand Wash Cliffs escarpment. Hualapai, meaning “People of the tall-pines,” had ancestral homelands consisting of approximately seven million acres. The modern northern boundary of the reservation is along the Grand Canyon and the Colorado River. *Wikame* is the Sacred Mountain of Creation for Hualapai people. It is along the lower Colorado River and at an altitude of more than 5,900 feet. A sacred spring called *Ha’thi-el*, meaning “Salty Spring,” flows from a side canyon. There are petroglyphs that tell a story of the world covered with water and depict the creation of the Hualapai people and other Yuman-speaking tribes. The word “Pai” means “the people,” and according to traditional oral history all Pai bands consider themselves to be one ethnic group.

The riparian environment along the Colorado River has offered Hualapai people successful living in the region that is a rich resource base for hunting, gardening, plant, root, and mineral gathering, amongst geologic formations of river and springs. Native plants include desert tobacco, cane reed, bear grass, various cacti, and edible grass seeds. Seasonal migrations for hunting and gathering of sustenance resulted in acquiring a variety of foods that extended through different elevations and geographic locations.

Spiritual and life skills were conveyed partially during these migration events with Hualapai teaching their children traditional knowledge through hunting and gathering, song and oration, and environmental stewardship. Pre-contact Yuman economies included reciprocity of hunting and gathering regions, with lower Yuman sometimes hunting mountain sheep and deer, and upper Yuman, or Hualapai traveling on seasonal rounds in the lower Mohave valley areas. With migration traditions each successive Hualapai generation passed on cultural truths and lessons which today, connect Hualapai to their elders, their community, their lands, their past, present and future.

Traditional Hualapai beliefs address the ecology and knowledge about Hualapai Cultural landscapes. These belief systems address the following, but are not limited to:

- Health and welfare of the Hualapai People;
- Economic values through traditional trade and trade routes;

- Spiritual and religious beliefs tied to the land and water;
- Oral traditions regarding non-humans and phenomena; and
- Events of creation, such as fire, animals, plants, and humans.

Hualapai traditional belief ties sacred significance to areas such as the Colorado River and associated canyons which are principal landmarks with intrinsic spiritual values for Hualapai people. Regionally this area is embodied with sacred esoteric cultural and traditional values for Hualapai. The river is revered as a life-giving source, known as “*Ha’yidada*,” the backbone or spine of the river. It is the belief that without the spine, Hualapai cannot survive as a people. The long expanse of the river through the canyon and the riparian eco-systems makes a life-way connection that flows through the hearts of the Hualapai people. The Hualapai maintain this connection through ties of sacredness to the Colorado River. Hualapai believe that they were created from the sediment and clay of the river. The Hualapai, as do other Yuman cultural groups of the Colorado Region, share similar beliefs and teachings regarding their creation. Elements in and around the canyon are filled with significant symbolism, powers of observation, and awareness. Through emergence, survival, subsistence, and struggle, the Hualapai have sought to maintain and protect their ancestral homelands since time immemorial.

The Hualapai Reservation was established through an Executive Order on January 4, 1883, signed by President Chester Arthur, creating the Hualapai Reservation. The U.S. Department of the Interior, through an Act of Congress (43 Stat. 954) on February 20, 1925 restated recognition of the fact that the Hualapai Tribe is the rightful legal owner of the entire Hualapai Reservation by right of occupancy. Today, the Hualapai Reservation is a diverse landscape within the Colorado Plateau with ancestral cultural landscapes extending into the Basin and Range regions. The Hualapai have inherent and continual geographical affiliations and territorial claims with the Grand Canyon and the Colorado River. These affiliations and claims originate in the Hualapai Creation Account in Hualapai oral traditions, thus Hualapai territorial affiliation with the Grand Canyon was established long before any contact with Europeans and Americans. There appear to be corroborations in worldview among neighboring Yuman cultural groups, indicative of ancient and contemporary linkages.

It is thought that the first European contact with Hualapai was made in 1776 by a Spanish missionary named Father Garcés. According to historical accounts, Father Garcés “found the westernmost band of Pai already using Spanish belts, awls, and other implements they had acquired from New Mexico indirectly via Hopi middlemen,” (quoted in Dutton 1983:179). The Hualapai Tribe has continued to maintain constant cultural and historical affiliation with the territory, water, riparian, and riverine resources of the Colorado River and the Grand Canyon. Hualapai ancestral homelands and resources extended from the Colorado River’s junction with the Little Colorado River on the northeast, downriver to the southwestern confluence of the Bill Williams and Santa Maria rivers. Resources, trade, and social relationships extended in the East to Flagstaff, west to the Pacific coast, and south down into Baja California. Both in Hualapai tradition and in the exercise of contemporary territorial sovereignty with respect to Tribal resources and properties, the Hualapai Tribe has consistently maintained its riverine boundary line as always being in the mid-stream of the Colorado River.

Prior to European settlement, tribes living along the Colorado River practiced agriculture in the rich alluvial soils that were found in the floodplain. Because the Colorado River waters seasonally flooded and retreated, Pai were able to make residential moves following seasonal cycles. Hualapai would build temporary shelters, or ramadas, on the flat lands during summer and would then move up into the foothills at the end of a harvest. In addition to domestic crops of corn, beans, and squash, other sources included a variety of grasses which were planted in the late spring. There were also abundant food sources that were gathered throughout the lowlands in the Basin and Range Province (southwest Arizona). These sources were gathered during the late spring and early summer and included mesquite, agave, prickly pear, Saguaro cactus, wild tomato's, desert willow flowers, cholla buds, and many other plants, flowers, roots, berries, nuts, and seeds.

With a broad geographical base available, Hualapai were able to secure diverse food resources which included meats derived from hunting and fishing. Antelope, big-horn sheep, rabbits, bear, rodents, fish, and a variety of birds provided necessary protein. Larger game could provide a family feast for several days with smaller animals, such as rabbit, being consumed as a "day-to-day meal." Game was dressed for meats, skins, sinews, and a variety of products. To hunt, Hualapai men used for instance, bows and arrows, nets, fire, and animal drives. Rabbits were captured through animal drives where "the rabbits were...driven into nets made of milkweed fiber...the nets were stretched and rabbits driven into them. After the drive the rabbits were divided among the whole camp" (Watahomigie et al. 1986:1).

In the arid but geographically diverse environment of traditional Hualapai territory, Hualapai's subsisted through hunting, small-scale agriculture where water was available, and through gathering seasonally available plant resources. The traditional subsistence lifestyle of precontact Hualapais followed an annual sequence of resource use and fairly regular pattern of movement focused on several key plant foods. This included a concentrated effort on a mescal agave harvest in the spring. Following the mescal agave harvest, families and large camps moved to basin floors to gather *sele'*, a grass species which provided seeds rich in protein and carbohydrates. Certain berries ripened in early summer including red berry sumac, manzanita, and wild grape. By midsummer, fruits of several cacti species ripened and Hualapai camps shifted back into the canyons and foothills. In late summer banana yucca and mesquite beans ripened and by early fall effort was devoted to nut and berry gathering including piñon, juniper berry, and algerita berry.

In contemporary times, members of the Hualapai Tribe still gather piñon nuts and conduct annual mescal agave roasts. In addition, some tribal members still harvest red berry sumac, prickly pear cacti fruit, and banana yucca fruit. A handful of Hualapai women from the tribe also continue many of the traditional Hualapai crafts made from wild plants, including cradleboards, baskets, and yucca fiber sandals utilizing arrowweeds, desert willow, mesquite, acacia, red berry sumac, and yucca species. Additionally Hualapai men still make traditional gourds for singing, bow and arrows, and other traditional items from the wild plants. A handful of Hualapai tribal members also garden the traditional foods from pre-contact times including pumpkin, squash, melons, corn, beans, and sunflowers.

Hualapai lifestyle before the mid-1800s was one primarily of agriculture, hunting, and gathering. The season for planting began in April with harvesting in June and continuing into October.



Many types of crops and plants were picked for different types of food processing and storage. Drying food products allowed families to get through the winter months. Foods were stored in clay jars, and plants not being consumed were processed as medicines, dyes, fodder, baskets, and building materials.

Once the harvest was complete, and weather turning cold, Hualapai would move back up towards the foothills and build homes made from pine tree poles and furs. The diverse resources of the Basin and Range regions offered high-protein pine nuts. By following resource seasonal cycles, Hualapai were able to gather and hunt in the Upper Sonoran Zone (4,500–6,500 feet) where grassland, juniper, and piñon trees edged into the fir forests. Such diversity gave Hualapai ample trade goods in which to exchange for items such as the much coveted shell from the Pacific coast. Trade routes in the southwest tagged into Hualapai routes creating a vast social-network for the exchange of goods, services, and people.

### **3.3.1.2 Contact History**

Christian McMillan, Assistant Professor of History and American Studies at the University of Virginia, suggests that “[B]efore contact the Hualapai world was enormous in geographical scale and in human diversity,” with trade well developed to the degree that “up to one-quarter of Hualapai pottery goods were imported from elsewhere” (McMillan 2007:4). Horses were also in the trade zone coming from Navajos and Hopis, Mojaves, Paiutes, and Utes. Cattle were acquired from Mexico and played an integral part in Hualapai socio-economics. Trade was instrumental for Hualapai and other tribes in acquiring European goods prior to disenfranchisement with the Americans. McMillan (2007:4) states,

The Hualapai acquired European goods from the Hopis as early as the later eighteenth century.... Via the Mojaves came shells from the Chumash on the Pacific coast... across the Colorado River, they exchanged corn for meat with the Mojaves... Shivwits provided guns and horses and the Hualapai brought hides and sometimes Mojave horses.

European and American contact with Hualapai eventually changed social and political dynamics between encroaching settlers, ranchers, and missionaries, but also inter-tribally. The discovery of gold placed Hualapai into an offensive in order to protect their land. Hualapai engaged in guerrilla style warfare tactics between 1866 and 1868 as a form of resistance to the growing influx of ranchers and the United States government. Hostilities pitted Indians against the United States, and stressed relationships among the Mojave and the Hualapai; Yavapai and Paiutes, to a point where after heavy losses, a peace agreement was signed in 1868 between the U.S. Government and Hualapai.

The consequences of military and governmental intervention were devastating for Hualapai. In 1871, through Captain Byrnes, the military established Fort Beale Springs, west of modern-day Kingman. Here, Hualapai were segregated from the American population that was pouring into the region. Food resources completely disrupted by Anglo farmers and ranchers caused Hualapai to become dependent upon army rations. Several Hualapai men “at least 140... joined the Army,” (McMillan 2007:7) becoming scouts and drawing much needed paychecks. In 1874 life completely changed for Hualapai. The U.S. Army at the instructions of the Bureau of Indian Affairs (BIA) removed Hualapai “from their homes against their will and sent them south to

bake in the desert of the Colorado River lowlands, a place the officer in charge called the “Sahara of the Colorado”” (McMillan 2007:7).

Hualapai were forced to march down on a long-walk, or Trail of Tears, to La Paz, near the town of present-day Ehrenberg and live within the confines of a “camp.” (Today, Hualapai remember their forced Trail of Tears by completing a relay run called the La Paz Run.) Many young women were assaulted by the military; older Hualapai died due to hunger and ill-health; many died due to exposure, malnutrition, home-sickness, and disease. Some fled into the desert making their way into Borrego Springs and California. Others managed to survive and after a year of incarceration, those who could went back to their ancestral homes found their lands occupied by ranchers.

Hualapai who did manage to make it back to present day Peach Springs and their ancestral homes, realized that between the ranching Anglo community and the new railroad, they were losing their lands and the entire ecosystem was being altered to accommodate the cattle and railroad industries. Through the efforts of elder Hualapai, specifically Cherum, Hualapai met with managers of the Atlantic and Pacific Railroad to hammer out a reservation deal. On July 8, 1881 General Order 16 was issued which set the boundaries of the new Hualapai Reservation. McMillan (2007:10) explains that, “by taking the land out of the public domain, the government agreed to hold the land in trust for the tribe and protect it against non-Indian intrusion. The Hualapai became a new legal identity: a U.S. government-administered tribe.”

Today there are an estimated 2,700 Hualapai living on and off the reservation. Fourteen Hualapai Bands, each having a distinct dialect and territorial homeland, comprise the Hualapai Tribe today in northwestern Arizona. Hualapai social identity as a distinct cultural nation correlates to several factors including:

- (1) A common language;
- (2) A system of Bands (or clans) with corresponding kinship ties and social roles;
- (3) Past and present habitations;
- (4) Inter-canyon networks of trails;
- (5) Social gatherings and ceremonial activities;
- (6) Utilization and distribution of natural resources (especially water, native plant products, wildlife, game fish and minerals;
- (7) Horticulture and farming, including locations on alluvial terraces and sand bars, particularly at tributaries confluences on the Colorado River;
- (8) Technology, production of material items;
- (9) Traditional economies, exchange/trade; and
- (10) Political alliances.

All of the Bands of the Hualapai Nation have used the natural and cultural resources of the Colorado River and Grand Canyon systems from the times of the Hualapai people’s origins. According to Hualapai oral tradition, Hualapai Bands were entrusted within the Hualapai Nation

with caretaking responsibilities for the natural environment and resources within the traditional and ancestral Hualapai homelands and territory.

Neighboring American Indian Nations and Tribes are: Chemehuevi, Havasupai, Hopi, Navajo, Mohave, Paiute, Yavapai-Prescott, Yavapai-Apache, Colorado River Indian Tribes, and Zuni. Relationships with other tribes continues in spite of late nineteenth and twentieth century actions of paternalism, attempted assimilation and dislocation, the Hualapai system of bands and social organization remains in effect, maintained through descent and kinship linkages. Traditional cultural practices applied through continuity of Hualapai language, knowledge, social roles, and behaviors supports a dynamic cultural identity manifested within Hualapai people and their spiritual connection to their land.

### **3.3.1.3 Hualapai Traditional Cultural Properties**

A Traditional Cultural Property (TCP) is associated with “the cultural practices or beliefs of a living community that are rooted in that community’s history, and are important in maintaining the continual cultural identity of the community” (Parker and King 1990). Hualapai traditional lands covered approximately 7 million acres in northwestern portions of Arizona. Traditionally, Hualapai ancestral lands extended from Flagstaff on the east, to Bill Williams River in the south, with the Grand Canyon to the north and the Mohave Valley to the west. Hualapai oral histories, songs, ethnobotanies, stories, landscapes, cultural resources, and spiritual teachings are intimately integrated and connected into Hualapai Traditional cultural properties. Contemporary literature reflects an extended Hualapai chronology that demonstrates a continued Hualapai cultural identity within the past and present. The Hualapai Tribe has always had a strong affiliation with the Grand Canyon and today the northern and western boundaries of the Hualapai’s territory are understood by the Tribe to be the middle of the Colorado River, referred to as the *Ha’ yidt ta*, or the “Backbone of the River.”

The Hualapai Tribe has maintained cultural and historical affiliation with the territory and resources of the Colorado River and continues to sustain its traditional claims for uses of the waters of the Colorado River system. The concept of Traditional Cultural Property as developed by Parker and King in the 1990s became enveloped with the U.S. National Park Service Guidelines, commonly known as National Register Bulletin No. 38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*.<sup>1</sup> According to Parker and King, for the NPS, the concept of culture can be understood to mean, “the traditions, beliefs, practices, lifeways, arts, crafts, and social institutions of any community, be it an Indian tribe, a local ethnic group, or the people of the nation as a whole” (Parker and King 1998:1). Since this definition became embedded in the mid 1990s, it has become part of agency ideology to apply the “TCP Evaluation Process” during various projects, to landscapes that are of tribal cultural significance and value. A difficulty arises when a tribal nation’s cultural values are categorized by outside agencies who only document cultural concepts that do not include holistic approaches to explain cultural lifeways.

Other elements that are central for Hualapai cultural identity and traditional cultural property concepts include intangible ceremonial spaces such as mountain tops, springs, streams, and

---

<sup>1</sup> U.S. Government Printing Office: 1994 -378-569 (10588).

mineral waters. It is also important to note that: “the subtlety with which the significance of such locations may be expressed makes it easy to ignore them” (Parker and King 1998:2). For Hualapai a TCP is temporally unbounded (Stoffle et al. 2000), and includes water and springs, rocks, plant and animal life, and all material culture encompassed in the Topock and Colorado River Region, yet not limited to only those areas. Examples of TCPs include plant and paint gathering areas, sacred sites, historic and prehistoric archeological sites, historic travel routes, and areas where rock images are present. All of these areas are believed by the Hualapai people to be inherently linked, and they regard their traditional lands in the Topock and Colorado River Region with the highest esteem and most profound respect (HOCR et al. 1993).

Traditional Ecological Knowledge<sup>2</sup>, or TEK, is linked to traditional cultural property concepts and is nurtured through oral transmission from generation to generation and can stem from numerous ethnographic interviews with tribal elders, ceremonies, and visits to sacred sites within Hualapai ancestral lands, but is not limited by political boundaries. To improve integration of tribal perspectives within the Topock Remediation Project, it is important to develop a new way of seeing and a new way of understanding the Native American perspective. TEK can be used as a method both for applying scientific methodology and for incorporating Native American perspectives imbued with traditional views, thought, beliefs, and values (Berkes 1993; Pierotti MS). TEK has been defined in several ways, depending on the interpretation of the terms “traditional” and “ecological.” The following definition is given by Fikret Berkes (1993:3):

TEK is a cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment. Further, TEK is an attribute of societies with historical continuity in resource use practices; by and large, these are non-industrial or less technologically advanced societies, many of them indigenous and tribal.

Some areas of TEK include:

- Hualapai Oral Histories, Traditional Songs and Dances
- Hualapai Traditional Oral Stories (Coyote Stories and Creation Stories)
- Hualapai Ceremonial Practices
- Hualapai Spiritual Practices
- Site Visits to Sacred Sites
- Hualapai Traditional Trail Systems
- Hualapai Native Language Immersion Exercises
- Hualapai Ethnobotany
- Hualapai Ethnozoology
- Hualapai Affiliated Burial Sites
- Hualapai Traditional Plant Gathering

---

<sup>2</sup> *Traditional Ecological Knowledge*, 2008 by Loretta Jackson-Kelly, with contributions from Dr. Kerry Christensen, and Dawn Hubbs.

- Hualapai Traditional Mineral Gathering
- Hualapai Ritual Practices
- Hualapai Religious Offering Practices
- Hualapai Traditional Naming Practices
- Hualapai Traditional Teaching Practices
- Hualapai Traditional Kinship Relationships and Protocols
- Hualapai Traditional Protocol Practices
- Hualapai Traditional Cultural Values & Beliefs & Practices
- Hualapai Traditional Life Ways
- Hualapai Affiliated Rock Writing Sites

The elements of traditional knowledge contained in each of the bullets above, from a tribal perspective, relate directly to the Colorado River Ecosystem and the Colorado River Region, the Hualapai continue to reaffirm their cultural affiliations with the Topock region, including the Colorado River. Many Hualapai families practice traditional land use patterns and natural resources usage through cattle husbandry and horticulture with family gardens and continue to use landscapes as they have for generations. Traditional Hualapai ways of life require that they take care of their natural and cultural resources. There is a need for the Hualapai Tribe to continue to be fully engaged in cooperating in the management of the resources within the Topock and Colorado River Region. Objects made from the cultural, historical, and sacred landscapes with which the Hualapai people identify themselves are seen as inseparable from the places from which they came. That is why a holistic approach is required when attempting to document TCPs. The well-being and quality of life of Hualapai tribal members depend upon maintenance of the long-term sustained uses of Hualapai natural and cultural resources. This use is dependent upon management strategies of public and reservation lands containing resources that are important to Hualapai lifeways. In 1995, Delbert Havatone Hualapai,<sup>3</sup> Elder (deceased) commented that, “The Hualapai people have roots and a foundation. We need to speak in the name of the Tribe on behalf of the people of earlier generations. The old people have told this over and over again.”

### **3.3.1.4 Hualapai and Topock**

Topock is a very important sacred landscape for Hualapai due to the Hualapai and other Yuman peoples’ cultural and spiritual connection with Topock, Spirit Mountain, Boundary Cone, and The Needles. Several Hualapai Elders who were asked to discuss Topock and Needles, stated that “[she] doesn’t remember too much of what I learned while I was young, but there is a common history that all River Tribes shared at one time,” while another Elder also said that, “years ago all the River Tribes use to gather and meet at different places along the river. This is probably one of those places because the roads now days follow some of the old trails. Today we still try to keep up those kinds of things with the other Tribes.”

---

<sup>3</sup> Delbert Havatone, Chairman, *Testimony Before the Senate Committee on Indian Affairs, July 14, 1994, Washington, D.C. in reference to Legislation S. 2269.*

## WINDROWS OF STONES.

### The Mysterious Annual Function of the Hualapais Indians.

Flagstaff, Ariz., July 8.—Near the town called: The Needles, about twelve miles across the Colorado River, on the California side, is an area of about a thousand acres, more or less, where the Hualapais Indians rake up the stones in windrows in a most mysterious manner, and for a reason that has never been satisfactorily explained to the white citizens in that section.

It is a dreary and dusty desert. Rain seldom falls. The surface of the ground a hard clay that has been baking in the sun for centuries, is covered with broken lava and pumice-stone, which at some time was discharged from one of the great volcanoes whose silent craters can be seen in the San Bernardino Mountains. This is the ordinary appearance of the country for leagues around. You can travel an hour or ten hours for that matter, in any direction away from the river bed without seeing anything green or any plant or thing of life except a cactus or a sage brush. Under the shadow of a group of mighty hills, is a mesa or tableland that is almost level, and there once a year, upon some anniversary whose significance is not understood and cannot be ascertained, the Indians of the Hualapais tribe gather at night and rake the lava and pumice-stones into windrows. Some of the windrows are two miles long. They are regular in length and in intervals and the average height is about twelve or fifteen inches, just about the height of a windrow of hay left by a horserace in a meadow.

The Hualapais are lazy beggars, and down in this climate there is not much to encourage them to work as long as the Government gives them rations. They are not savage, but are disposed to be peaceful. The worst vices they have are to gamble and get drunk and steal. The thirst for whisky is insatiable in this dry atmosphere, and they have not a clear comprehension of the rights of property. Each family has a little garden and a hut built of clay and brush. They spend but little time in cultivating the small crops they raise, but are usually found around the neighboring towns, where they have a chance to pilfer and be for firewater. But at a certain season of the year every Hualapais disappears from the village and remains away for a week or ten days. During that time not a redskin belonging to that tribe is seen anywhere. It is a sort of religious ceremony that requires some purification or preparation, and is followed by certain sacred rites which no white man ever witnessed.

During the rest of the year the Indians never visit the place. At least if they do they go in the night time when nobody can see them. But they regard it with great reverence and frown upon whites who visit it or ask questions concerning the ceremony. The name “happy hunting ground” was applied by the white residents of the country for lack of a better name. The Indians give the place no designation. In fact, they never mention it.

Major Powell and Prof. McGee, of the Bureau of Ethnology, who probably know more about the habits and customs and religious rites of the Southwestern Indians than anyone else is in this country had never heard of the place until I told them and could give no explanation of the custom [*Chicago Record*, ca. 1899].



## WINDROWS OF STONES.

### The Mysterious Annual Function of the Hualapais Indians.

(From the Chicago Record.)

Flagstaff, Ariz., July 8.—Near the town called The Needles, about twelve miles across the Colorado River, on the California side, is an area of about a thousand acres, more or less, where the Hualapais Indians rake up the stones in windrows in a most mysterious manner, and for a reason that has never been satisfactorily explained to the white citizens in that section.

It is a dreary and dusty desert. Rain seldom falls. The surface of the ground, a hard clay that has been baking in the sun for centuries, is covered with broken lava and pumice-stone, which at some time was discharged from one of the great volcanoes whose silent craters can be seen in the San Bernardino Mountains. This is the ordinary appearance of the country for leagues around. You can travel an hour, or ten hours for that matter, in any direction away from the river bed without seeing anything green or any plant or thing of life except a cactus or a sage brush. Under the shadow of a group of mighty hills is a mesa or tableland that is almost level, and there once a year, upon some anniversary whose significance is not understood and cannot be ascertained, the Indians of the Hualapais tribe gather at night and rake the lava and pumice-stones into windrows. Some of the windrows are two miles long. They are regular in length and in intervals, and the average height is about twelve or fifteen inches, just about the height of a windrow of hay left by a horse rake in a meadow.

The Hualapais are lazy beggars, and down in this climate there is not much to encourage them to work as long as the Government gives them rations. They are not savage, but are disposed to be peaceful. The worst vices they have are to gamble and get drunk and steal. The thirst for whisky is insatiable in this dry atmosphere, and they have not a clear comprehension of the rights of property. Each family has a little garden and a hut built of clay and brush. They spend but little time in cultivating the small crops they raise, but are usually found around the neighboring towns, where they have a chance to pilfer and beg firewater. But at a certain season of the year every Hualapais disappears from the villages and remains away for a week or ten days. During that time not a redskin belonging to that tribe is seen anywhere. It is then that they go down to what white people call the "happy hunting ground" and rake up the stones, men, women, and children, engaging in the work. It is a sort of religious ceremony that requires some purification or preparation, and is followed by certain sacred rites which no white man ever witnessed.

During the rest of the year the Indians never visit the place. At least if they do they go in the night time when nobody can see them. But they regard it with great reverence and frown upon whites who visit it or ask questions concerning the ceremony. The name "happy hunting ground" was applied by the white residents of the country for the lack of a better name. The Indians give the place no designation. In fact, they never mention it.

Major Powell and Prof. McGee, of the Bureau of Ethnology, who probably know more about the habits and customs and religious rites of the Southwestern Indians than anyone else in this country, had never heard of the place until I told them, and could give no explanation of the custom.

According to Hualapai Elder Auggie Smith, (deceased) prior to European contact, Hualapai occupied lands in the area of Topock (The Needles ie: *kwiḍ-kwiḍ*) and Boundary Cone, or *Wi Veskwīya* at the base of the Black Mountains. *Wi kwiḍ-kwiḍ* is the southwesternmost boundary. Today all of these areas are tied to Hualapai's place of creation, *Wikame*. When the world was covered in flood waters, all the Yuman people were created on Wikame. In the Hualapai's Creation Story,<sup>4</sup> depicted in the petroglyphs at Wikahme, which is located 20 miles north of the

<sup>4</sup> *Kathad Ganavj*, Transcribed and transliterated by Lucille J. Whatahomigie, Malinda Powskey, Jorigine Bender, and Josephine Manakaja, 1981, Hualapai Bilingual Program, Peach Springs School District, Peach Springs, AZ.

point where Arizona, Nevada, and California meet, (and visible from Topock Compressor Station as are The Needles) the Hualapai originated from Wukahme, also known as Spirit Mountain and Newberry Mountain. According to the Hualapai creation story, a spirit prayed life into canes cut from along the Colorado River near Spirit Mountain. “The Creator...made two more beings. These ones He made and called Land Older Brother and Land Younger Brother. He placed them at Wukahme and they lived there” (*Kathad Ganavj* 1981:33). *Wi Veskwiya* is mentioned in Hualapai Oral Traditional Stories including traditional songs, and is an important land marker for the Hualapai Band who traversed in the southernmost ancestral territories delineated by this butte known in English as Boundary Cone Butte. The Gods (the two brothers) at Wik-ame’ (Spirit Mountain) specified this butte to be the traditional marker for Hualapai territory therefore reinforcing the Butte as a *Sacred Site*.

Since traditional practitioners limited secular activities on the mountain, the absence of indigenous material other than the sacred petroglyphs, highlights the significance of Spirit Mountain for Yuman-speaking people. It also suggests that the area was used exclusively for religious purposes.

Another oral account tells of a huge flood covering the world. All the Pai fled to Spirit Mountain. Once the waters receded, The Needles, or *Wi kwiḏ-kwiḏ* were formed, therefore Needles and the locality of Topock are considered sacred landscapes, or TCPs. Hualapai believe that they were created from the sediment and clay of the river. The Hualapai, as do other Yuman cultural groups of the Colorado Region, share similar beliefs and teachings regarding their creation. Elements in and around the canyon are filled with significant symbolism, powers of observation and awareness. Early ancestors of the Hualapai have been labeled as Yuman-Hokan speakers, a language group designation, as well as Cohonina, a cultural traditional and geographical reference.

Additionally, Hualapai have also been referenced as Cerbat/Uplan Patayan peoples. Spirit Mountain is very prominent in the oral traditions, origin accounts, beliefs, and traditional cultural practices of the Hualapai. Mr. Delbert Havatone, former Chairman of the Hualapai Tribe in 1994, (now deceased) stated<sup>5</sup> that since time immemorial,

Spirit Mountain and places in the Grand Canyon along the Colorado River have been revered by our people—considered to be sacred to the Hualapai and to the other Tribes sharing like beliefs, origin accounts, perceptions and traditions. Specifically...our Hualapai account...shares similarities with...others who acknowledge early human movement emanating from Spirit Mountain...that human activity emerged...into the world to form families, bands (or clans) and Nations...the long term and customary affiliation of the Hualapai and other tribes with the Grand Canyon is evidenced by ancestral residences, oral traditions, social knowledge, religious beliefs and ceremonial activity.

Spirit Mountain area has been designated a TCP by the BLM and the National Park Service and is also listed in the National Register of Historic Places. Preservation and protection of cultural resources are mandated by national preservation laws. However, Hualapai views and traditional

---

<sup>5</sup> Delbert Havatone, Chairman, *Testimony Before the Senate Committee on Indian Affairs, July 14, 1994, Washington, D.C. in reference to Legislation S. 2269.*



practices have always considered protection of the “*sacred*” through moral values such as respect and transmission of traditional knowledge through oral stories and accounts to instill traditional lifeways to ensure our unique cultural longevity through spirituality. The importance of Wikahme, Boundary Cone, and the Topock Region to Hualapai cultural identity cannot be understated. A time will come when the Hualapai decide upon a pilgrimage to Wikahme. In Hualapai oral history everything at Wikahme has been described from generation upon generation of Hualapai. It is known to Hualapai that it is our responsibility and the responsibility of our children and their children to keep things at Wikahme in a certain order. If things at Wikahme are seen to be out of that order, which has been described to Hualapai by Hualapai elders over many generations...then the protection of these sites within the context of their environment is what is not understood or provided by Anglo Law. As spoken by Delbert Havatone<sup>6</sup>:

If these sites are defiled, it becomes impossible to practice Hualapai traditional and religious thought...“thought,” being essential because it comes from within each individual spirit. This is an abstraction to many people, but it is real to the Hualapai. At an archaeological site, or cultural landscapes, we pray to the land to everything in the cultural environment...we talk in Hualapai language to the spirits that are there, letting them know that our visit is not meant to be disrespectful; we are there to insure that the Hualapai are working to protect the home site of our ancestors. Essential to Hualapai traditional thought is the knowledge that if you don’t talk in that manner, these things come back on you to harm your family or yourself. Without fulfilling Hualapai responsibility for the protection of these sites and the opportunity to express respect for these sites, great harm can come to the Tribe. That is what Hualapai religion means. That is what Wikahme means.

Traditional Hualapai worldview and belief systems depict *Cause* and *Effect* postures and final outcomes as *Consequences*. This includes a philosophical worldview that human and non-human beings are not superior to each other or other species. Everything in the ecosystem of the Colorado River are connected to each other and if one species or another receives impacts (Cause), the outcome therefore is a chain reaction or a ripple “Effect” to some other living entity or entities. Therefore a “Consequence” has occurred that signifies a detrimental situation (Hualapai Elder 1993). This connection is maintained through ties of sacredness to the Colorado River. Desecrations that occur at Topock due to the contamination and remedial project activities have disrupted our traditional and religious practices and a balance needs to be restored. If we are made free to fulfill our responsibility in practicing our religion, we will gain the opportunity to restore the physical and spiritual well being of our people. Through emergence, survival, subsistence and struggle, the Hualapai have sought to maintain and protect their ancestral homelands since time immemorial and Topock is part of that connection that needs to be protected.

---

<sup>6</sup> Ibid.

### 3.4 REFERENCES CITED

Bauer, Sharon K.

- 2003 *A Cultural Resources Survey for the Proposed Griffith-North Havasu 230/69 kV Transmission Line*. EPG Cultural Resources Services Technical Paper 14. EPG, Tucson, Arizona.

Berkes, F.

- 1993 Traditional Ecological Knowledge in Perspective. In *Traditional Ecological Knowledge Concepts and Cases*, edited by Julian T. Inglis, pp. 1–9. International Program on Traditional Ecological Knowledge and International Development Research Center, Ottawa.
- 1999 *Sacred Ecology: Traditional Ecological Knowledge and Resource Management*. Taylor and Francis, Philadelphia.

Christensen, Kerry

- 2005 Justification for Continuation of Tribal Implementation and Evaluation of a Terrestrial Ecosystem Monitoring Program. Position paper submitted to Grand Canyon Monitoring Research Center; Hualapai Tribe, Peach Springs, Arizona.

Chronic, H.

- 2006 *Roadside Geology of Arizona*. Mountain Press, Missoula, Montana.

Deloria, Vine, Jr.

- 1988 *Custer Died for Your Sins: An Indian Manifesto*. Rev. ed. University of Oklahoma Press, Norman.

Dutton, B. P.

- 1983 *American Indians of the Southwest*. University of New Mexico Press, Albuquerque.

Epple, A. O.

- 1995 *A Field Guide to the Plants of Arizona*. Globe Pequot Press, Korea.

Ettinger, L. J.

- 2005 *The Best of Northwest Arizona and the Grand Canyon*. L. J. Ettinger, Nevada.

Haury, Emil W.

- 1976 *The Hohokam: Desert Farmers and Craftsmen*. University of Arizona Press, Tucson.

Hobson, George

- 1992 Traditional Knowledge Is Science. *Northern Perspectives* 20(1):2.

Hogan, P.

- 1993 *Ethnobotanical Final Report*. Submitted to Hualapai Tribe, Cultural Resources Division, Peach Springs, Arizona.

- 1995 Ethnobotanical Information, Colorado River Corridor, Cultural Resource Assessment Study. Submitted to L. Jackson, Hualapai Tribe Cultural Resources Division, Peach Springs, Arizona.

Howitt, Richard

- 1991a Aborigines and Restructuring in the Mining Sector: Vested and Representative Interests. *Australian Geographer* 22(2):117–119.
- 2001 *Rethinking Resource Management: Justice, Sustainability and Indigenous Peoples*. Routledge Press.

Hualapai Department of Cultural Resources

- 1994 *Cultural Inventory of the Grand Canyon, Colorado River Corridor, from Separation Canyon (River Mile 239.7) to Pearce Ferry (River Mile 276), Mohave County, Arizona*. Submitted to Bureau of Reclamation, Salt Lake City, Utah, for Glen Canyon Environmental Studies and the Glen Canyon Dam Environmental Impact Statement.
- 1996 Overview of Hualapai Cultural History. Manuscript on file, Hualapai Department of Cultural Resources, Peach Springs, Arizona.
- 1998 *Hualapai Tribe's Traditional Cultural Properties in Relation to the Colorado River, Grand Canyon, Arizona*. Submitted to Bureau of Reclamation, Upper Regional Office, Salt Lake City, Utah.

Jackson, L. K.

- 2007 Traditional Hualapai Ecological Knowledge and the Monitoring Program for the Ecosystem in the Colorado River Corridor. Manuscript on file, Hualapai Department of Cultural Resources, Peach Springs, Arizona.

Jackson, L., D. J. Kennedy, and A. M. Phillips, III

- 2001 *Evaluating Hualapai Cultural Resources along the Colorado River, 2001*. Final report submitted by Hualapai Department of Cultural Resources to U.S. Bureau of Reclamation, Salt Lake City, Utah.

Jackson, L., C. Mayo, and A. M. Phillips, III

- 1997 *Effects of 1997 Glen Canyon Dam Water Releases on Historic Goodding Willow at Granite Park, Colorado River Mile 209 L*. Final Report submitted to Grand Canyon Monitoring Research Center, Flagstaff, Arizona.

Jackson, L., A. M. Phillips, III, and K. Christensen

- 2001 *Evaluating Hualapai Cultural Resources Along the Colorado River, 2000*. Final Report submitted to U. S. Bureau of Reclamation, Salt Lake City, Utah.
- 2005 Wikame. Manuscript on file, Hualapai Department of Cultural Resources, Peach Springs, Arizona.

Jackson, L., and Robert Henry Stevens

- 1993 Hualapai Tribes Cultural Resources Program River Trip Report: A Report of the Hualapai Tribe Cultural Resources Program in Cooperation with the United States Department of the Interior, Bureau of Reclamation, Glen Canyon Environmental Studies. Manuscript on file, Hualapai Department of Cultural Resources, Peach Springs, Arizona.

*Kathad Ganavj*

- 1981 Transcribed and transliterated by Lucille J. Whatahomigie, Malinda Powskey, Jorigine Bender, and Josephine Manakaja, Hualapai Bilingual Program, Peach Springs School District, Peach Springs, Arizona.

Knudtson, Peter, and David Suzuki

- 1992 *Wisdom of the Elders*. Allen & Unwin, Sidney.

Kroeber, A. L. (editor)

- 1935 *Walapai Ethnography*. Memoirs of the American Anthropological Association.

Langton, Marcia

- 1995 What Do We Mean by Wilderness? Wilderness and Terra Nullius in Australian Art. Paper presented to the Sydney Institute, 12 October 1995.

Low, Setha M., and Irwin Altman (editors)

- 1992 Place Attachment: A Conceptual Inquiry. In *Place Attachment*, pp. 1–12. Plenum, New York.

Mapatis, E.

- 1982 *Hualapai Ethnobotany*. Translated by L. Watahomigie, M. Powskey, and J. Bender. Hualapai Bilingual Program, Peach Springs School District, Peach Springs, Arizona.

McMillan, C. W.

- 2007 *Making Indian Law: The Hualapai Land Case and the Birth of Ethnohistory*. Yale University Press, New Haven, Connecticut.

Mueller-Dombois, D., and E. Ellenberg

- 1974 *Aims and Methods of Vegetation Ecology*. John Wiley and Sons, New York.

Robertson, Margaret, Kevin Vang, and A. J. Brown

- 1991 *Wilderness in Australia: Issues and Options-A Discussion Paper*. Australian Heritage Commission, Canberra.

Stoffle, Richard W., Lawrence Loendorf, Diane E. Austin, David B. Halmo, and Angelita Bullets

- 2000 Ghost Dancing the Grand Canyon: Southern Paiute Rock Art, Ceremony, and Cultural Landscapes. *Current Anthropology* 41(1):11–38.

Watahomigie, L. J., et al.

1982 *Hualapai Ethnobotany*. Hualapai Bilingual Program, Peach Springs School District No. 8, Peach Springs, Arizona.

Watahomigie, L. J., et al.

1986 *Wildlife on the Hualapai Reservation*. Hualapai Bilingual Program, Peach Springs School District No. 8, Peach Springs, Arizona.

### **3.5 OTHER TRIBES' HISTORY AND CULTURE**

The summaries of other Tribes' history and culture are taken from the 2008 CRMP, draft and final PAs, and CHPMP meeting notes. The Tribes include the Cocopah Indian Tribe, Fort Mojave Indian Tribe, Colorado River Indian Tribe, Chemehuevi Indian Tribe, and the Yavapai-Prescott Indian Tribe.

#### **3.5.1 Cocopah Indian Tribe**

The information below was provided by the Cocopah Cultural Resources Department in April 2007, and was included in the March 2008 CRMP Material Associated with IM-3 of the Topock Remediation Project:

The Cocopah Indian Tribe Reservation is located 13 miles south of Yuma, Ariz., and 15 miles north of San Luis, Mexico, in Yuma County along the Colorado River. The reservation's unique geographical location borders the United States, Mexico, Arizona and California. Historical records show that the Cocopah domain once included portions of Arizona, southern California and Sonora, Mexico. The Treaty of Guadalupe Hidalgo carved the U.S.-Mexican border, dividing the Cocopah lands between the two countries in 1848. Since 1930, the Cocopah (U.S.) and the Cucupá (Mexico) people have been forced to end tribal unity.

President Woodrow Wilson signed Executive Order No. 2711 in 1917 that established the Cocopah Indian Reservation. In 1985, The Cocopah Tribe gained an additional 4,200 acres through the Cocopah Land Acquisition Bill that was signed by President Ronald Reagan, which included the North Reservation. Today the East, West and North Reservations comprise over 6,500 acres—much of which is leased as agricultural land to non-Indian farmers.

The Cocopah Indian Tribe is one of seven descendant tribes from the greater Yuman language-speaking people who occupied lands along the Colorado River. Cocopah tribal ancestors also lived along the Lower Colorado River region near the river delta and the Gulf of California.

Agriculture was—and still remains—very important to the Cocopah tribal members; they adapted to the river's seasonal changes and relied on the lush riparian habitats near the river's edge for food provisions. They grew grains, corn, beans and melons in the floodplains of the river. They traveled the waterways on log rafts to collect wild wheat and shellfish in estuary waters. They netted fish and collected shellfish in the delta, and they hunted deer and small game in the mesquite forests.

As time progressed and towns and farms populated the West, the construction of dams along the Colorado River slowed and eventually stopped the flow of water. These changes brought an end to Cocopah tribal members' way of life along the river....

The Cocopah people had no written language; historical records were passed on orally or interpreted in documents written by outside visitors.

Diaries and journals kept by travelers along the Colorado River and migrants into the West documented the changes among the Cocopah people. Spanish explorer Hernando de Alarcón, a member of Coronado's marine expedition, traveled the river in 1540 and described members of the Cocopah Indian Tribe as tall, well-built people who carried wooden maces and bows and arrows. The men wore loincloths, and the women wore willow bark skirts. The explorer and his crew were offered gifts of shells, beads, well-tanned leathers and food.

When Don Juan de Onate and Father Escobar sailed up the river, there were estimated to be about 6-7,000 Cocopah people living along the delta and the lower Colorado River. Fellow travelers such as Father Kino, Father Garces, fur trapper James O'Patte, military men and ethnographers kept colorful records from 1540-1917.

Westward expansion in the 1840s and the discovery of gold in California in 1849 brought many migrants through the area near the mouth of the Colorado River and the Grand Canyon region. The strategic importance of the river crossing was recognized by the U.S. government; the United States Army established Camp Independence in 1850 to protect the entry route through the tribes' territories; the following year the camp was moved to the site of an old Spanish Mission that was later named Fort Yuma, which still exists today.

Throughout the mid-1800s and through the early 1900s, the Cocopah Indian Tribe effectively resisted assimilation to an established reservation and maintained its social, religious and cultural identities.

In the last half of the nineteenth century, the steamboat business began to take shape among the Cocopah people; Cocopah men were valued steamboat pilots because they were well known for their skillful river navigating.

In 1964, the Cocopah Indian Tribe founded its first Constitution and formed a five-person Tribal Council. As recently as the 1960s, a number of tribal families lived in traditional arrow weed-thatched homes, and until 1968, there were few houses and gravel roads. In the late 1970s and the 1980s, the tribe began acquiring additional land, constructing homes, installing utilities, developing an infrastructure system and initiating economic development. The octagonal Tribal Administration Building was completed in 1976. Currently, about 1,000 Cocopah tribal members live and work on or near the three reservations in Somerton, Arizona.

The Cocopah Tribe recognizes the significance of the Topock Maze and the surrounding landscape and its ties to the Colorado River. The Cocopah Tribe supports the efforts by the Mojave Tribe to maintain the sacred landscape of the Topock Maze region.

Additional information provided by the Cocopah Indian Tribe came from the Cocopah Indian Tribe Cultural Resources Department, May 18, 2010 in the preamble for the proposed Tribal Draft version of the PA:

...the Cocopah Tribe is aware that the Topock Maze is a very special place. They support the protection and preservation of all sacred sites that represent the collective culture of the lower Colorado River area and surrounding deserts and mountains, and;

...the Cocopah Tribe would like to reiterate their support to the Mojave Tribe in their battle to preserve the Topock Maze. What is important to one people is inherently important to all tribes for it affects us as a whole. Once, this was all our land; it belonged to all Indian people. The entire Colorado River corridor was home to many tribes, and the river is the life blood of these people. The river and the surrounding landscape is a sacred place. Its reverence is shown through the Creation Story, and the many songs of the tribes. These stories and songs commemorate the significant events and places that make the river sacred to all Indian people of the region.

### **3.5.2 Fort Mojave Indian Tribe**

A description of the Topock Cultural Landscape was provided by the Ft. Mojave Indian Tribe (AhaMakav Cultural Society) in 2006, and included in the March 2008 CRMP Material Associated with IM-3 of the Topock Remediation Project:

The complex of raked stone windrows and associated ground features known as the Topock Maze is a geographic feature that anyone can recognize as unique. As a result, outsiders tend to view it as a discrete entity separate and bounded from the landscape of which it is a part. This is not at all the tribal view of the Maze.

To the Fort Mojave Tribe, the Maze is an important, integral part of a much larger cultural landscape extending along the Colorado River from Black Canyon in the north to the vicinity of Blythe in the south. This landscape includes the Colorado River floodplain between these two points, and the desert uplands on either side of it.

The Tribe realizes that this is an expansive area, embracing lands controlled by multiple government agencies, industries, and private parties. These geographic and historical realities do not change the fact that this landscape, in its entirety, has traditional cultural significance to the Fort Mojave Tribe and neighboring tribes. It is the homeland of the Mojave people, the land where most important events in its traditional history occurred, and the land most closely associated with Mojave traditional lifeways and belief systems.

Specific locations with it, such as the Topock Maze, have specific associations and values in Mojave tradition, but these places are linked in a coherent network, within and with relation to which Mojave people carry out their lives. The Mojave also have traditional name descriptors for these places. The Topock Maze, for instance, is the passageway into the next dimension, to the land of those who have passed on. These places and the larger context within which they rest, relate to Creation stories and beliefs and have been given to the Mojave, they are not of modern creation. Other places have petroglyphs and earth figures. In this we recognize the ancestors who were special gifted people and could relate to the higher sources. They left ground figures for us so that we could later understand those people and their beliefs.

Anything that happens within the Mojave cultural landscape as defined above is of concern to the Fort Mojave Tribe. The Tribe understands, of course, that time cannot be turned back in this world, and that as time has passed, things have happened within the cultural landscape, some of which cannot now be undone. The Tribe understands fully that many things that occur within the cultural landscape are not subject to control by the Tribe, and in some cases cannot even be influenced by the Tribe. As a result, there is no point in expressing concern about some of the things that happen here today, or in objecting to some things that may happen in the future. Traffic will continue to move along I-40; recreational fishing and boating will continue in the river; agriculture will continue on the floodplain. The Tribe does not expect to be consulted about such existing activities.

What the Tribe does expect to be consulted about are new and ongoing activities that exacerbate the damage already done to the cultural landscape, such as new development, road-building, well-drilling and the like, together with ongoing land and resource (fish, plant, mineral, cultural) management.

In summary: all the land along the Colorado River between Black Canyon and Blythe, comprises a cultural landscape significant to the Fort Mojave Tribe. If need be, the Tribe can make a case for the eligibility of this landscape for inclusion in the National Register of Historic Places, but this should not be necessary. As a sovereign tribal government, based on the Tribe's well-known cultural history, the Fort Mojave Tribe has identified this landscape as being of cultural importance to its people. This identification should be respected by agencies of the federal, state, and local governments. The Tribe wishes to be consulted early in the process of planning any new construction or ground disturbance within the cultural landscape as defined above. As a general rule, it can be expected that the Tribe will be less likely to object to an action taking place within a previously damaged area (e.g., a highway corridor) than to an action taking place elsewhere, but this does not mean that the Tribe need not be consulted about actions taking place in previously damaged areas. The Tribe also expects to be consulted about ongoing land management by the federal and state agencies that engage in such management along the river within the cultural landscape as defined above.

The Tribe stresses that respecting the cultural landscape, and the Tribe's values, involves more than the physical avoidance of locations identified as interesting by archaeologists. The Tribe is certainly concerned about specific instances of damage to or disturbance of locations within the cultural landscape, but its concerns go far beyond those of archaeological research, and the overall Tribal concern is with the entire landscape and the role it plays in Tribal culture, beliefs and history.

Additional information provided below came from the Fort Mojave Indian Tribe Cultural Resources Department (AhaMakav Cultural Society), May 18, 2010 within the preamble clauses for the proposed draft Tribal version of the PA:

...the Fort Mojave Indian Tribe and other tribes in the area regard the Colorado River and the landscape on both banks of the river extending at least twenty miles back from the riverbanks (what they refer to as, the Colorado River Cultural Landscape) as significant in their cultures and religious beliefs; and



...the Fort Mojave Indian Tribe is a landowner within the remediation footprint, is the closest reservation to the Topock area, and has cultural obligations to act as a caretaker of the area;

...Time Critical Removal Actions have occurred with implementation of Interim Measures 1, 2, and 3, whose implementation have resulted in adverse effects to historic properties, and other Time Critical Removal Actions may potentially be identified as part of the undertaking; and

...many of the Tribes in the area regard the Colorado River, and surrounding landscape as the lifeblood of the people and a sacred place that figures in their creation stories and beliefs about the afterlife; and

...the Fort Mojave Indian Tribe, Hualapai Tribe, (and the names of other tribes can be added) believe the Topock or Mystic Maze and other Native American cultural properties are not found in isolation of each other but rather as a part of a larger cultural area (to which these tribes refer as a cultural landscape) that includes the Colorado River and extends beyond limits of the Undertaking's area of potential effect (APE) and should not be understood merely as archaeological sites but as a site of traditional religious and cultural value.

### **3.5.3 Colorado River Indian Tribes**

The following information was provided by the Colorado River Indian Tribe's Cultural Resources Department, May 18, 2010 as a part of the Preamble clauses within the proposed draft Tribal version of the PA:

...the Colorado River Indian Tribes believes Cultural Properties, the origin of which are from Native Peoples, and which are located within the Project area should be identified in literature generated from or about the Project and Undertaking and treated throughout the course of the Project and Undertaking, as a unified cultural whole, in recognition of their inherent spiritual nature, and their historical and modern-day usage. This recognition shall not be construed to preclude effective remediation of the contaminants within the Project area, but rather to imbue the Project and Undertaking with the appropriate, conscious sense of the reverence Native Peoples have for the location.

### **3.5.4 Chemehuevi Tribe**

The following information was provided by the Chemehuevi Indian Tribe Cultural Resources Department, May 18, 2010 as for the Preamble clauses within the proposed draft Tribal version of the PA:

...the Chemehuevi Indian Tribe has significant ties to the health of the water as it is our most sacred cultural resource, which must sustain our traditional life ways, and;

...the Chemehuevi Indian Tribe understands the known effects of the carcinogen "Chrome -VI" and the potential for devastating effects to the health and well-being of our children, the land, our food and future generations, and;

...if there is threat of contamination to the river within 15 feet, real or perceived, let there be emergency measures to rely on, that will take precedence to the overall cultural

landscape. If emergency measures must be implemented as determined by DTSC, there shall be no additional construction of buildings involved in the emergency measures to the maximum extent possible. Instead the contaminated waste must be trucked out of the area and treated elsewhere.

### **3.5.5 Yavapai-Prescott Indian Tribe**

The information below was provided by the Yavapai-Prescott Tribe and was included in the March 2008 CRMP Material Associated with IM-3 of the Topock Remediation Project:

Roaming the deserts of the southwest, the Yavapai and their ancestors lived in central and western Arizona for centuries prior to the arrival of Europeans. The Yavapai territory encompassed 10 million acres that varied geographically from desert to mountainous areas. The range included the Colorado, Verde, and Salt Rivers, which were free-flowing all year, as well as numerous springs, streams, and natural reservoirs. As nomadic hunters and gathers, the Yavapai subsisted on vast resources of the region. The Yavapai typically moved from one area to another in small bands, following a cyclical subsistence pattern based on the availability of ripened plant food; however, agriculture was occasionally practiced.

The Yavapai language is considered a dialect of an Upland Yuman language. The Yavapai-Prescott Indian Tribe is one of four sub-tribes of the Yavapai people known as Yavepe. Other sub-tribes are Tolkapaya, Kewevkapaya, and Wipukpaya. Each sub-tribe has a minor dialectal difference.

According to literature, the Yavapai believe that they live in the center of the world from which all plants, animals, and humans had entered by climbing the first corn plant from the underworld. Montezuma well, a sacred site, is the point of entry from the underworld. The wells' sacred waters are used in ceremonies to bless people and belongings. Reverence of the sun, dream omens, and shamanism are also key aspects of Yavapai religion that they maintain today.

The Yavapai relatively lived in peace until the discovery of gold in the early 1860s. As the white population began to expand, there were increasing conflicts over land and resources. In 1871, the United States ordered and forced Yavapai onto the Rio Verde Reservation, massacring many in the process. A few Yavapai managed to escape and returned to the Prescott area. During the spring of 1875, Yavapai from the Rio Verde Reservation were moved again by force to the San Carlos Apache Indian Reservation, where food and water were scarce. Many died of malnutrition, disease and illness. In the 1880s and 1890s, Indian agents allowed some Yavapai to leave the San Carlos Apache Indian Reservation and return to the Prescott area.

The Yavapai-Prescott Indian Reservation was established on June 7, 1935 with 75 acres from Fort Whipple military reserve outside of Prescott. An additional 1,320 acres from the military reserve was added to the reservation on May 18, 1956. Today, the Tribe consists of 160 members and still preserves the ancient culture of its ancestors.



## 4 DESCRIPTION OF UNDERTAKING

### 4.1 OVERVIEW OF UNDERTAKING

For purposes of NHPA Section 106 compliance, “undertaking” is defined as “a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license or approval; and those subject to State or local regulations administered pursuant to a delegation or approval by a Federal agency” (36 CFR 800.16(y)).

The Topock Remediation Project (the Undertaking) is an undertaking for several reasons, including that: portions of the APE (1) lie on Federal lands administered by the USFWS, BLM, and USBR, and (2) involve waters of the Colorado River under the jurisdiction of USBR; and (3) the Project’s remedial investigations and groundwater and soil removal and response actions are, pursuant to CERCLA, under the direction of DOI and require Federal approvals (BLM et al. 2010:1–3). The DOI issued a ROD selecting a groundwater remedy that was executed on January 20, 2011, which identified the NHPA as an ARAR, the substantive requirement of which must be attained as part of Project implementation. BLM is serving as lead Federal Agency for purposes of Section 106 compliance related to the Undertaking.

As noted in Subsection 1.2, above, the Undertaking includes the full range of Project plans and actions developed and carried out within the APE and subject to any Federal agency jurisdiction, control, or approval as set forth in 36 CFR 800, 40 CFR 300, 43 CFR 7, 43 CFR 10, the PA, and the CERCLA ACA and RODs. The Undertaking thus encompasses not only such earth-disturbing activities as well drilling, trenching, and access road construction, but also planning and management decisions that may affect cultural and historic properties within the APE. Generally, the Undertaking involves three broad categories of plans and actions: (1) those designed to remediate groundwater contamination; (2) those dealing with the continued site investigation, characterization, and (if necessary) subsequent remediation of soils contamination; and (3) the removal of the existing IM-3 treatment plant and other remediation facilities, as appropriate.



## **5**

### **EFFECTS ON CULTURAL AND HISTORIC PROPERTIES**

#### **5.1 FINDINGS OF EFFECT**

##### **5.1.1 Definition of Adverse Effect**

According to the Criteria of Adverse Effect set forth in 36 CFR 800, “an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association...[36 CFR 800.5(a)(1)]. Examples of adverse effects include, but are not limited to:

- (i) Physical destruction or damage to all or part of the property;
- (ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access that is not consistent with the Secretary’s standards for the treatment of historic properties (36 CFR part 68) and applicable guidelines’
- (iii) Removal of the property from its historic location;
- (iv) Change of the character of the property’s use or of physical features within the property’s setting that contribute to its historic significance;
- (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property’s significant historic features;
- (vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and
- (vii) Transfer, lease, or sale of the property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property’s historic significance [36 CFR 800.5(a)(2)].

##### **5.1.2 Effects of the Undertaking**

The Signatories to the PA have concluded that the Undertaking has the potential to adversely affect cultural and historic properties that are listed in or have been determined eligible for the NRHP, including but not limited to the Topock Maze, a TCP which encompasses the APE, portions of U.S. Route 66, the A&P Railroad right-of-way, three archaeological sites (CA-SBR-11697, -11700, and -11701), and geoglyphs (including CA-SBR-5237 and others) located within the APE that may be deemed eligible after further review (BLM et al. 2010:3).

It has been determined that the Undertaking will have an adverse effect on the Topock Maze and its contributing properties. To date all other properties have been avoided.

The primary goal in addressing the Undertaking's potential effects is avoidance. If avoidance is not possible, then any potential effect should be minimized or mitigated. Accordingly, the Federal Agencies, in consultation with the Tribes, SHPOs, ACHP, PG&E, and other interested parties have agreed to:

Carry out, and require others under their jurisdiction to carry out, all investigative, testing and remediation activities, including all supporting operations and maintenance activities, in ways that avoid, minimize, or mitigate adverse effects to cultural and historic properties within the APE, to the maximum extent practicable [BLM et al. 2010:6].

Appendix B to the PA, although primarily concerned with how consultation takes place for the Undertaking, assumes that some types of actions will have no effect or no adverse effect. For example, Appendix B Section III of the PA states, in part:

- D. Consultation regarding potential effects on cultural and historic properties shall proceed as follows:
1. The following actions shall be determined to have “no effect” or “no adverse effect.” when undertaken in connection with the Undertaking and may proceed without further consultation:
    - a. Pre-construction surveys;
    - b. Marking (including fencing) of identified Cultural and Historic Properties, providing that such activities do not require mechanical disturbance or vegetation removal;
    - c. Monitoring;
    - d. Sampling of existing wells;
    - e. Operation and maintenance of existing and future approved facilities required for the Topock Remediation Project, including transportation associated with such operation and maintenance, provided that such activities do not introduce additional visual or audio elements to a previously approved facility;
    - f. Avoidance of Cultural and/or Historic Properties in areas already surveyed; and
    - g. Actions taken in areas of the APE, as delineated by the Appendix A map, which have previously been used or disturbed in connection with Time Critical Removal Actions or other actions related to the Topock Remediation Project, including but not limited to staging areas, roads or pipelines, or for other activities including but not limited to soil or groundwater sampling.
  2. If the BLM, in consultation with the AZ SHPO, CA SHPO, and Tribes finds that a cultural and/or historic property (or properties) will not be adversely affected by a proposed action, then no further consultation will take place, and all Signatories, Tribes, and Invited Signatories will be notified of the determination [BLM et al. 2010:Appendix B:3].

## 5.2 SUMMARY OF AFFECTED PROPERTIES

The inventory of cultural resources within the APE includes 144 prehistoric archaeological sites, 39 prehistoric isolates, 24 historic sites, and three sites containing both historical and prehistoric elements (see Table 2.2 and Volume II). A small group of these have been evaluated formally for significance, and six resources—CA-SBR-219, CA-SBR-2910H/AZ I:15:156, CA-SBR-6693H/AZ I:14:334, CA-SBR-11697, CA-SBR-11700, and CA-SBR-11701—have been judged eligible for the NRHP (Davy et al. 2004; Price et al. 2004). The following sections describe certain of these resources in greater detail.

Similarly, Davy et al. (2004) found six sites ineligible for the NRHP; however, the vast majority of archaeological and historical sites in the APE have not been evaluated. Stipulation I.I of the PA states that any sites that have not been evaluated formally for inclusion on the NRHP will be treated as eligible for the purposes of the PA (BLM et al. 2010). Any of these sites may be affected by activities designed to remediate groundwater contamination; those dealing with the continued site investigation, characterization, and (if necessary) subsequent remediation of soils contamination; or removal of the existing IM-3 treatment plant and other remediation facilities.

### 5.2.1 CA-SBR-219, Topock Maze (all loci)

The BLM has determined that a traditional cultural property (TCP) or property of traditional religious and cultural significance that encompasses the APE is eligible for inclusion in the NRHP under criterion A (i.e., 36 CFR 60.4(a)) as part of what the Tribes have identified as a larger area of traditional and cultural importance, whose boundaries have yet to be defined and will not be defined within the scope of this Undertaking.

### 5.2.2 CA-SBR-6693H/AZ I:14:334(ASM), Atlantic and Pacific (A&P) Railroad Right-of-Way, Atchison, Topeka, and Santa Fe (AT&SF) Railroad Right-of-Way, and Burlington Northern Santa Fe (BNSF) Railway.

The first railroad to cross the Colorado River in the Topock area belonged to the Atlantic and Pacific Railroad Company. Built in 1883 by Southern Pacific Railroad Company, the A&P Railroad originally crossed the Colorado River near Needles, California. Because of repeated washouts, a new crossing was built at Topock in 1890, when the Red Rock cantilever bridge was completed. In that year the A&P Railroad was purchased by the AT&SF Railroad. In 1947, the railroad was moved from the original alignment to an inland right-of-way and a new bridge crossing. BNSF currently owns and operates the post-1947 railroad alignment.

CA-SBR-6693H comprises the San Bernardino County, California portions of both the original and the realigned route of the A&P/AT&SF/BNSF railroad (i.e., both the pre-1947 and post-1947 alignments). The present National Trails Highway, a county-maintained thoroughfare, now follows the original pre-1947 right-of-way through the eastern and northern portion of the APE, while the current alignment transects the central APE from east to west (see Volume II, Map 1). CA-SBR-6693H was judged eligible for the NRHP, with SHPO concurrence, in 1994 (Davy et al. 2004:6-5).

In Mohave County, Arizona, the A&P/AT&SF/BNSF railroad is recorded as AZ I:14:334(ASM). Although the railroad segment in Arizona has not been evaluated formally for significance,



Bauer (2003) generally concluded that original materials had been replaced, new track had been added, and the local segment of the line did not retain integrity or express its historic character. It had been widened from single to double track by the early 1920s, and to four tracks by 1950. Within the Project APE the right-of-way includes a swath of grading and other disturbance hundreds of feet wide.

### **5.2.3 CA-SBR-2910H/AZ I:15:156(ASM)/AZ L:15:72(ASM), National Old Trails Highway/U.S. Route 66 Segments**

In response to the increasing automobile traffic during the first decades of the twentieth century, the National Old Trails Highway (NOTH; also known as the Ocean-to-Ocean Highway) was established in 1912. Much of the former route of the NOTH became Route 66 and I-40. Officially established in 1926, Route 66 was one of the original transcontinental roads established by the Federal Aid Road Act of 1926. Connecting Chicago with Los Angeles, the route was completely paved by 1932. The Federal Aid Highway Act of 1956 created the Interstate Highway System, and the processes of replacing older U.S. highways began almost immediately. The process was gradual; the Federal Highway Commission did not decommission Route 66 until 1984. Several segments of Route 66 in Arizona and Illinois are formally listed on the NRHP, while several other SHPOs have offered consensus determinations of eligibility. The California portion of Route 66 was listed in the NRHP in 1990.

In the Project area, the NOTH/Route 66 followed multiple alignments that are identified in Arizona as AZ I:15:156(ASM) and AZ L:15:72(ASM), and in California as CA-SBR-2910H (Davy et al. 2004; Earle 2007; Price et al. 2010). Road surface treatments vary substantially among the various alignments, and include dirt, gravel, soil and oil mix, asphalt, and concrete. Along with the physical elements of the roadway itself (e.g., dimensions, paving, etc.), historical debris and other features are associated with the roadway and have characteristics that may contribute to its significance. These have been recorded under the existing site designations and include flagstone drainways, gutters, right-of-way marker posts, wooden culverts and flumes apparently designed to carry surface water runoff and prevent erosion of the roadway, stacked concrete bag revetments, several enigmatic rock piles and alignments, and trash scatters dating from the early twentieth century to the 1960s. The various segments, alignments, and related features of the NOTH/Route 66 are depicted on Maps 1 and 2 in Volume II of this CHPMP.

### **5.2.4 Other Transportation-Related Properties within the APE**

The first river crossing in the Topock area was the Red Rock Bridge, erected in 1890 to replace several earlier structures near Needles that had been repeatedly washed away by the river (Rowe 1947). This steel cantilever structure carried the transcontinental railroad until 1947, when a new railroad bridge was built. The bridge carried historic Route 66 from 1947 to 1966, when the current I-40 bridge was erected immediately to the north. The Red Rock Bridge was demolished in 1978. A concrete abutment remains on the California shore, but there are no remnants on the Arizona shore.

The Old Trails Arch Bridge was erected in 1916 to divert automobile traffic on the NOTH from the Red Rock Bridge. The bridge consists of a pair of primary arches bearing steel columns, which in turn carry the roadway. At the time of its construction it was the longest and lightest

three-hinged steel arch in America. The Old Trails Arch Bridge was listed in the NRHP in 1988 because of its transportation and engineering significance during the period from 1916 to 1948.

Route 66 initially crossed the Colorado River on the Old Trails Arch Bridge. Traffic was diverted back to the Red Rock Bridge in 1947, when the railroad was rerouted, and it followed the abandoned railroad alignment from 1947 to 1966, when the current I-40 bridge was built. The current National Trails Highway is the same as the 1947–1966 alignment of Route 66; it runs along the base of the Colorado River bluffs to the location of the former location of the Red Rock Bridge.

### **5.2.5 Prehistoric and Historical Archaeological Sites**

In addition to the transportation-related features described above, potentially affected historic-era archaeological resources within the APE include the ruins of highway rest stops such as the El Rancho Colorado Roadhouse and Gas Stop, turn-of-the-century to mid-twentieth-century refuse deposits, foundations and other structural remnants, and water management features. In some instances historical and prehistoric deposits may occupy the same location.

As described in Section 2.9 above, potentially affected prehistoric archaeological sites are primarily lithic scatters of varying size and content, ranging from small discrete assaying stations where available toolstone was tested for suitability to large, complex lithic scatters with multiple loci and features and a wide range of artifact types. Other site types include geoglyph/intaglios, possible temporary camps, rock shelters, trail alignments, rock alignments, ceramic scatters, cairns, hearths, and rock rings. Detailed information regarding all of these historical and prehistoric sites is presented in Volume II of this CHPMP.

## **5.3 CONSULTATION TO IDENTIFY ANY ADDITIONAL EFFECTS**

Throughout the course of the Undertaking, BLM will ensure that the Federal agencies consult with appropriate Signatories, Tribes, and Invited Signatories, as required by 36 CFR 800, 43 CFR 10, and other applicable regulations, and as stipulated in the PA (attached hereto as Appendix A). Some of the Project's effects on cultural and historic properties have already been identified and discussed in the CRMP, PA, and in the present CHPMP. However, additional effects may be identified and/or recognized in the future as a result of discoveries that may be made or of any changes that may occur in the APE, or in the scope of the Undertaking, or in the information provided by Signatories, Tribes, and Invited Signatories. One purpose of the ongoing consultation, therefore, will be to continually seek from all parties any information bearing on potential, presently unanticipated effects on cultural and historic properties within the APE. BLM will continue to serve as lead Federal agency responsible for the gathering and assessment of such information.



## **6 GENERAL TREATMENT MEASURES**

### **6.1 MEASURES AND PRINCIPLES TO AVOID, MINIMIZE, OR RESOLVE ADVERSE EFFECTS**

### **6.2 REMEDIAL ACTIONS**

#### **6.2.1 Remediating Groundwater Contamination**

##### **6.2.1.1 Temporary Measures**

Pursuant to Section IV.A of the 1996 Corrective Action Consent Agreement between DTSC and PG&E, DTSC determined that immediate action was required to prevent and/or mitigate potential impacts to the Colorado River. The immediate actions required by DTSC, called Interim Measures, involve pumping, transporting, and disposing of groundwater in order to draw the chromium plume in the floodplain away from the Colorado River. In March 2004, PG&E began extracting contaminated groundwater from three wells located on a bench (the MW-20 Bench) above the floodplain of the river. Water pumped from the wells was temporarily stored in steel holding tanks and then transported to a licensed waste treatment facility in Los Angeles.

In June 2004, DTSC directed PG&E to expand its existing Groundwater Extraction and Treatment System (GETS) by installing new groundwater monitoring and extraction wells, a treatment plant, injection wells, and pipelines, conduits, and access roads to connect the wells with the treatment plant. Referred to as Interim Measure No. 3 (IM 3), the expanded GETS provides for untreated water flow from the extraction wells to the treatment facilities, and after treatment, to injection wells. Treatment facilities include storage tanks, piping, processing equipment, and instrumentation covering approximately 1 acre. The IM-3 treatment plant is not part of the final groundwater remedy selected by DOI in the ROD; its decommissioning is discussed below. The PA recognizes that other time-critical removal actions may be potentially identified as part of the Undertaking (BLM et al. 2010:3).

##### **6.2.1.2 Selected Remedy**

Pursuant to CERCLA and the NCP, on January 20, 2011, the DOI issued a Groundwater Record of Decision that presents as its Remedial Action the Selected Remedy, previously known and evaluated in the CMS/FS as Alternative E: “In-Situ Treatment with Fresh Water Flushing” (DOI 2011). The Selected Remedy includes:

1. Construction of an In-Situ Reactive Zone (IRZ) along the National Trails Highway using a line of wells that may be used as both injection and extraction wells to circulate groundwater and distribute an organic carbon source to promote bacteriological reduction of the hexavalent chromium (Cr VI) to trivalent chromium (Cr III).

2. Flushing accomplished through a combination of potable water injection and injection of carbon-amended water in wells upgradient of the plume.
3. Extraction wells near the Colorado River to provide hydraulic capture of the plume, accelerate cleanup of the floodplain, and enhance the flow of contaminated groundwater through the IRZ line.
4. Bedrock extraction wells in the eastern (downgradient) end of the East Ravine to provide hydraulic capture of contaminated groundwater in bedrock. Extracted water will be treated and managed using the same active treatment system that will be used to treat and manage contaminated groundwater extracted from the alluvial aquifer.
5. Institutional controls to restrict surface land uses and prevent the use of groundwater.
6. Monitored natural attenuation as a *long term component* to address residual Cr (VI) that may remain in recalcitrant portions of the aquifer after *in-situ* treatment (DOI 2010:3).

The PA documented the various groundwater alternatives under consideration by DOI, and stipulated that if In-Situ Treatment with Fresh Water Flushing was selected as the groundwater remedy, the Federal agencies would ensure, consistent with the principles set forth in Stipulation I (BLM et al. 2010:6–7), that:

- a. Existing monitoring wells and related facilities shall be used to the maximum extent practicable.
- b. The need for and placement of any new facilities or activities will be determined in consultation with the Tribes and the Consulting Parties following the Guidelines in Appendix B.
- c. New facilities or activities will be placed in areas already disturbed by previous grading and other mechanized activities to the extent practicable, consistent with human health and the environment and achieving cleanup in a timely manner.
- d. The Federal agencies will develop a brochure to notify other state and Federal agencies of the Signatories and Invited Signatories concerns with the actions to be taken within the vicinity of the Topock Remediation Project, and the Topock Maze.
- e. The performance of all field activities in support of the remedy shall be executed in such a way as to avoid and/or minimize adverse effects to cultural and historic properties to the maximum extent practicable.
- f. Subject to Stipulation I(A) above, direct, indirect, and cumulative impacts shall be considered and mitigated (BLM et al. 2010:10).

The PA also stipulates, with respect to the Monitored Natural Attenuation component of the Selected Remedy, that “existing monitoring wells and related facilities shall be used to the maximum extent practicable” (BLM et al. 2010:10).

As the Selected Remedy is designed and implemented, further studies may potentially be required. Additionally, as part of the Selected Remedy, additional characterization of bedrock

groundwater in the East Ravine is ongoing (DOI 2011:15). Similarly, further studies to assess the effectiveness of long-term natural attenuation in the East Ravine will continue during remedial design (DOI 2011:34).

### **6.2.2 Characterizing, Remediating, and Mitigating Soils Contamination**

The DTSC and the DOI bifurcated the groundwater and soils investigation and determined to expedite the groundwater cleanup after concerns about groundwater contamination were elevated due to the detection in 2004 of Cr (VI) in a new well near the Colorado River. As a result of the DTSC and the DOI decision to separate the soil and groundwater investigations, the soils investigation and characterization is ongoing, and a remedy to address contaminated soils within the APE (should one be necessary) has not yet been selected. As part of the ongoing soil investigation it will be determined whether unacceptable risks or impacts to groundwater occur currently or could occur in the future, and whether soil remediation is required and should be implemented.

The PA requires ongoing consultation among the Signatories, Tribes, and Invited Signatories during the soils investigation and potential soil remedy selection, and that

every effort shall be made to avoid and/or minimize adverse effects to the maximum extent practicable, in accordance with the principles set forth in Stipulation I. Tribal and archaeological monitors shall be authorized to monitor all such related activities in accordance with Appendix C [Monitoring Protocol] (BLM et al. 2010:12).

Once a Corrective Measures Study/Feasibility Study for the remediation of soils has been prepared, Stipulation IV.B of the PA states that the Parties will engage in consultation “to determine the need for amendments to this PA or editing and expansion of the CHPMP to incorporate new information regarding soils remediation alternatives, adverse effects, and mitigation” (BLM et al. 2010:12). This section also stipulates that:

1. As a general rule, only soils that have been contaminated by human activity are to be remediated. Response actions to address contaminated soils will be selected in compliance with the requirements of CERCLA. No soils remediation or mitigation will proceed until consultation with all Signatories and Invited Signatories has been completed in accordance with guidelines in Appendix B (Consultation Protocol).
2. Any and all projects to remove or otherwise remediate the contamination of soils are planned in accordance with the principles set forth in Stipulation I of this PA.
3. Tribal and Archaeological monitors shall be authorized to monitor all soils characterization, remediation, and mitigation activities in accordance with Appendix D (sic; this should be Appendix C, Monitoring Protocol).
4. Because the final design of the selected remedy may differ from its conceptual design, the Federal agencies agree to ensure that:
  - a. Consultation between the Signatories, Tribes, and Invited Signatories is initiated prior to final design of the selected remedy.

- b. Every effort shall be made to avoid and minimize adverse effects to the maximum extent practicable, in accordance with the principles set forth in Stipulation I (BLM et al. 2010:12–13).

### **6.2.3 Removal of Existing IM-3 Treatment Plant and Other Remediation Facilities**

The IM-3 treatment plant is not part of the Selected Remedy for groundwater. The IM-3 treatment plant and other IM infrastructure that are not used for the groundwater remedy are expected to be decommissioned following determination by DOI and DTSC that the groundwater remedy is operating properly and successfully and that IM-3 is no longer needed for the protection of human health and the environment. In conformance with PA Stipulation V(E) and PG&E's Settlement Agreement (PG&E 2006), a plan will be prepared for decommissioning, removal and restoration of the IM-3 facility prior to implementation of the groundwater remedy, in consultation with all Signatories, Tribes and Invited Signatories [BLM et al. 2010:13].

PG&E will remove all other remediation facilities and appurtenances related to the Topock Remediation Project as soon as practicable following the attainment of cleanup standards and a determination by DOI that the removal of these facilities is protective of human health and the environment (BLM et al. 2010:13).

Stipulation V of the PA states:

- A. All such removal will be planned in consultation with the Signatories, Tribes, and Invited Signatories, following the guidelines in Appendix B [Consultation Protocol].
- B. The removal of such facilities shall be monitored following the monitoring guidelines in Appendix C.
- C. The removal of such facilities shall take place along existing graded roads to the maximum extent practicable.
- D. Prior to decommissioning of any remediation facility, the Federal Agencies will consult with all Signatories, Tribes, and Invited Signatories during the development of the closure plan to determine how to best restore the areas affected by the Topock Remediation Project, including but not limited to the site of the existing treatment plant and related facilities but excluding the Topock Compressor Station and related facilities, to ensure that environmental restoration of conditions prior to the construction of the Project is achieved to the extent practicable.

## **6.3 ENVIRONMENTAL RESTORATION**

Stipulation I.D of the PA confirms that the Federal Agencies, in consultation with the Tribes, SHPOs, ACHP, PG&E, and other interested parties agree to:

ensure that PG&E shall, to the extent practicable, restore the areas affected by the Topock Remediation Project within the APE including, but not limited to, the site of the existing treatment plant and related facilities but excluding the Topock Compressor Station and related facilities to conditions existing prior to the construction of the PG&E investigation and remediation related appurtenances and facilities [BLM et al. 2010:6].

Additionally, a Remedy Decommissioning Plan will be drafted that will describe procedures for the removal and decommissioning of the groundwater remedy treatment system and associated infrastructure. The Plan will also describe the post-remedy restoration of the site to the conditions existing prior to the implementation of the remedial investigation and remedy construction, including related appurtenances and facilities, to the extent practicable. This Plan will be submitted by PG&E to DOI within 120 days of DOI's certification of completion of the CERCLA Remedial Action and determination by DOI that removal of such facilities is protective of human health and the environment. The Federal Agencies will consult with the Signatories, Tribes, and Invited Signatories regarding such restoration, per Stipulation V(D) of the PA.

#### **6.4 RESPECT FOR TRIBAL CONCERNS**

BLM understands the concerns and cultural values that the Tribes ascribe to the Topock TCP and has acknowledged that the property is eligible for inclusion in the NRHP as a property that has religious and cultural value to the Tribes. At a March 18–19, 2010 PA planning meeting, a representative of the Fort Mojave Indian Tribe stated in relation to respect for tribal concerns within the APE that,

...And it is more than a cleanup, but you are asking us and it is difficult. Physical, emotional, mental anguish, that's what we live with every day! We pray for the area, the people, and the water. Some people go on their own. In the past, my Dad used to go out there and my Dad used to pray during the peace and quiet of the morning, and, in the evening at night. You sit there looking at the stars, praying, thinking, trying to find a way to balance what you have to decide.... You must realize the impacts that are being put on our people. It hurts and this is why we are so vigilant about why we won't accept anything less than what is right and what has to happen.

BLM will continue to seek from the Tribes additional input on respect for tribal concerns. A contracted study may be undertaken to gather this information and, if provided, it will be included in future iterations of the CHPMP.

#### **6.5 TAKING INTO ACCOUNT TRIBAL AND OTHER CULTURAL VALUES**

BLM appreciates the need to understand significant Tribal cultural values in order to address the impacts of the remediation activities associated with this undertaking. BLM will continue to consult with the Tribes to gain a better understanding of their values as the Undertaking is implemented. At a February 16–17, 2010 meeting regarding the PA, a representative of the Fort Mojave Indian Tribe offered that,

The next step to understanding is to understand that it is a way of life to us; it is a religion today, and our relationship to a higher force. That is the part that is not easy to explain and we want to mitigate when you say less impact, it is a religion. For us how to live is given (by the Creator) we do not dispute that. You can minimize the impact to the environment but we cannot minimize our life and our religion. How is the agency going to address that? Maybe there is not an answer now, and there is no quick remedy to that.



BLM will continue seeking additional input from the Tribes on their cultural values to address additional treatment measures in the planning and implementation of activities for this undertaking.

## **6.6 TREATMENT OPTIONS**

Critical to the protection of historic and cultural properties within the APE are general and accepted preservation measures that will occur during all Undertaking activities that have the potential to affect such properties. Measures currently include but are not limited to: avoidance of ground disturbance at historic and cultural properties to the maximum extent practicable; archaeological and Native American monitoring during earth-disturbing construction work; and periodic monitoring to assess site conditions throughout the duration of the Undertaking. Measures to manage historic and cultural properties also include plans for the treatment of unanticipated discoveries or human remains that may occur during the Undertaking's activities (see Appendices C and D). Throughout the Undertaking, BLM will continue to consult with the ACHP, AZ and CA SHPOs, and to consult and coordinate with other Federal agencies, the Tribes, and PG&E, in compliance with NHPA Section 106 and the PA. Moreover, the PA Signatories, Tribes, and Invited Signatories anticipated the need to continually evaluate the effectiveness of management measures. To achieve this, the Signatories, Tribes, and Invited Signatories will continue to consult to evaluate the effectiveness of the CHPMP during its implementation, and will revise the CHPMP as needed (see Chapter 8).

Summarized below are options for treatment of cultural and historic properties that will be considered and applied as appropriate during the course of the Project.

### **6.6.1 NRHP Nomination**

In accordance with Stipulation VIII of the PA, BLM will solicit additional information regarding the traditional cultural and religious significance of the Topock Maze, including Loci B and C, and any other associated contributing properties. Then,

In consultation with the Tribes and Signatories to this PA, no later than one year from execution of the PA, a decision will be made on going forward with a formal nomination to the NRHP for the traditional and religious property/TCP associated with the Topock Maze and this Undertaking [BLM et al. 2010:15].

NHPA Section 106 requires Federal agency officials to take into account the effects of their undertakings on NRHP-eligible as well as NRHP-listed properties. The TCP that has been determined by the BLM to be an historic property, and is associated with the Topock Maze must be managed in accordance with the PA whether or not it is nominated, provided that the property meets the NRHP criteria set forth at 36 CFR 60.4. The same would be true for any other cultural or historic property within the APE that may be deemed eligible for the NRHP in the future.

### **6.6.2 Other Documentation**

All of the known historical and prehistoric archaeological sites within the APE have been documented according to the procedures specified by either the ASM if the sites are in Arizona or the California Historical Resources Information System (CHRIS) if the sites are in California

(see Volume II). If any previously unrecorded sites are discovered in the course of Project activities, such sites will be documented using Primary Record forms, Archaeological Site Record forms, Historical Site Record forms, and/or other forms acceptable to the ASM or CHRIS. Similarly, if Project activities reveal that any previously recorded site is substantially larger, or more complex, or otherwise significantly different than what was documented initially, a revised Archaeological Site Record or other appropriate documentation will be prepared and filed with the Director of the ASM or the Eastern Information Center (EIC) of the CHRIS. If human remains and/or funerary objects are found within the APE, the procedures set forth in Appendix C (Discovery Plan) will be followed.

### **6.6.3 Avoidance Measures/Management Thresholds**

Avoidance, for the purposes of this Undertaking, refers to “the design, development or construction, and operation of a project in such a way that the subject [cultural or historic] resource is not directly or indirectly affected in any way; i.e., the pre-project status of the resource is maintained” (Moratto 2011:67). To the extent feasible, all archaeological and historical sites and features within the APE will be avoided. Many of the sites and features to be avoided are located near existing or proposed facilities that may at times require ground disturbance. If adverse effects to such properties are unavoidable, PG&E, under the direction of BLM, will develop and follow procedures that reduce the possibility of inadvertent damage. This has been and will continue to be accomplished in part by apprising a limited number of operating personnel of historic property and site locations to be avoided and providing the locations on a need-to-know basis to PG&E and other non-Federal management personnel. The primary means for achieving avoidance will be through careful planning and placement of project facilities and installation of temporary barrier fences around significant cultural and historic properties. Metal fence posts and orange mesh all-weather fabric will be used, unless other appropriate materials are identified as preferable, for temporary fencing and will be regularly inspected and maintained. Permanent post-and double cable fencing may be required in high traffic areas. An archaeologist and/or Tribal representative(s) will clearly delineate the sensitive areas to be avoided by construction and supervise fence installation. Project personnel will be notified that fenced locations are to be completely avoided.

### **6.6.4 Construction Monitoring**

Monitoring of all earth-disturbing Project activities will be in accordance with Appendix C of the PA (Tribal and Archaeological Monitoring Protocol). Qualified archaeological and Tribal monitors will be notified in advance and invited to be on site during earth-disturbing construction activities (grading, trenching, boring, drilling, or other excavation) for new injection, extraction or monitoring wells, new pipelines, new treatment facilities, new access roads, new staging areas, other new transportation facilities, or other new Project components. Due to safety considerations at the Project site, Tribal and archaeological monitors will comply with all safety requirements.

The purpose of the monitoring will be to ensure that construction does not adversely affect the Topock Maze, the TCP within the APE, Route 66, or any other historic properties within APE. The monitors will work as part of the construction crew, will participate in all daily construction

meetings, and will advise the Project manager and construction site superintendent regarding avoidance of effects and other cultural resource issues.

Monitors will be qualified, and will perform their duties, as specified in Appendix C of the PA. They will maintain Daily Monitoring Logs that will detail the results of the monitoring effort and will be kept on file with PG&E's archaeologist and the PG&E Topock Site Manager. Copies of the daily monitoring records will be forwarded to BLM and, upon request, to any of the concerned Tribes. Monitors also will record date- and time-stamped digital photos of cultural sites to document site conditions at the time of surface disturbance. If monitoring reveals previously unknown remains during grading, trenching, or other construction work, activities in the vicinity of the discovery will cease until the archaeologist and/or Tribal monitor has evaluated the discovery and a course of action is decided upon in accordance with the Discovery Plan (see Appendix C of this CHPMP).

#### **6.6.5 Periodic Site Monitoring**

Sound management of the archaeological and historical properties requires that any progressive degradation of sites be identified. Additionally, it is recognized that a mechanism is needed to identify any accidental damage that may occur. To accomplish these goals, PG&E will develop a proposal describing a program of periodic site monitoring and condition assessment. BLM, following consultation with the Tribes and other appropriate parties, will approve any monitoring program before implementation by PG&E. The program will include all historic properties within the APE. Any previously unknown properties that may be encountered during the Project also will be included in the monitoring program unless such properties are evaluated as ineligible.

During its initial phase, periodic monitoring and condition assessment will consist of annual field visits to monitor site conditions and disturbances. A professional archaeologist employed or otherwise retained by PG&E will conduct annual field checks at each of the NRHP-listed and NRHP-eligible properties throughout the duration of the Remedy construction. At the end of the Remedy construction, the archaeologist(s) will evaluate the monitoring program to identify the following:

1. ***Properties that are not experiencing new or ongoing disturbances or effects from the Project.*** As conditions indicate, the archaeologist(s) will make recommendations to reduce the monitoring effort at these sites (e.g., monitoring to occur every 2 years or at longer intervals rather than annually). BLM, in consultation with the appropriate Signatories, Tribes, and Invited Signatories, will determine whether such recommendations are to be adopted and implemented.
2. ***Properties that are experiencing disturbance, effects, or are threatened by Project activities.*** The archaeologist will make recommendations for further treatment of these sites. Treatment measures will be determined by BLM in consultation with the appropriate Signatories, Tribes, and Invited Signatories.

During each periodic visit, site fencing will be inspected and repaired as necessary. To ensure that any new effects or other physical changes are identified, PG&E will maintain photo-documentation of each monitored property. To familiarize themselves with site conditions prior

to conducting new field visits, the archaeologist will review photographs of conditions recorded during previous visits. The archaeologist will take new photographs at the time of each periodic visit and make every effort to record images from the same or similar point. Observations regarding each property will be documented on a Site Condition Assessment Form. At the time of each visit the monitoring archaeologist will take the site forms, assessment forms, and photographs from the previous visit into the field to ensure that any new impacts are identified.

It is expected that the frequency of periodic monitoring will decline over time, except in cases where local Project activities or natural events such as storms/flashfloods indicate the need for more immediate inspection. In general, however, periodic monitoring will be phased out gradually as the factors that might result in effects to archaeological and historical properties decrease.

PG&E will ensure that a database is developed in Microsoft Access or similar spreadsheet program. All of the site condition information gathered each year will be entered into the database. This will help facilitate management of the properties, assist in tracking changes observed in the field, and aid in assessing the continued needs for monitoring at each property. The database will be reviewed each year prior to conducting the field monitoring.

Periodic monitoring typically will be accomplished during the fall season, and PG&E will submit monitoring reports to BLM by the end of each calendar year. These reports will describe any changes in the integrity of cultural and historic properties and other observations that may be important to document. If conditions that pose immediate threats to properties are identified between annual monitoring reports, PG&E's archaeologist will immediately notify BLM so that relevant parties can be consulted and appropriate treatment measure(s) determined.

#### **6.6.6 Road Closure**

BLM in consultation with the Tribes and other Topock Remediation Project stakeholders has developed "PG&E Topock Remediation Project Tribal Access Plan for Federal Properties" (refer to Appendix B). The purpose of the Tribal Access Plan is to assure the rights of the Tribes to access their places of spiritual and cultural importance located on Federal lands within the boundary of the APE, including those recognized pursuant to the NHPA, the AIRFA, and Executive Order 13007—Indian Sacred Sites.

A Topock Remediation Project Area Emergency Road Closure Action was implemented in 2007 for a portion of the Topock APE. That action is described within the Tribal Access Plan. The protection and management of additional cultural and historic properties could be enhanced by restriction of vehicle access to certain parts of the APE. BLM also will explore the potential for closure of certain roads for the duration of the Project or for a change in road status to limited authorized access in accordance with existing BLM procedures.

### **6.7 PROTOCOLS FOR TRIBAL NOTIFICATION AND CONSULTATION IN ADVANCE OF CERTAIN ACTIVITIES**

Requirements for Tribal notification and consultation are set forth generally in 43 CFR 10 and 36 CFR 800, and specifically for the Topock Remediation Project in the PA. Subsection 3.1 of this CHPMP summarizes many of the events and actions related to the Project that would necessitate

notification of and consultation with the Tribes. Through the duration of the Project, BLM will ensure that the Federal agencies consult with the appropriate PA Signatories, Tribes, and Invited Signatories, as required.

The PA (attached hereto as Appendix A), and particularly its Appendix B (Consultation Protocol), identifies the parties to be consulted and sets forth the procedures by which consultation is to occur. Appendix B of the PA acknowledges that federally recognized tribes are sovereign nations entitled to a government-to-government relationship with the U.S. Government. The appendix goes on to prescribe the consulting process, stipulating that: points of contact (POCs) will be established for all Consulting Parties; the BLM will establish an email list and U.S. mail distribution list for all Points of Contact (POCs); and that the consultation protocol applies to work plans and action memoranda for ground-disturbing activities, milestone Project documents to be prepared under CERCLA, and various cultural resource management plans and documents (BLM et al. 2010:Appendix B:1–3). Sections III.D–L of PA Appendix B then set forth in detail the consultation process to be followed, including the roles and responsibilities of the various Consulting Parties (BLM et al. 2010:Appendix B:3–5). The PA’s Consultation Protocol is incorporated herein by reference.

## **6.8 PROTOCOLS FOR TRIBAL AND ARCHAEOLOGICAL MONITORING**

Tribal and archaeological monitoring is discussed in Subsection 6.6.4 above. All such monitoring for the Project will be performed in accordance with PA Appendix C, Topock Remediation Project Programmatic Agreement Tribal and Archaeological Monitoring Protocol, attached hereto as part of Appendix A. That Protocol specifies the ways in which the Tribes, BLM, and PG&E may ensure that:

1. Tribes, BLM, and PG&E, each are kept well informed of Undertaking activities and outcomes;
2. Tribal and Archaeological monitors have the opportunity to alert PG&E’s site supervisor (or designee) to potentially sensitive areas or issues that Monitors may be aware of or may become aware of while fieldwork is in progress;
3. PG&E’s site supervisor (or designee) notifies BLM of potentially complicated situations that may include discovery of a new cultural or historical resource, damage to a previously recorded cultural or historical resource, or unanticipated effects are identified;
4. Tribal concerns regarding work activities are addressed while fieldwork is in progress [BLM et al. 2010:Appendix C:1].

The Protocol then lists the required qualifications for Tribal and archaeological monitors, discusses work scheduling, and sets forth monitoring duties and responsibilities (BLM et al. 2010:Appendix C:2–4). This is followed by discussions of discoveries, human remains, reporting requirements, safety, and administrative matters (BLM et al. 2010:Appendix C:4–6). The PA’s Monitoring Protocol is incorporated herein by reference.

## **6.9 STEPS TO BE TAKEN IF THE UNDERTAKING EXTENDS BEYOND THE APE**

If the Undertaking extends beyond the APE, BLM will determine, in consultation with the PA Signatories, Tribes, and Invited Signatories, what (if any) changes are required in the APE. If BLM determines that the APE must be revised, BLM will redefine the APE, taking into account the advice of the other Consulting Parties. Should such revision to the APE be needed, BLM will amend the CHPMP to include any changes to the APE (BLM et al. 2010:8).

## **6.10 PUBLIC EDUCATION OF CULTURAL, ARCHAEOLOGICAL, AND HISTORICAL VALUES**

As opportunities arise, or as needed, BLM will pursue public educational initiatives related to significant cultural, archaeological, and historical values associated with the Undertaking. Such initiatives may include the preparation of brochures, on-site interpretation, public lectures, and other educational activities that would contribute to the appreciation and management of cultural resources in the APE. Due to the significance ascribed by Native Americans to cultural properties in this area, the Tribes will be invited to participate in planning and implementing educational activities.

## **6.11 CURATION PROCEDURES**

Stipulation XIII of the PA specifies the curation procedures to be followed in the event that any cultural items are collected or removed from any portion of the APE. That section of the PA (CHPMP Appendix A) is incorporated by reference herein. Briefly, Stipulation XIII sets forth the different procedures that would apply if the cultural items were found on and removed from Federal lands, Tribal lands, state lands, or private lands. NAGPRA, 43 CFR 10, ARPA, and 36 CFR 79 are cited as laws and regulations that would govern curation of materials on Federal lands, while ARS 41-841–41-846 and ARS 41-865 apply to lands in Arizona and PRC 5097.98 and 5097.991 to lands in California. Importantly, Stipulation XIII states that any human remains, funerary objects, sacred objects, ceremonial objects, or items of cultural patrimony discovered in the course of the Undertaking will neither be collected nor curated, but rather will be treated respectfully, in a culturally appropriate manner, and in accordance with the POA (BLM et al. 2010:19–20).



## CULTURAL PROPERTY-SPECIFIC TREATMENT MEASURES

Specific treatment measures and impact mitigation for all activities associated with the Topock Remediation Project will be evaluated as specific actions are identified that have the potential to affect cultural and historic properties. In addition, if there is the potential for an adverse effect, the process outlined in PA Appendix B, Stipulations III.C, III.E, and III.F will be followed.

- C. This consultation protocol applies to all of the following associated with the Undertaking and occurring after the date this PA is executed:
  - 1. Work-plans and Action Memoranda for ground disturbing activities, including rehabilitation.
  - 2. Milestone project documents to be prepared under CERCLA that are identified by DOI to require consultation.
  - 3. Various cultural resource management plans and documents including, but not limited to, the Area of Potential Effect (APE), APE revision, The Cultural Resources Management Plan (CRMP), The Cultural and Historic Properties Management Plan (CHPMP), the Treatment Plan, National Register of Historic Places properties identification, discoveries, monitoring, confidentiality, curation, professional and tribal qualifications, and any other consultations associated with Section 106 compliance.
- E. If the BLM determines that there is an adverse effect to cultural and /or historic properties, BLM shall provide materials describing the proposed actions that have potential to adversely affect cultural and/or historic properties to all Signatories, Tribes, and Invited Signatories within ten (10) days of the determination of adverse effect by the BLM. All Signatories, Tribes, and Invited Signatories will have 30 days to provide comments to BLM concerning the effects of proposed actions on cultural and/or historic properties. If no comments are received from a particular consulted individual or group within 30 days of notification by the BLM, the BLM will assume that party has no comments and may proceed.
- F. The BLM has 15 days from the close of the 30-day comment period described in E. above, to take all comments into account and reach a decision on how to best avoid, mitigate, or minimize any adverse effects. The BLM will notify all Signatories, Tribes, and Invited Signatories of any such decision within the 15 day period, and may proceed to implement the decision after notifying the other Consulting Parties [BLM et al. 2010:Appendix B:2–4].

### 7.1 TREATMENT OF THE TOPOCK MAZE/TCP AND ANY ASSOCIATED CONTRIBUTING PROPERTIES

The following treatment measures shall be utilized to avoid further impacts to the Topock Maze/TCP and associated contributing properties. Specific treatment measures shall be developed as activities related to the Undertaking are identified and defined.

- 1. Physical avoidance of the Topock Maze and associated prehistoric sites.



2. To the maximum extent practicable, PG&E will avoid all archaeological sites within the APE and protect all historic properties regardless of their NRHP status. The primary means for accomplishing avoidance will be through careful planning and placement of proposed access routes and drilling sites and by the installation of barrier fences around significant historic properties. A pre-project archaeological survey field verification will be conducted prior to any ground-disturbing activities. Consistent with other phases of work conducted at the Topock Remediation Project site, agency representatives and other stakeholders (including representatives of Native American Indian tribes involved with the Project) will be invited to the site for a project initiation meeting to discuss various cultural sensitivities associated with the Project.
3. Ensure that PG&E shall, to the extent practicable, restore the areas affected by the Topock Remediation Project within the APE, including but not limited to the site of the existing treatment plant and related facilities but excluding the Topock Compressor Station and related facilities, to the conditions existing prior to the construction of the PG&E investigation and remediation related appurtenances and facilities per PA Stipulation I.D.
4. Remediation activities that propose the removal or introduction of vegetation on public lands shall be undertaken after coordination with Tribes to assess if culturally significant native plant species are being impacted and if there could be potential visual impacts to the Topock TCP.
5. Existing monitoring wells and related facilities shall be used to the extent practicable per PA Stipulation III.B.2(a).
6. The need for and placement of any new facilities or activities will be determined in consultation with the Tribes and the Consulting Parties following the Guidelines in Appendix B and per PA Stipulation III.B.2(b).
7. New facilities or activities will be placed in areas already disturbed by previous grading and other mechanized activities to the extent practicable, consistent with human health and the environment and achieving cleanup in a timely manner per PA Stipulation III.B.2(c).
8. Clay deposits are an important resource identified by the Hualapai in their creation, and may be important as well to other Tribes. Accordingly, BLM, PG&E, and those Tribes that ascribe importance to clay deposits shall meet to identify the clay deposits that are considered a resource and develop a protocol to be followed if such clay deposits are encountered.

BLM will continue seeking additional input from the Tribes on treatment measures in the planning and implementation of activities for this undertaking. Treatment measures shall be added to the CHPMP as they are identified.

## **7.2 ACCOMMODATION OF TRIBAL ACTIVITIES AND CEREMONIES INVOLVING THE TOPOCK MAZE/TCP**

The BLM will continue to work with the Tribes to identify tribal activities and ceremonies that are associated with the Topock TCP. When such activities and ceremonies are identified, BLM will consult with the Tribes and PG&E to develop treatment measures to accommodate them. Treatment measures may address scheduling of Undertaking work to accommodate ceremonial activities and to mitigate audible and visual impacts.

## **7.3 TREATMENT OF OTHER CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL PROPERTIES WITHIN THE APE**

The only properties identified within the APE that are not contributing properties to the Topock TCP are the properties from the historic period (i.e., Route 66, the AT&SF Railroad Grade, and National Old Trails Road). None of these properties has been impacted, to date, by this Undertaking. These properties shall be avoided, to the extent practicable, in the implementation of the Undertaking. These properties are periodically monitored for condition assessment to assure that they are being protected.



## 8 DISCOVERIES

The entire Project APE has been surveyed for archaeological and historical properties, and as described in Chapter 2, above, 210 such properties have been recorded (see also Volume II). Through careful planning, thoughtful placement of Project facilities, and installation of barrier fences around significant historic properties, all archaeological and historical sites within or immediately adjacent to the APE will be avoided to the greatest extent feasible, and wherever possible will protect all such resources regardless of their NRHP status.

Nonetheless, there is always the possibility that additional prehistoric or historic-period resources may be present, as archaeological remains may be buried and exhibit no surface manifestation, or may otherwise avoid detection during standard archaeological and historical surveys. In the Project area, indicators of prehistoric archeological sites include:

- Stone tools or flakes of quartzite, basalt, chert, obsidian, and/or other materials;
- Ground stone implements such as grinding slabs and hand stones (manos);
- Decorated or undecorated ceramic fragments;
- Alignments or cairns of pebbles, cobbles, and boulders;
- Bedrock outcrops and boulders with mortar cups or rock art; and
- Locally darkened “midden” soils containing some of the previously listed items plus fragments of bone, shell, and/or fire-affected rock.

Historic-period site indicators often include:

- Fragments of glass, ceramic, or metal objects;
- Milled and split lumber;
- Structural remnants such as building foundations or platforms; and
- Related features such as privy pits, wells, dumps and trash scatters.

### **8.1 STEPS TO BE TAKEN IF PREVIOUSLY UNRECORDED PROPERTIES ARE FOUND**

PG&E will retain a qualified professional archaeologist to inspect and evaluate any previously unidentified or suspected archaeological or historical remains, including human remains and/or associated funerary objects or graves, uncovered during construction, operation, or decommissioning of the Project. Should any such remains, objects, or features be found, all Project activities will cease immediately within an area extending not less than 5 meters and not

more than 50 meters (to be determined in the field on a case-by-case basis) from the potential find. The BLM, and Tribal representatives if the resource is Native American in nature, will be notified immediately of the discovery. No further work will be undertaken until the BLM, in consultation with Tribes and PG&E, has determined the nature of the discovery and developed appropriate measures for its evaluation and/or treatment, consistent with the PA.

If warranted, stabilization measures such as protective covering or fencing may be placed over or around the area of the discovery, which will be identified as an Exclusion Zone (EZ) or an Environmentally Sensitive Area (ESA) to protect any discovery (including human remains, funerary objects, sacred objects, or objects of cultural patrimony) from further disturbance. Ongoing work not within the agreed upon exclusion zone extending 5–50 meters from the discovery may continue. The BLM, in consultation with PG&E and the Tribes, may reduce the size of the EZ/ESA if determined appropriate by parties in the field.

During the initial inspection, the archaeologist will use simple visual observation to record information on the content, structure, stratigraphic integrity, approximate date of deposition, and range and quantity of artifacts present. For historic-period deposits, the archaeologist may gauge the approximate depth of refuse-filled pits by probing with a steel rod or using other low-impact methods to better define data potentials without excavation. Artifact collection will be minimized during this phase of work, thereby reducing the need for extensive laboratory processing and analysis. During this phase of work, the archaeologist will complete a Primary Record, Archaeological Site Record, and/or other forms necessary to document the discovery and obtain a registration number from the CHRIS or the ASM, as appropriate.

If intact prehistoric deposits, primary pit features, structural remains, or other potentially significant deposits are revealed, it may be necessary to expose them in profile or plan view using hand tools, photograph the remains, and map them in relation to a permanent datum. Features that are located in highly disturbed contexts or are too recent to meet significance criteria (those less than 50 years old) may be dismissed without further investigation and construction work will be allowed to resume upon approval of the BLM, PG&E, and if appropriate, the Tribes.

If the deposit's content, age, and integrity are not evident from the exposed portion, it may be necessary to hand excavate an adequate sample to assess the deposit's or feature's significance and eligibility for the NRHP. In this case, PG&E and its archaeologist will consult with the BLM, and BLM will consult with Tribal representatives if the resource is of Native American origin, to define the nature and extent of further studies.

Work will not resume in the area until the discovery has been evaluated in accordance with the procedures specified in Appendix C (Discovery Plan) of this CHPMP, any necessary treatment has been carried out to resolve the effects of the Undertaking, and the BLM and PG&E have authorized such work to continue. If the discovery is judged eligible for listing in the NRHP, effects shall be treated per the actions specified in the Discovery Plan, which may include further documentation, archaeological data recovery excavations, monitoring, and/or other measures.

## **8.2 TREATMENT OF ANY HUMAN REMAINS, FUNERARY OBJECTS, CEREMONIAL OBJECTS, AND ITEMS OF CULTURAL PATRIMONY**

Section VII.H of the PA stipulates that the CHPMP will include a Plan of Action (POA) to be implemented if human remains are discovered within the APE, and that the POA will address the roles of the PA Signatories, Tribes, and Invited Signatories (see Appendix D, herein). The PA stipulates further that the BLM will be the lead Federal Agency responsible for seeing that the terms of the POA are executed, and that human remains and funerary objects must be treated in a culturally appropriate and respectful manner (BLM et al. 2010:15).

The PA also specifies, in Section IX, the procedures to be followed in the event of a discovery (BLM et al. 2010:16). While the steps to be taken in the event of any discovery within the APE are described in Appendix B (Discovery Plan), the responsibilities and procedures specifically related to the discovery and treatment of human remains, funerary objects, ceremonial items, and/or items of cultural patrimony are detailed in Appendix D (Plan of Action). These responsibilities and procedures are summarized as follows:

- (1) BLM will be the lead Federal Agency responsible for seeing that the terms of the POA are executed and that the Undertaking is in compliance with NAGPRA, and other applicable Federal statutes and regulations.
- (2) BLM will maintain ongoing consultation, as necessary and appropriate, with the PA Signatories, Invited Signatories, and Tribes, and specifically will involve the Tribes in decision making with respect to any human remains and/or cultural items that may be discovered within the APE, in accordance with 43 CFR 10.
- (3) PG&E will summarize in construction and maintenance contracts all relevant legal requirements regarding the discovery and treatment of human remains and/or funerary objects, and will take appropriate steps to ensure that its contractors and employees are familiar with the required procedures.
- (4) In the event that human remains and/or funerary objects are found within the APE of the Project, PG&E will immediately cease or cause to be ceased any activity within an area extending not less than 5 meters and not more than 50 meters (to be determined in the field on a case-by-case basis) from the discovered remains;
- (5) PG&E will notify the BLM as soon as possible. The BLM or relevant County Coroner will make a determination as to whether the remains are human, or non-human. This determination will be made by qualified personnel, such as a physical or forensic anthropologist (in conjunction with a cultural resources contractor, if one is involved with the discovery). If the remains are identified as non-human, no further notification or action is required, although further archaeological assessment may be needed. If the remains are human, additional measures and procedures, as described below, apply.
- (6) PG&E, under the direction of BLM will take whatever steps may be needed to ensure that the subject remains and or/funerary objects are not disturbed further and are secure pending implementation of the treatment measures prescribed in the POA. BLM, in coordination with PG&E, will ensure that the remains and/or objects are treated with appropriate respect and cultural sensitivity at all times.

- (7) If human remains or funerary objects are discovered on Federal land, PG&E will notify BLM by telephone as soon as possible, but no later than 24 hours after the discovery, followed within three business days by written confirmation. BLM will then be responsible for notifying the appropriate Tribe(s), and for initiating Tribal consultation as prescribed by 43 CFR 10.5. If the remains are found in California, BLM, in coordination with PG&E will also notify the San Bernardino County coroner, pursuant to H&SC 7050.5 *et seq.*
- (8) In the event of an inadvertent discovery of human remains on Federal lands, any potentially disturbing activity will be suspended in the discovery area (i.e., within not less than 5 nor more than 50 meters in all directions from the discovered remains and/or objects) until authorized by BLM to resume such activities. BLM will ensure that the stipulations of this POA are fully implemented. Such activity will be suspended in the discovery area until the Tribes, PG&E, and BLM can resolve treatment in this manner, then BLM shall consult with the AZ SHPO or CA SHPO to develop a treatment plan within 15 days of notification of discovery, pursuant to Stipulation IX.C of the PA. Absent objection by the SHPO, BLM will then implement the treatment plan as prescribed by PA Stipulation IX.D, or, if the SHPO objects, BLM will utilize the dispute resolution process set forth in Stipulation XV to resolve any objection. Human remains and any funerary objects will not be excavated or otherwise removed unless approved by BLM or USFWS and after consultation with the Tribes, as appropriate. Disposition of any such remains discovered on or removed from Federal or Tribal lands will follow the protocols discussed in Subsection C.3.9, above.
- (9) Human remains and/or funerary objects discovered on Federal land will not be excavated or otherwise removed unless approved by BLM or USFWS and after consultation with the Tribe(s) and BLM, as appropriate. Disposition of any such remains and/or objects discovered on or removed from Federal lands will follow the protocols discussed in POA Subsection C.3.9.
- (10) If human remains and/or funerary objects are discovered unintentionally on non-public lands within the portion of the APE in Arizona, BLM, in coordination with PG&E will report the discovery to the Director of the Arizona State Museum (ASM) and will not allow further disturbance to the remains or objects without obtaining the written permission of the Director, pursuant to ARS 41-865.B.
- (11) BLM, in consultation with Signatories, Tribes, and Invited Signatories, will coordinate with the ASM before authorizing or conducting any excavations associated with this Undertaking in Arizona that may involve the collection of archaeological or paleontological materials or the disturbance of Native American human remains and/or funerary objects (per ARS 41-841). If such remains or objects are found, PG&E will notify BLM as described in Subsection C.3.3.1 of the POA. BLM will then consult with the Signatories (particularly the AZ SHPO), Invited Signatories, Tribes, and Director of the ASM, and subsequent to consultation will give the governing body of the “group with cultural affinity the authority to take responsibility for the remains and to determine the most appropriate treatment or disposition of them” (ARS 41-865.C.5).
- (12) When human remains and/or “grave goods” (i.e., funerary objects) are found within the APE in California, PG&E will notify by telephone the BLM and the San

Bernardino County coroner as soon as possible, and no later than 24 hours after the time of discovery. In turn, BLM will be responsible for notifying the Tribes. The telephone number of the coroner's main office in San Bernardino is 909-387-3978, and that of the county coroner's Desert Division office in Victorville is 760-955-8535. BLM's Lake Havasu Field Office number is 928-505-1200. PG&E's Senior Archaeologist can be reached at 415-238-2440.

- (13) The San Bernardino County coroner will determine whether or not the circumstances, manner, and cause of death require further investigation as a crime scene. If not, the coroner will endeavor to determine if the remains are those of a Native American. This will be accomplished in consultation with a physical anthropologist, human osteologist, or other qualified specialist to verify that the remains are human and, if so, whether or not they appear to be those of a Native American. This aspect of the work will be coordinated very closely with the coroner, as required by law, to ensure that any potential evidence of a crime is not disturbed.
- (14) If the coroner determines that the remains are Native American and not related to a crime, the coroner will contact the Native American Heritage Commission [per CH&SC 7050.5(b)]. The NAHC will then immediately identify those persons it believes to be to be most likely descended from the deceased Native American. With the permission of the landowner, the MLD may inspect the site of the discovery and recommend means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD will complete the inspection and make a recommendation within 48 hours following notification by the NAHC. If the NAHC is unable to identify an MLD, or if the MLD fails to make a recommendation, or if the landowner rejects the MLD's recommendation and mediation by the NAHC fails to provide measures acceptable to the landowner, the landowner will reinter the human remains and any associated items with appropriate dignity on the property in a location not subject to further subsurface disturbance, given the restrictions addressed in Item 16 (below), and subject to any additional compliance measures that address human remains within the APE of the Undertaking [PRC 5097.98].
- (15) Regardless of the discovery site's ownership status (Federal, Tribal, State, or other public, or private), if the human remains are not those of a Native American, then BLM, PG&E, and the landowner, if the discovery site is not on Federal land, will consult with the coroner, a biological anthropologist or human osteologist, and a qualified historical archaeologist to develop an appropriate plan for treatment. BLM will consult with the CA SHPO and other concerned parties to determine if historical research, further archaeological excavations, and/or other studies may be necessary before a treatment plan can be finalized. Also, if the remains are those of an identifiable individual and not part of a crime scene, BLM will notify the next of kin. Such kin may wish to influence or control the subsequent disposition of the remains.
- (16) If the next of kin (for non-Indian remains), MLD, or other appropriate Native American entity (e.g., culturally affiliated tribe, indigenous tribe, other tribe likely to have a cultural relationship, or lineal descendants) so requests, BLM will coordinate discussion between concerned parties to determine if reburial at or near the original site in a location not subject to further disturbance is feasible. If a



proximate reburial location is not feasible, then BLM may continue to coordinate discussions until a final disposition of the remains is decided upon

- (17) Following the initial discovery and identification of any human remains, funerary objects, sacred objects, or objects of cultural patrimony within the APE, no further archaeological excavation, recording, or analysis, of such remains and/or objects will occur until after (1) the lineal descendant or Tribe entitled to custody pursuant to 43 CFR 10.6(a), if the discovery is on Federal or Tribal land, or (2) the MLD identified pursuant to PRC 5097.98, if the discovery is on non-Federal land in California, or (3) “the group with cultural affinity” (ARS 41-865.C.5), if the discovery is on non-Federal land in Arizona, has made a recommendation to BLM and the landowner with respect to the disposition of the remains and/or objects. Thereafter, BLM will take into account the recommendation of the appropriate Native American lineal descendant or Tribe, or MLD, or group with cultural affinity and, in consultation with PG&E, will decide on the nature of any archaeological excavation, recording, or analysis, to be done of the discovered remains and/or funerary objects.

### **8.3 CONSULTATION PROCEDURES RELATED TO UNANTICIPATED DISCOVERIES**

The BLM will notify all Signatories of the PA, Tribes and Invited Signatories of the nature and general location of any discovery. If the Tribes, PG&E and BLM can resolve treatment of the discovery in a manner that does not cause adverse effects to significant cultural and historic properties, BLM shall document the resolution, the activities within the work area may proceed and the AZ SHPO and the CA SHPO shall be notified of the discovery and resolution. The Tribes, PG&E and BLM will use their best efforts to resolve treatment as quickly as possible.

If there is failure to resolve treatment of the discovery in consultation with the Tribes and PG&E, BLM shall then consult with the AZ SHPO or the CA SHPO to develop a treatment plan that takes into account the effects of the Undertaking on the discovery. Within fifteen (15) days of notification of discovery, BLM shall provide the consulted SHPO(s), via email, a recommendation for resolving the discovery situation that takes into account the potential effects of the Undertaking on the discovery.

If the CA SHPO or AZ SHPO (as appropriate, depending on the location of the discovery) does not object to BLM’s recommendation(s) within fifteen (15) days, BLM will implement the recommendation(s). If the consulted SHPO objects to the recommendation, BLM will utilize the dispute resolution process in Stipulation XV of the PA to resolve any objection.

## 9

### ADMINISTRATION OF THE CHPMP

#### 9.1 IMPLEMENTATION OF THE CHPMP DURING AN IMMINENT THREAT OF CONTAMINATION OF THE COLORADO RIVER

Stipulation X of the PA states, in full, that:

If, in the judgment of DTSC, Federal Agencies, or other qualified monitoring entities, there is an imminent threat of contamination of the Colorado River or to human health, implementation of measures to address the imminent threat will take precedence over compliance with stipulations of this PA. If such measures must be implemented as determined by DTSC or DOI, additional ground disturbing or construction of facilities will be minimized to the extent practicable and operation will continue until such time as the imminent threat is alleviated. The PA will be followed to the extent practicable during an imminent threat [BLM et al. 2010:16].

Accordingly, in the event of any such imminent threat, the CHPMP will continue to be implemented to the extent practicable, provided that any actions called for by the CHPMP do not impede or interfere with any of the measures prescribed by DTSC or DOI to address the imminent threat.

#### 9.2 STANDARDS

Stipulation XI of the PA identifies a number of published standards that will be met by personnel who implement this CHPMP and that will be followed in the course of all actions performed to carry out the purposes of the PA and this CHPMP (BLM et al. 2010:18). That stipulation is attached hereto as part of Appendix A and is incorporated herein by reference.

#### 9.3 CONFIDENTIALITY

Stipulation XII of the PA requires Signatories and Invited Signatories, to the maximum extent allowed by law, to “maintain the confidentiality of records, data, and information pertaining to the location, nature, practices and use of cultural resources, including cultural and historic properties about which there are culturally sensitive issues, as consistent with NHPA §304, ARPA §9, and California Government Code §6254.10” (BLM et al. 2010:19). BLM will determine such culturally sensitive issues through consultation with the Tribes. In addition,

Records describing, listing, or illustrating the locations of historic properties, and any other records arguably exempt from public disclosure in the judgment of the Federal Agencies, shall be labeled “Confidential, Not for Public Release.” These records will be part of the Project record, but will not be considered part of the public record for the Topock Remediation Project [BLM et al. 2010:18].

Finally, Stipulation XII shall not be construed to prevent the Tribes from gaining access to cultural resource documentation in Project records held by the Federal and/or State governments.

Such documentation may be used by the Tribes for interpreting their history or for other cultural uses (BLM et al. 2010:18).

#### **9.4 PROCEDURES FOR AMENDING THE CHPMP**

BLM, in consultation with the Signatories, Tribes, and Invited Signatories, will determine whether and when any revision of the CHPMP may be required. If revision of the CHPMP is needed, BLM will make the necessary changes, in consultation with the other parties. Revision of the CHPMP may be indicated if the PA is amended pursuant to Stipulation XIV (BLM et al. 2010:20). Specifically, after consultation with all Signatories, Tribes, and Invited Signatories,

BLM may amend the finalized CHPMP as additional information is developed regarding cultural and historic resources within the APE, in the event that the APE is revised, and for any other reason deemed appropriate by BLM. Revision of the CHPMP shall not require an amendment of the PA. The CHPMP may be revised in phases as the Undertaking progresses as identified in PA Stipulation VII.F [BLM et al. 2010:14–15].

## 10

### REFERENCES, STATUTES, AND REGULATIONS CITED

#### 10.1 REFERENCES CITED

Altschul, Jeffrey H. (editor)

- 1993 *Research Design for the Lower Colorado River Region*. Statistical Research Technical Report 93-19, Tucson, Arizona. Submitted to the U.S. Bureau of Reclamation, Lower Colorado River Regional Office, Boulder City, Nevada.

Arnold, Jeanne E., Michael R. Walsh, and Sandra E. Hollimon

- 2004 The Archaeology of California. *Journal of Archaeological Research* 12(1):1–73.

Basgall, Mark E.

- 2003 *Further Archaeological Assessments in the Deadman Lake Basin, Marine Corps Air Ground Combat Center, Twentynine Palms, California*. Submitted to the Department of the Army, Corps of Engineers, Sacramento, California.

Bishop, Charles C.

- 1963 *Needles Sheet*. Geologic Map of California, Olaf P. Jenkins Edition. California Division of Mines and Geology, Sacramento, California.

Brown and Caldwell, Inc. [B&C]

- 1988 *Bat Cave Wash Soil Investigation, Topock Gas Compressor Station, Pacific Gas and Electric Company*. Brown and Caldwell on behalf of Pacific Gas and Electric Company, San Francisco, California. Submitted to the U.S. Environmental Protection Agency and the California Department of Health Services, Sacramento, California.

Bureau of Land Management, Arizona State Historic Preservation Officer, California State Historic Preservation Officer, and the Advisory Council on Historic Preservation

- 2010 *Programmatic Agreement among the Bureau of Land Management, Arizona State Historic Preservation Officer, California State Historic Preservation Officer, and the Advisory Council on Historic Preservation for the Topock Remediation Project in San Bernardino County, California, and Mohave County, Arizona*. Executed 4 October 2010.

Bureau of Land Management, California State Historic Preservation Officer, and Pacific Gas and Electric Company

- 2004 *Memorandum of Agreement between the Bureau of Land Management, Lake Havasu Field Office and the California State Historic Preservation Officer Regarding the Pacific Gas and Electric Topock Interim Measures No. 3 Expanded Groundwater Extraction and Treatment Project, San Bernardino County, California*. Lake Havasu, Arizona, and Sacramento and San Francisco, California.

- California Department of Toxic Substances Control [DTSC]  
 1996 *Corrective Action Consent Agreement (Revised): Pacific Gas and Electric Co.'s Topock Compressor Station, Needles, California, EPA ID NO. CAT080011729.* California Environmental Protection Agency, Department of Toxic Substances Control, Long Beach, California.
- Carnett, C.  
 1991 *Legal Background of Archaeological Resources Protection.* Technical Brief II. U.S. Department of the Interior, National Park Service, Archaeological Assistance Division. Washington, D.C.
- Cleland, James H.  
 1998 From Paleo-Indian to Protohistoric: The Chronology of Human Occupation of Salton Sea Test Base. *Proceedings of the Society for California Archaeology* 12:10–19.
- Cordell, Linda  
 1997 *Archaeology of the Southwest*, 2nd ed. Academic Press, San Diego, California.
- Cornett, James W.  
 2012 *Wildlife of the Southwest Deserts.* Nature Trails Press, Palm Springs, California.
- CRWQCB, CRBR  
 1989 *RCRA Comprehensive Ground Water Monitoring Evaluation (CME) Report on PG&E Topock.* California Regional Water Quality Control Board, Colorado River Basin Region.
- Cultural Systems Research, Inc. [CSRI]  
 1986 *Cultural Resources Testing and Data Recovery, Tahquitz Canyon Project Research Design.* Cultural Systems Research, Inc., Menlo Park, California.
- Cunkelman, Sarah C.  
 2002 *An Archaeological Survey of Five Monitoring Wells for PG&E, San Bernardino County, California.* Submitted to Pacific Gas and Electric Company, San Francisco, California.
- Davy, Douglas M., W. Geoffrey Spaulding, Robin McClintock, and Raena Ballantyne  
 2004 *Cultural Resources Investigations for Interim Measure No. 3: Topock Compressor Station Groundwater Extraction and Treatment System, San Bernardino County, California.* CH2M Hill, Inc., Sacramento, California, on behalf of Pacific Gas and Electric Company, San Francisco, California. Submitted to U.S. Bureau of Land Management, Lake Havasu Field Office, Lake Havasu City, Arizona.
- Dillon, Brian D.  
 2002 California Paleoindians: Lack of Evidence, or Evidence of Lack? In *Essays in California Archaeology: A Memorial to Franklin Fenenga*, edited by W. J. Wallace and F. A. Riddell, pp. 110–128. Contributions of the University of California Archaeological Research Facility 60. Berkeley, California.

DOI [See U.S. Department of the Interior]

DTSC [See California Department of Toxic Substances Control]

Earle, David

- 2005 National Register of Historic Places Nomination Supplement for Topock Maze (CA-SBR-219), Needles, California, Register Entry No. 78000745, 10/05/1978. Preliminary, Incomplete Draft, Prepared by Earle & Associates, Palmdale, California, for Applied EarthWorks, Inc., Fresno, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.
- 2007 National Register of Historic Places Registration Form: Route 66, National Old Trails Highway/Park Moabi Road to Colorado River, San Bernardino County, California. Prepared by Earle & Associates, Palmdale, California, and Applied EarthWorks, Inc., Hemet, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.

Fryman, Frank B.

- 1976 *An Archaeological Survey of the Proposed Park Moabi Motorcycle Race Course Area, San Bernardino County, Ca.* Department of Anthropology, Arizona State University, Tempe, Arizona. Submitted to U.S. Department of the Interior, Bureau of Land Management.

Gardner, Jill K.

- 2006 *The Potential Impact of the Medieval Climatic Anomaly on Human Populations in the Western Mojave Desert.* Ph.D. dissertation. Department of Anthropology, University of Nevada, Las Vegas.

Hall, Matthew C.

- 2000 *Archaeological Survey of 2472 Acres in Adjacent Portions of Lava, Lead Mountain, and Cleghorn Pass Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California.* Archaeological Research Unit, University of California, Riverside. Submitted to U.S. Marine Corps, Natural Resources and Environmental Affairs Division, Twentynine Palms, California.

Hoffman, Teresa L.

- 1995 *A Cultural Resources Assessment of the Topock Lateral Expansion Project, Mohave County, AZ, and San Bernardino County, CA.* Archaeological Consulting Services, Ltd. Submitted to Enron Corporation.

Horne, Melinda

- 2006a *Cultural Resources Investigations, Fifth Addendum: Additional Groundwater Characterization Beneath the Colorado River by Slant Boring in California for Topock Remediation Project—Topock Compressor Station, San Bernardino County, California.* Applied EarthWorks, Inc., Hemet, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.

- 2006b *Cultural Resources Investigations, Sixth Addendum: Upland In-Situ Pilot Study, Well Maintenance and Hydraulic Testing, and the Decommissioning of Well PGE-6 for Topock Remediation Project—Topock Compressor Station, San Bernardino County, California*. Applied EarthWorks, Inc., Hemet, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.
- 2007 *Archaeological and Historical Investigations, Seventh Addendum: Well Installation and Groundwater Characterization on Arizona Shore of the Colorado River at Topock, Arizona for Topock Remediation Project—Topock Compressor Station, San Bernardino County, California*. Applied EarthWorks, Inc., Hemet, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.
- Huckell, Bruce B.  
 1996 The Archaic Prehistory of the North American Southwest. *Journal of World Prehistory* 10:305–373.
- Hunter, William M.  
 2011 Geographies of Cultural Resource Management: Space, Place, and Landscape. In *A Companion to Cultural Resource Management*, edited by Thomas F. King, pp. 95–113. Wiley-Blackwell, Chichester, West Sussex, United Kingdom.
- Hutt, S., E. W. Jones, and M. E. McAllister  
 1992 *Archaeological Resource Protection*. The Preservation Press, Washington, D.C.
- Ingles, Lloyd G.  
 1965 *Mammals of the Pacific States: California, Oregon, Washington*. Stanford University Press, Stanford, California.
- Irwin-Williams, Cynthia  
 1979 Post-Pleistocene Archaeology, 7000–2000 B.C. In *Southwest*, edited by Alfonso Ortiz, pp. 31–42. Handbook of North American Indians, vol. 9, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.
- Jackson, W. Turrentine  
 1964 *Wagon Roads West: A Study of Federal Wagon Road Surveys and Construction in the Trans-Mississippi West: 1846–1869*. Yale University Press, New Haven, Connecticut.
- Jones, Terry L., Gary M. Brown, L. Mark Raab, Janet L. McVickar, W. Geoffrey Spaulding, Douglass J. Kennett, Andrew York, and Phillip L. Walker  
 2004 Environmental Imperatives Reconsidered: Demographic Crises in Western North America during the Medieval Climatic Anomaly. In *Prehistoric California: Archaeology and the Myth of Paradise*, edited by L. Mark Raab and Terry L. Jones, pp. 12–32. University of Utah Press, Salt Lake City.
- Keller, J. Timothy, and Genevieve P. Keller  
 n.d. *How to Evaluate and Nominate Designed Historic Landscapes*. U.S. Department of the Interior, National Park Service, National Register Bulletin 18. Washington, D.C.

- King, Thomas F.  
2011 Introduction. In *A Companion to Cultural Resource Management*, edited by Thomas F. King, pp. 1–10. Wiley-Blackwell, Chichester, West Sussex, United Kingdom.
- Kurtén, Björn, and Elaine Anderson  
1980 *Pleistocene Mammals of North America*. Columbia University Press, New York.
- Laylander, Don  
2010 Linguistic Prehistory and the Archaic-Late Transition in the Colorado Desert. *Journal of California and Great Basin Anthropology* 30(2):141–155.
- Lee, Robert T.  
1995 Comprehensive Environmental Response, Compensation, and Liability Act. In *Environmental Law Handbook*, edited by Thomas F. P. Sullivan, pp. 225–277. Government Institutes, Rockville, Maryland.
- Leonard, Nelson N.  
1976 *An Archaeological Assessment of the Proposed Pipeline Route in the Vicinity of Needles, California*. San Bernardino County Museum. Submitted to Southern California Gas Company.
- Manaster, A. Kenneth, and Daniel P. Selmi  
2011 Regulation of Hazardous Waste Treatment, Storage, and Disposal Facilities. In *California Environmental Law and Land Use Practice*. LexisNexis, <https://litigation-essentials.lexisnexus.com/webcd/app?action=DocumentDisplay...>
- Martin, Paul S.  
2005 *Twilight of the Mammoths: Ice-Age Extinctions and the Rewilding of America*. University of California Press, Berkeley and Los Angeles.
- McClelland, Linda Flint, J. Timothy Keller, Genevieve P. Keller, and Robert Z. Melnick  
1999 *Guidelines for Evaluating and Documenting Rural Historic Landscapes*. U.S. Department of the Interior, National Park Service, National Register Bulletin 30. Washington, D.C.
- McDonald, Alison M.  
1992 *Indian Hill Rockshelter and Aboriginal Cultural Adaptation in Anza-Borrego State Park*. Ph.D. dissertation. Department of Anthropology, University of California, Riverside.
- McDougall, Dennis  
2004 *Cultural Resources Investigations, Second Addendum: Cultural Resources Survey of Seven Proposed Compliance Monitoring Well Locations and Access Routes for Interim Measures No. 3: Topock Compressor Station Expanded Groundwater Extraction and Treatment System, San Bernardino County, California*. Applied EarthWorks, Inc., Hemet, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.



- 2005 *Cultural Resources Investigations, Fourth Addendum: Upland and Floodplain Locations for the In-Situ Hexavalent Chromium Reduction Pilot Test for Interim Measures No. 3: Topock Compressor Station Expanded Groundwater Extraction and Treatment System, San Bernardino County, California.* Applied EarthWorks, Inc., Hemet, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.

McDougall, Dennis, Sandra Flint, and Susan K. Goldberg

- 2004 *Cultural Resources Investigations, First Addendum: North Access Route for Interim Measures No. 3: Topock Compressor Station Expanded Groundwater Extraction and Treatment System, San Bernardino County, California.* Applied EarthWorks, Inc., Hemet, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.

McDougall, Dennis, and Melinda Horne

- 2005 *Cultural Resources Investigations, Third Addendum: Survey of the Original and Expanded APE: Volume I, for Topock Compressor Station Site Vicinity, San Bernardino County, California, and Mohave County, Arizona.* Applied EarthWorks, Inc., Hemet, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.

McGuire, Kelly R.

- 1990 *A Cultural Resources Inventory and Limited Evaluation of the Proposed Mojave Pipeline Corridor in California and Arizona.* Far Western Anthropological Research Group, Inc., Davis California. Submitted to Woodward-Clyde Consultants.

McGuire, Randall H., and M. B. Schiffer (editors)

- 1982 *Hohokam and Patayan: Prehistory of Southern Arizona.* Academic Press, New York.

McKeown, C. T., and R. Sucec (editors)

- 1997 *Speaking Nation-to-Nation: Fulfilling our Promise to Native Americans. Common Ground 2(3/4).* National Park Service, Washington, D.C.

Moloney, Patrick, and Damon Haydu

- 2010 *Archaeological and Historical Investigations for the PG&E Topock Compressor Station, Addendum 9: Survey within the Fence Line of the Topock Compressor Station.* Applied EarthWorks, Inc., Hemet, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.

Montgomery Watson Harza [MWH]

- 2005a *Pacific Gas and Electric Company Topock Compressor Station, DRAFT, In-Situ Hexavalent Chromium Reduction Pilot Test Work Plan, Upland Plume Treatment (MW-25 Area).* MWH, Walnut Creek, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.

- 2005b *Pacific Gas and Electric Company Topock Compressor Station, DRAFT, In-Situ Hexavalent Chromium Reduction Pilot Test Work Plan, Floodplain Reductive Zone*

- Enhancement*. MWH, Walnut Creek, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.
- Moratto, Michael J.
- 1984 *California Archaeology*. Academic Press, Orlando and New York.
  - 2011 Archaeology of the Distant Past. In *A Companion to Cultural Resource Management*, edited by Thomas F. King, pp. 54–77. Wiley-Blackwell, Chichester, West Sussex, United Kingdom.
- Moratto, Michael J., and Melinda C. Horne
- 2011 Regional Prehistory. In *Archaeological Investigations (2002–2010) at Site CA-RIV-6897, Varner Road Improvement Project, Riverside County, California*, by M. J. Moratto, D. McDougall, M. Mirro, D. R. Harro, K. Abdo-Hintzman, R. L. McKim, and M. Horne, with contributions by others, pp. 29–33. Applied EarthWorks, Inc., Thousand Oaks, California. Submitted to the City of Indio, Indio, California.
- Moyle, Peter B.
- 1976 *Inland Fishes of California*. University of California Press, Berkeley and Los Angeles.
- MWH [See Montgomery Watson Harza]
- Parker, Patricia L., and Thomas F. King
- 1998 *Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service, National Register Bulletin 38. Washington, D.C.
- Peters, Gary L., David W. Lantis, Rodney Steiner, and Arthur E. Karinen
- 1999 *California*. Kendall/Hunt, Dubuque, Iowa.
- Peyton, Paige M.
- 1986 *Ground Drawings of the Lower Colorado River: An Analysis of Technique, Context, and Design*. Bachelor's thesis, California State University, San Bernardino.
- Price, Barry A., Sandra S. Flint, and Randy Baloian
- 2004 *Cultural Resources Management Plan for the Topock Compressor Station Expanded Groundwater Extraction and Treatment System, San Bernardino County, California*. Applied EarthWorks, Inc., Fresno, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.
- Price, Barry, David Earle, Dennis McDougall, Patrick Moloney, and Damon Haydu
- 2010 *Archaeological and Historical Investigations for the PG&E Topock Compressor Station, Addendum 8: Survey of Additional Areas Outside the Expanded Area of Potential Effects*. Applied EarthWorks, Inc., Hemet, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.

Reid, Jefferson, and Stephanie Whittlesey

1997 *The Archaeology of Ancient Arizona*. University of Arizona Press, Tucson.

Reynolds, Robert E.

1979 *Cultural Resources Survey: Southern California Gas Company Alternative B Pipeline Corridors, Needles Area, San Bernardino County, California*. San Bernardino County Museum Association. Submitted to Southern California Gas Company.

Rogers, Malcolm J.

1945 An Outline of Yuman Prehistory. *Southwestern Journal of Anthropology* 1:167–198.

1966 *Ancient Hunters of the Far West*. Union Tribune Publishing Company, San Diego, California.

Rowe, R. Robinson

1947 Red Rock Bridge Becomes Interstate Link on U.S. 66, Illustrated. *California Highways and Public Works* 26:20–22.

Schaefer, Jerry

1994 The Challenge of Archaeological Research in the Colorado Desert: Recent Approaches and Discoveries. *Journal of California and Great Basin Anthropology* 16(1):60–80.

1995 Prehistoric Cultural Setting. In *Archaeological, Ethnographic, and Ethnohistoric Investigations at Tahquitz Canyon, Palm Springs, California*, Vol. IA. Cultural Systems Research, Inc., Menlo Park, California. Submitted to the Riverside County Flood Control and Conservation District, Riverside, California.

Schaefer, Jerry, and Don Laylander

2007 The Colorado Desert: Ancient Adaptations to Wetlands and Wastelands. In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 247–258. AltaMira Press, Lanham, Maryland.

Schroeder, Albert H.

1979 Prehistory: Hakataya. In *Southwest*, edited by Alfonso Ortiz, pp. 100–107. Handbook of North American Indians, vol. 9, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Schroth, Adella B.

1994 *The Pinto Controversy in the Western U.S.* Ph.D. dissertation. Department of Anthropology, University of California, Riverside.

Shannon, George W.

2008 *An Archaeological Survey of Pirate Cove Marina Upgrade, Park Moabi, U.S. Bureau of Reclamation Lease 14-06-300-1496, San Bernardino County, California*. Submitted to U.S. Department of the Interior, Bureau of Land Management, Lake Havasu Field Office, Lake Havasu, Arizona.

- Sutton, M. Q.  
 1996 The Current Status of Archaeological Research in the Mojave Desert. *Journal of California and Great Basin Anthropology* 18(2):221–257.
- 2011 The Palomar Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly* 44(4):1–74.
- Sutton, Mark Q., Mark E. Basgall, Jill K. Gardner, and Mark W. Allen  
 2007 Advances in Understanding Mojave Desert Prehistory. In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar. AltaMira Press, Lanham, Maryland.
- Taylor, R. E., L. A. Payen, C. A. Prior, P.J. Slota, Jr., R. Gillespie, A. J. Gowlett, R. E. M. Hedges, A. J. T. Jull, T. H. Zabel, D. J. Donahue, and R. Berger  
 1985 Major Revision in the Pleistocene Age Assignments for North American Human Skeletons by C-14 Accelerator Mass Spectrometry: None Older than 11,000 C-14 Years P.P. *American Antiquity* 50:136–140.
- Townsend, Jan, John H. Sprinkle, Jr., and John Knoerl  
 1993 *Guidelines for Evaluating and Registering Historical Archaeological Sites and Districts*. U.S. Department of the Interior, National Park Service, National Register Bulletin 36. Washington, D.C.
- Udall, Morris  
 1978 American Indian Religious Freedom. 95th Congress, 2nd Session, House of Representatives Report 95-1308:1–5. Washington, D.C.
- U.S. Department of the Interior [DOI]  
 1983 Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines. 48 Federal Register 44716–44742. U.S. Department of the Interior, National Park Service, Washington, D.C.
- 2011 *Groundwater Record of Decision, Pacific Gas and Electric Company Topock Compressor Station, Needles, San Bernardino County, California*. U.S. Department of the Interior, Office of Environmental Policy and Compliance, Washington, D.C.
- U.S. Department of the Interior, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, and Pacific Gas and Electric Company [DOI et al.]  
 2005 *Administrative Consent Agreement, Topock Compressor Station*. U.S. Department of the Interior, Office of the Solicitor, Washington, D.C.
- Van Bueren, Thad M.  
 1986 *Topock Evaporation Pond Project: Intensive Cultural Resources Survey*. INFOTEC Research, Inc., Sonora, California. Submitted to Pacific Gas and Electric Company, San Francisco, California.
- Vecsey, Christopher, editor  
 1991 *Handbook of American Indian Religious Freedom*. Crossroad Publishing, New York.

Wallace, William

- 1962 Prehistoric Development in the Southern California Deserts. *American Antiquity* 28: 172–180.

Warren, Claude N.

- 1984 The Desert Region. In *California Archaeology*, by Michael J. Moratto, pp. 339–430. Academic Press, Orlando and New York.

Waters, Michael R.

- 1982 The Lowland Patayan Ceramic Tradition. In *Hohokam Patayan: Prehistory of Southwestern Arizona*, edited by R. H. McGuire and M. B. Schiffer, pp. 275–298. Academic Press, New York.

Waters, Michael R., and Thomas W. Stafford, Jr.

- 2007 Redefining the Age of Clovis: Implications for the Peopling of the Americas. *Science* 315:1122–1126.

Waters, Michael R., Steven L. Forman, Thomas A. Jennings, Lee C. Nordt, Steven G. Driese, Joshua M. Feinberg, Joshua L. Keene, Jessi Halligan, Anna Lindquist, James Pierson, Charles T. Hallmark, Michael B. Collins, and James E. Wiederhold

- 2011 The Buttermilk Creek Complex and the Origins of Clovis at the Debra L. Friedkin Site, Texas. *Science* 331:1599–1603.

Weber, Tony F.

- 1979 *An Archaeological and Paleontological Assessment of the Southern California Gas Company's Alternative Routes in the Vicinity of Needles, California*. San Bernardino County Museum. Submitted to Southern California Gas Company.

Weide, Margaret L.

- 1976 A Cultural Sequence for the Yuha Desert. In *Background to Prehistory of the Yuha Desert*, edited by Philip J. Wilke, pp. 81–94. Ballena Press Anthropological Papers 5. Ramona, California.

Wilke, Phillip J.

- 1978 *Late Prehistoric Human Ecology at Lake Cahuilla, Coachella Valley, California*. Contributions of the University of California Archaeological Research Facility 38. University of California, Berkeley.

## 10.2 STATUTES

American Indian Religious Freedom Act [AIRFA] of 1978. PL 95-341; 92 Stat. 469; 42 U.S.C. 1996.

Archaeological Resources Protection Act [ARPA] of 1979. PL 96-95; 93 Stat. 72; 16 U.S.C. 470AA-470MM.

California Hazardous Waste Control Law [HWCL]. CC Chapter 6.5, Sections 25100-25257.1]

Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] of 1980. 42 U.S.C. 9601 *et seq.*

National Historic Preservation Act [NHPA] of 1966, as amended. PL 89-665; 80 Stat. 915; 16 U.S.C. 470 *et seq.*

Native American Graves Protection and Repatriation Act [NAGPRA] of 1990, as amended. PL 101-601; 104 Stat. 3050; 25 U.S.C. 3001-3013.

Religious Freedom Restoration Act [RFRA] of 1993. PL 103-141; 107 Stat. 1488; 42 U.S.C. 2000bb.

Resource Conservation and Recovery Act [RCRA] of 1976. 42 U.S.C. 6901 *et seq.*

### **10.3 REGULATIONS**

- 36 CFR 60     *National Register of Historic Places.* U.S. Department of the Interior, National Park Service, Washington, D.C.
- 36 CFR 68     *The Secretary of the Interior's Standards for the Treatment of Historic Properties.* U.S. Department of the Interior, National Park Service, Washington, D.C.
- 36 CFR 79     *Curation of Federally Owned and Administered Archaeological Collections.* U.S. Department of the Interior, National Park Service, Washington, D.C.
- 36 CFR 800    *Protection of Historic Properties: Regulations of the Advisory Council on Historic Preservation Governing the Section 106 Review Process.* Advisory Council on Historic Preservation, Washington, D.C.
- 40 CFR 300    *National Oil and Hazardous Substances Contingency Plan.* U.S. Department of the Interior, Environmental Protection Agency, Washington, D.C.
- 43 CFR 7      *Protection of Archaeological Resources.* U.S. Department of the Interior, Washington, D.C.
- 43 CFR 10     *Native American Graves Protection and Repatriation Act; Final Rule.* U.S. Department of the Interior, National Park Service, Washington, D.C.

### **10.4 EXECUTIVE ORDERS AND MEMORANDA**

- EO 11593     Protection and Enhancement of the Cultural Environment (1971). 3 CFR 154; 16 U.S.C. 470.
- EO 12875     Enhancing the Intergovernmental Partnership (1993). 48 FR 58093.  
  
Memorandum for the Heads of Executive Departments and Agencies, "Government-to-Government Relations with Native American Tribal Governments" (1994). 59 FR 22951.

- EO 13007 Indian Sacred Sites (1996). 61 FR 26771.
- EO 13175 Consultation and Coordination with Indian Tribal Governments (2000). 65 FR 218.
- EO 23287 Preserve America (2003). 68 FR 43:10635.

## GLOSSARY: TERMS, ABBREVIATIONS, AND ACRONYMS CITED

### 11.1 GLOSSARY

**Archaeological property:** Derived from the common term “archaeological site,” an archaeological property is defined as “the place or places where the remnants of a past culture survive in a physical context that allows for the interpretation of these remains”; the physical evidence of the past and its patterning comprise the archaeological data base (Townsend et al. 1993:2).

**Archaeological site:** See “Archaeological property.”

**Area of Potential Effects (APE):** “the geographic area or areas within which an undertaking [e.g., a project, activity, program, or practice] may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. [The APE] is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking” (36 CFR 800.16(d)).

**Consultation:** “the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the section 106 process” (36 CFR 800.16(f)).

**Cultural property:** This term has both Project-specific and more general meanings. For the Topock Remediation Project specifically, “cultural property” has the same definition as “historic property,” including the possession of qualities that make the cultural property eligible for the National Register (BLM et al. 2010:App. G). In general parlance, the term encompasses a wide array of cultural resources without regard to their National Register eligibility.

**Cultural landscape:** A geographic area that has been modified over time as a result of cultural use(s) of the land, and that manifests the distinctive physical results and characteristics of the particular use(s). There are various kinds of cultural landscapes (see Hunter 2011), of which two—Designed Historic Landscapes and Rural Historic Landscapes—are defined in this glossary. Certain cultural landscapes are significant to Indian tribes, including those of the Colorado River region, providing a sense of place and cultural identity. Such landscapes map tribal relationships with the land over time and are part of the national and individual heritage of the Indian communities and their members (BLM et al. 2010:App. G).

**Cultural resource(s):** These are “all the aspects of the physical and supra-physical environment that human beings and their societies value for reasons having to do with culture. Included are culturally valued sites, buildings, and other places, plants and animals, atmospheric phenomena, sights and sounds, artifacts and other objects, documents, traditions, arts, crafts, ways of life, means of expression, and systems of belief” (King 2011:2).



**Cultural resource management (CRM):** The sum total of principles, mandates, programs, methods, and practices related to the identification, evaluation, and treatment of cultural resources, notably including those resources whose characteristics and qualities may be subject to change by human and/or natural agents.

**Cultural Resource(s) Management Plan (CRMP):** Generally, the term Cultural Resource(s) Management Plan refers to a document that describes cultural resources and specifies how they are to be managed (e.g., by avoidance, stabilization, rehabilitation, restoration, adaptive use, scientific investigation, or for public education, etc.) by the responsible entity. As used in this CHPMP, the term “Cultural Resources Management Plan” or “CRMP” refers to that specific CRMP that was completed for the Topock Remediation Project in September 2004, which describes steps to be taken to avoid or minimize harm to significant cultural resources during implementation of Interim Measures and until such time as a CHPMP is adopted (Price et al. 2004).

**Designed Historic Landscape:** “A landscape that has significance as a design or work of art; was consciously designed and laid out by a master gardener, landscape architect, architect, or horticulturalist to a design principle, or an owner or other amateur using a recognized style or tradition...; has a historical association with a significant person, trend, event, etc. in landscape gardening or landscape architecture; or a significant relationship to the theory or practice of landscape architecture” (Keller and Keller n.d.:2).

**Effect:** “Alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register” (36 CFR 800.16(i)).

**Federal Agencies:** As set forth in this CHPMP, the term “Federal Agencies” means the U.S. Department of the Interior’s Office of Environmental Policy and Compliance, Bureau of Land Management, Bureau of Reclamation, and Fish and Wildlife Service.

**Geoglyphs:** Also called gravel pictographs, ground drawings, or intaglios, geoglyphs are motifs or designs formed on the surface of the ground by the patterned removal and/or arrangement of weathered (e.g., desert-varnished) stones to different, often lighter color(s) below and thereby to create an image or motif, many of which are of very large size. Several hundred geoglyphs of various forms occur, mostly near the Colorado River, in California and Arizona. These are culturally significant to Indian tribes of the area.

**Historic property:** “Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that meet the National Register criteria” (36 CFR 800.16(l)).

**Historic significance:** See “Significance.”

**History, historical, and historic:** “History” means the human past, usually as documented by written records and, in recent times, by photographic and other media. “Historical” refers to

anything that dates from or took place during a time in history. “Historic” implies the significance or importance of a person, place, thing, or event in history

**Memorandum of Agreement (MOA):** Generally, a formal written understanding of agreement between/among agencies and/or other parties; specifically with reference to NHPA Section 106, “the document that records the terms and conditions agreed upon to resolve the adverse effects of an undertaking upon historic properties” (36 CFR 800.16(o)).

**National Register criteria:** “The criteria established by the Secretary of the Interior for use in evaluating the eligibility of properties for the National Register (36 CFR part 60)” (36 CFR 800.16(r)).

**Prehistoric:** A term with several meanings, “prehistoric” generally has referred to the time before human activities were documented in writing. Hence, the prehistoric era became historic when cultural events and activities in a particular place (locality, region, etc.) began to be recorded substantially in writing. However, there are many kinds of record-keeping that do not involve writing, and scholars increasingly recognize that oral traditions, too, are an important form of history. “Prehistoric” thus is perhaps best thought of as referring to the unrecorded, often distant past (Moratto 2011:54–56).

**Programmatic Agreement (PA):** Generally, the term Programmatic Agreement refers to “[a] document that records the terms and conditions agreed upon to resolve the potential adverse effects of a Federal agency program, complex undertaking, or other situations in accordance with [36 CFR] Sec. 800.14(b)” (36 CFR 800.16(t)). As used in this CHPMP, the term “Programmatic Agreement” or “PA” refers to that specific Programmatic Agreement among the BLM, AZ SHPO, CA SHPO, and ACHP for the Topock Remediation Project (BLM et al. 2010).

**Rural Historic Landscape:** “A geographical area that historically has been used by people, or shaped or modified by human activity, occupancy, or intervention, and that possesses a significant concentration, linkage or continuity of areas of land use, vegetation, buildings and structures, roads and waterways, and natural features” (McClelland et al. 1999:1–2).

**Significance:** “The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons significant in our past; or (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or (d) that have yielded or may be likely to yield information important in prehistory or history” 36 CFR 60.4(a–d)).

**Topock Maze:** This is a large, unique geoglyph, situated within the APE of the Topock Remediation Project, that has important cultural and religious significance for several of the Indian tribes residing along or near the Colorado River. One portion of the Maze is currently listed in the NRHP owing to its archaeological values. However, the Maze, including two other

adjacent loci, is currently under review for eligibility as a Traditional Cultural Property and possible nomination to the NRHP.

**Traditional:** This term refers to “those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice” (Parker and King 1998:1).

**Traditional Cultural Property (TCP):** A property “that is eligible for inclusion in the NRHP because of its association with cultural practices of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community” (Parker and King 1998:1).

**Tribes:** As set forth in this CHPMP, the term “Tribes” refers collectively to the Chemehuevi Indian Tribe, Cocopah Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe, Hualapai Tribe, Havasupai Tribe, Twenty-nine Palms Band of Mission Indians, and Yavapai-Prescott Indian Tribe.

**Undertaking:** “A project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license, or approval” (36 CFR 800.16(y)).

## 11.2 ABBREVIATIONS AND ACRONYMS

ACA	Administrative Consent Agreement (DOI et al. 2005)
ACHP	Advisory Council on Historic Preservation
AIRFA	(U.S.) American Indian Religious Freedom Act
AOC	Area of Concern
ARPA	(U.S.) Archaeological Resources Protection Act
ARAR	Applicable or Relevant and Appropriate Requirement (per CERCLA)
ARS	Arizona Revised Statutes
APE	Area of Potential Effects
A&P	Atlantic and Pacific (Railroad)
ASM	Arizona State Museum
ASU	Arizona State University
AT&SF	Atchison, Topeka, and Santa Fe (Railroad)
AZ	Arizona
B&C	Brown and Caldwell, Inc.
BLM	U.S. Bureau of Land Management
BNSF	Burlington Northern Santa Fe (Railway)
B.P.	Before present; by convention, before A.D. 1950
CA	California
CACA	Corrective Action Consent Agreement (issued by DTSC)
Cal/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CC	California Code
CCR	California Code of Regulations

CEQA	California Environmental Quality Act
CERCLA	(U.S.) Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH2M Hill	CH2M Hill, Inc.
CHRIS	California Historical Resources Information System
CHPMP	Cultural and Historic Properties Management Plan
CME	Comprehensive Groundwater Monitoring Evaluation
CMI	Corrective Measures Implementation
CMS	Corrective Measures Study
CMS/FS	Groundwater Corrective Measures Study/Feasibility Study
Cr	Chromium
Cr (III)	Trivalent Chromium
Cr (VI)	Hexavalent Chromium
CRBR	Colorado River Basin Region of the CRWQCB
CRM	Cultural Resource Management
CRWQCB	California Regional Water Quality Control Board
CRMP	Cultural Resources Management Plan
DOI	U.S. Department of the Interior
DOI OEPC	DOI Office of Environmental Policy and Compliance
DTSC	(California) Department of Toxic Substances Control
EIC	Eastern Information Center (of the CHRIS)
EO	Executive Order (by the President)
EPA	U.S. Environmental Protection Agency
ESA	Environmentally Sensitive Area (cf. EZ)
EZ	Exclusion Zone (cf. ESA)
FLM	Federal Land Manager (per ARPA)
FR	Federal Register
GETS	Groundwater Extraction and Treatment System
H&SC	California Health and Safety Code
HWCA	California Hazardous Waste Control Act, as amended
I-40	U.S. Interstate Highway 40
IM	Interim Measure
IRZ	In-Situ Reactive Zone
MCA	Medieval Climatic Anomaly
MOA	Memorandum of Agreement
MW	Monitoring Well
MWH	Montgomery Watson Harza, Inc.
NAGPRA	(U.S.) Native American Graves Protection and Repatriation Act, as amended
NAHC	(California) Native American Heritage Commission
NCP	National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300)
NHPA	(U.S.) National Historic Preservation Act
NOTH	National Old Trails Highway
NRB	National Register Bulletin
NRHP	National Register of Historic Places
OEPC	DOI, Office of Environmental Policy and Compliance

PA	Programmatic Agreement (per 36 CFR 800.14); also, Preliminary Assessment (per CERCLA)
PG&E	Pacific Gas and Electric Company
PL	Public Law (E.g., PL 93-291 is the 291st law passed by the 93rd Congress.)
POA	Plan of Action
POC	Point of Contact
Project	Topock Remediation Project
PRC	California Public Resources Code
PRP	Potentially Responsible Party (per CERCLA)
PTA	Pilot Test Area
RFI	RCRA Facility Investigation
RI/FS	Remedial Investigation/Feasibility Study (per CERCLA)
RCRA	(U.S.) Resource Conservation and Recovery Act
RFRA	(U.S.) Religious Freedom Restoration Act
ROD	Record of Decision (issued by EPA under CERCLA)
Section 106	Section 106 of the National Historic Preservation Act
SHPO	State Historic Preservation Officer
Stat.	(U.S.) Statutes
SWMU	Solid Waste Management Unit
TCP	Traditional Cultural Property
TCS	Topock Gas Compressor Station
TEK	Traditional Ecological Knowledge
THPO	Tribal Historic Preservation Officer
TMP	Transportation Management Plan (in the CRMP)
TSD	Treatment, storage, and disposal facilities (per RCRA)
USBR	U.S. Bureau of Reclamation
U.S.C.	U.S. Codes
USFWS	U.S. Fish and Wildlife Service

## **APPENDIX A**

### **Programmatic Agreement**



1                                   **PROGRAMMATIC AGREEMENT**  
2                                   **AMONG THE**  
3                                   **BUREAU OF LAND MANAGEMENT, ARIZONA**  
4                                   **STATE HISTORIC PRESERVATION OFFICER, CALIFORNIA STATE**  
5                                   **HISTORIC PRESERVATION OFFICER AND THE ADVISORY COUNCIL ON**  
6                                   **HISTORIC PRESERVATION**  
7                                   **FOR THE**  
8                                   **TOPOCK REMEDIATION PROJECT**  
9                                   **IN SAN BERNARDINO COUNTY, CALIFORNIA,**  
10                                   **AND MOHAVE COUNTY, ARIZONA**  
11  
12

13   **PREAMBLE**  
14

15   **The Pacific Gas and Electric Company (PG&E)**, as the Potentially Responsible Person (PRP),  
16 is performing remedial investigations and groundwater and soil removal and response actions  
17 pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act  
18 (CERCLA), (collectively referred to as the "Topock Remediation Project," "Project," or  
19 "Undertaking"). These actions, taken as a result of historic releases of hazardous substances that  
20 caused soil and groundwater contamination in the vicinity of the PG&E Topock Compressor  
21 Station, are under the direction of the U.S. Department of the Interior Office of Environmental  
22 Policy and Compliance (DOI) and the California Department of Toxic Substances Control  
23 (DTSC). The Project is subject to requirements set forth under the Resource Conservation and  
24 Recovery Act (RCRA), the California Hazardous Waste Control Law (HWCL), and the National  
25 Oil and Hazardous Substances Pollution Contingency Plan (NCP).  
26

27   **The U.S. Bureau of Land Management (BLM)**, in carrying out its responsibilities as the lead  
28 Federal Agency for NHPA Section 106 compliance, has developed policies and procedures  
29 through its directives system to help guide BLM's planning and decision making as it affects  
30 historic and cultural properties specific to the Topock Remediation Project.  
31

32   **The BLM, Lake Havasu Field Office**, acts locally as the lead Federal Agency for purposes of  
33 compliance with Section 106 of the National Historic Preservation Act (NHPA) on behalf of  
34 DOI, the U.S. Bureau of Reclamation (USBR), and the U.S. Fish and Wildlife Service  
35 (USFWS). On July 11, 2005, PG&E entered into an Administrative Order on Consent under  
36 CERCLA with DOI, BLM, USBR, and the USFWS (hereinafter collectively referred to as "the  
37 Federal Agencies").  
38

39   **The U.S. Department of the Interior**, as the lead Federal Agency with regulatory authority  
40 under CERCLA, relies upon the Federal Agencies and the Office of the Solicitor regarding the  
41 Project for purposes of compliance with Section 106 of the National Historic Preservation Act  
42 (NHPA).  
43

44   **Nine Tribes have been consulted by the BLM in development of this Programmatic**  
45 **Agreement (PA)**. The BLM has invited the Chemehuevi Indian Tribe, Cocopah Tribe, Colorado  
46 River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe, Hualapai Tribe,



Havasupai Tribe, Twenty-Nine Palms Band of Mission Indians, and the Yavapai-Prescott Indian Tribe (hereinafter, the Tribes) to participate in the Section 106 consultation process and to be Invited Signatories; and the tribes provided significant input into the development of this PA.

The Tribes, as full participants in carrying out their respective Tribal sovereign governmental obligations, accept the BLM as the lead Federal Agency regarding the Project. Participation and consultation will be in accordance both with the DOI's authorities and responsibilities under the above referenced Federal regulatory frameworks and with any applicable State laws and guidance. The BLM agrees that regulations implementing Section 106 of the NHPA recognize the historic and traditional interests of the Tribes. The Tribes believe that the area known as Topock, and specifically the immediate Project area, is part of a broader cultural landscape. The Tribes, as sovereign governments, recognize the Project to be of significant importance and agree that the primary objectives are remediation of historic contamination of the soil and groundwater by hazardous substances and prevention of further releases of any harmful materials within the cultural and natural environment of the Colorado River and, specifically, within the immediate Project area.

As a result of the consultation process, BLM understands the Tribes consider natural resources to be cultural resources. The Tribes believe environmental degradation is understood to violate principles of long-term sustainable use which can affect multiple layers of cultural, economic, social, physical, and spiritual growth, which in turn impact the survival of environments, humans, and future generations. The Tribes request that BLM acknowledge the Topock cultural-natural landscape (above and below the surface; land, and waters) as having traditional interests for the Tribes, such that the BLM/DOI's decision-making process reflects adequate and mutually understood participation in accordance with Section 110(a)(2)(D) of the NHPA. The BLM acknowledges and respects these Tribal views and beliefs pertaining to the Topock cultural-natural landscape. With this mutually understood perspective, the Tribes and the BLM shall, in a spirit of positive collaboration, consult to develop a management strategy for maintaining properties that considers the preservation of their archaeological, historical, and cultural values and the avoidance of adverse effects in the light of the views of the Tribes.

The Fort Mojave Indian Tribe, Hualapai Tribe, Fort Yuma Quechan Tribe, Cocopah Tribe, and the Yavapai-Prescott Tribe state that the Topock Maze and other Native American cultural properties do not exist in isolation from each other but, rather, as a part of a larger cultural area (to which these Tribes refer as a cultural landscape) that includes the Colorado River and extends beyond the limits of the Undertaking's Area of Potential Effect (APE) and should not be understood merely as discrete or detached archaeological sites but as areas or districts of traditional religious and cultural value.

## **RECITALS**

**WHEREAS**, PG&E voluntarily entered into an Administrative Consent Agreement under the CERCLA with the DOI, BLM, USFWS, and USBR on July 11, 2005, and is performing investigation and groundwater and soil removal and remediation actions (collectively referred to as the "Topock Remediation Project") to respond to historic releases of hazardous substances resulting in soil and groundwater contamination in the vicinity of the PG&E Topock Compressor

Station under the direction of the DOI's Office of Environmental Policy and Compliance and the California Department of Toxic Substances Control (DTSC). The Topock Remediation Project constitutes an Undertaking as defined at 36 CFR §800.16(y); and

**WHEREAS**, Time Critical Removal Actions have occurred with implementation of Interim Measures (IM) 1, 2, 3, at Area of Concern (AOC) 4; and other Time Critical Removal Actions may potentially be identified, as part of the Undertaking; and

**WHEREAS**, many of the consulted Tribes regard the Colorado River as the lifeblood of the people and a sacred place that figures in their creation stories and beliefs about the afterlife; and

**WHEREAS**, the BLM realizes that the Tribes have special expertise in identifying and assessing the eligibility of historic properties that may possess religious and cultural significance to them (per 36 CFR §800.4); and

**WHEREAS**, the BLM has determined that a traditional cultural property (TCP) or property of traditional religious and cultural significance within the APE as defined in Stipulation II hereof is eligible for inclusion on the National Register of Historic Places (NRHP) under criterion A as part of what the Tribes have identified as a larger area of traditional and cultural importance, whose boundaries have yet to be defined and will not be defined within the scope of this Undertaking, and will not be subject to any further concurrence regarding this determination of effect; and

**WHEREAS**, a *Memorandum of Agreement between the Bureau of Land Management, Lake Havasu Field Office and the California State Historic Preservation Officer Regarding the Pacific Gas and Electric Topock Interim Measures No. 3 Expanded Groundwater Extraction and Treatment Project San Bernardino County, California* (MOA) was entered into between BLM, the California State Historic Preservation Office (CA SHPO), and PG&E on September 14, 2004, under Section 106 of the NHPA for the Topock Interim Measures No. 3 Project (IM-3) and a Cultural Resources Management Plan was developed in September 2004 and revised by BLM in March 2008; and

**WHEREAS**, previous consultation between the California SHPO and BLM for the IM-3 undertaking concluded that the Project has resulted and will continue to result in adverse effects to historic properties; and

**WHEREAS**, the Topock Remediation Project also has the potential to adversely affect cultural and historic properties that have previously been listed in or determined eligible for the NRHP, including but not limited to the Topock Maze (locus A), portions of US Route 66, the Atlantic and Pacific Railroad Right-of-Way, three archaeological sites (CA-SBr-11697, 11700, and 11701), and geoglyphs (including CA-SBr-5237 and others) located within the APE that may be deemed eligible after further review; and

**WHEREAS**, this Undertaking requires a management framework for historic properties that will be implemented after the execution of this agreement in a manner that fulfills the requirements of Section 106 of the NHPA; and the Signatories have agreed to use a PA, as described in 36 CFR

§800.14(b), as the appropriate vehicle for establishing a system for compliance with Section 106 of the NHPA in this case because of the Undertaking's long-term character and the anticipated need for adjustments warrant a departure from the normal Section 106 process; and

**WHEREAS**, the USBR and USFWS manage lands affected by the Topock Remediation Project and are therefore Invited Signatories to this PA; and

**WHEREAS**, DTSC is the lead state agency for the purposes of oversight and implementation of the Topock Remediation Project under RCRA, pursuant to a voluntary Corrective Action Consent Agreement (CACA) entered into between DTSC and PG&E on February 26, 1996; and

**WHEREAS**, PG&E, as the PRP for the Topock Remediation Project, is participating in consultation per 36 CFR §800.2(c)(4) and is an Invited Signatory to this PA; and

**WHEREAS**, BLM has consulted with the Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe, Hualapai Tribe, Havasupai Tribe, Twenty-Nine Palms Band of Mission Indians, and the Yavapai-Prescott Indian Tribe per 36 CFR §800.2(c)(2)ii and has invited the Tribes to participate as Invited Signatories; and

**WHEREAS**, actions associated with the Topock Remediation Project have occurred and will continue to occur in the state of California, the BLM has consulted, and shall continue to consult, with the CA SHPO on this Undertaking, and the CA SHPO is a Signatory to this PA; and

**WHEREAS**, actions associated with the Topock Remediation Project have extended and may continue to extend into the state of Arizona, the BLM has consulted, and will continue to consult, with the Arizona State Historic Preservation Officer (AZ SHPO) on this Undertaking, and the AZ SHPO is a Signatory to this PA; and

**WHEREAS**, BLM has consulted the Advisory Council on Historic Preservation (ACHP) and the ACHP, in its letter dated November 3, 2008, has agreed to participate in accordance with 36 CFR §800.6(a), and the ACHP is a Signatory to this PA; and

**WHEREAS**, from the Tribes' perspective, the physical and cultural landscapes provide a sense of place and identity, and Tribes map their relationship to such landscapes and each other over time, as part of their cultural heritage and lives; and

**WHEREAS**, the Fort Mojave Indian Tribe is a landowner within the remediation footprint, is the closest reservation to the Topock area, and has cultural obligations to act as a caretaker of the area; and

**WHEREAS**, historic and cultural properties and values on public lands administered by BLM, USBR, and USFWS fall under the protection of the NHPA, Archaeological Resources Protection Act (ARPA, P.L. 96-95, as amended), American Indian Religious Freedom Act (AIRFA, P.L. 95-341, as amended), and Native American Graves Protection and Repatriation Act (NAGPRA, P.L. 101-601), applicable regulations (36 CFR §7, 60, 63, and 800; 43 CFR §10), and applicable

Executive Orders (e.g., 13007, 13175, and 13287), and these have been considered during consultation for this PA; and

**WHEREAS**, the DTSC, a Department under the State of California Environmental Protection Agency, is the lead State agency for the remediation activities at Topock; and

**WHEREAS**, with execution of this PA and the adoption of the Cultural and Historic Properties Management Plan (CHPMP) as identified in Stipulation VII hereof, the BLM and CA SHPO agree the *Memorandum of Agreement between the Bureau of Land Management, Lake Havasu Field Office and the California State Historic Preservation Officer Regarding the Pacific Gas and Electric Topock Interim Measures No. 3 Expanded Groundwater Extraction and Treatment Project San Bernardino County, California* (MOA) shall terminate and the Topock Interim Measure No. 3 shall be managed pursuant to the CHPMP; and

**WHEREAS**, based on the Groundwater Corrective Measures Study/Feasibility Study (CMS/FS) prepared by PG&E at the direction of DOI and DTSC, the following alternatives were considered for implementation for the Topock Remediation Project:

- A. No Action
- B. Monitored Natural Attenuation
- C. High Volume *in Situ* Treatment
- D. Sequential *in Situ* Treatment
- E. *In Situ* Treatment with Fresh Water Flushing
- F. Pump and Treat
- G. Combined Floodplain *in Situ*/Pump and Treat
- H. Combined Upland *in Situ*/Pump and Treat,
- I. Continued Operation of Interim Measures already in place; and

**WHEREAS**, after consultation with the Tribes, DOI determined in its Proposed Plan dated June 4, 2010, and DTSC determined in its Statement of Basis dated April 28, 2010, that based on the analysis and conclusions presented in the CMS/FS, those agencies' preferred alternative is Alternative E – *In situ* Treatment with Fresh Water Flushing, with inclusion of monitored natural attenuation as a long-term component. This is the Agencies' preferred alternative because it will achieve the remedial action objectives while substantially reducing the amount of hexavalent chromium in the groundwater in a reasonable time frame and will result in fewer adverse effects to cultural resources and biological resources, relative to the other alternatives considered; and

**NOW, THEREFORE**, all Signatories and Invited Signatories agree that BLM, on behalf of the Federal Agencies, shall administer the Undertaking in accordance with the following stipulations to satisfy the Federal Agencies' Section 106 responsibilities for this Undertaking.

#### **AGREEMENT AND STIPULATIONS**

BLM agrees to ensure that the following Stipulations are carried out:

231 **I. GENERAL PRINCIPLES**

232  
233 The Federal Agencies, in consultation with the Tribes, SHPOs, ACHP, PG&E, and other  
234 interested parties, agree to:

- 235  
236 A. Select and implement, or cause to be implemented, an alternative or combination of  
237 alternatives to remediate the groundwater and soil contamination in a manner that  
238 fulfills the requirements of CERCLA and the CERCLA Records of Decision (RODs)  
239 and protects the Colorado River, human populations, and the natural environment to  
240 the maximum extent practicable.
- 241  
242 B. Subject to I(A), carry out, and require others under their jurisdiction to carry out, all  
243 investigative, testing, and remediation activities, including all supporting operations  
244 and maintenance activities, in ways that avoid, minimize, or mitigate adverse effects  
245 to cultural and historic properties within the APE, to the maximum extent practicable.
- 246  
247 C. Respect Tribes' rights to express their traditional cultural values, including those  
248 associated with their religions, and their right to access Federally managed lands to  
249 conduct cultural and religious practices, as variously specified in E.O. 13007, the  
250 Religious Freedom Restoration Act (RFRA) and the American Indian Religious  
251 Freedom Act (AIRFA). Additionally, the BLM, USFWS, USBR, and PG&E shall  
252 consult with the Tribes that attach cultural significance to the TCP within the APE to  
253 develop a plan to ensure Tribal access to areas within the APE for traditional  
254 religious, cultural, or spiritual purposes. Access shall be consistent with applicable  
255 laws, regulations, and agreements governing property within the APE and may not  
256 impede the Topock Remediation Project, may not create health and safety concerns,  
257 and shall exclude the Topock Compressor Station and related facilities.
- 258  
259 D. Ensure that PG&E shall, to the extent practicable, restore the areas affected by the  
260 Topock Remediation Project within the APE including, but not limited to, the site of  
261 the existing treatment plant and related facilities but excluding the Topock  
262 Compressor Station and related facilities to the conditions existing prior to the  
263 construction of the PG&E investigation and remediation related appurtenances and  
264 facilities.
- 265  
266 E. Consult with the other Signatories, Tribes, and Invited Signatories, following the  
267 guidelines in Appendix B of this PA, regarding actions proposed in this Undertaking,  
268 including establishment of any rights of way, time critical, or emergency actions.
- 269  
270 F. Recognize that the environmental setting for the Topock Maze and its relationship  
271 and association to cultural and religious sites which are outside the APE relates to the  
272 historic and cultural significance of the Topock Maze.
- 273  
274 G. Recognize that on-going consultation between the Invited Signatories and the Tribes  
275 will continue outside of this PA to further address mitigation of direct, indirect, and  
276 cumulative effects of the Topock Project. Mitigation topics may include but not be  
277 limited to:

- 278
- 279 1. Measures to restore the land and its life-forms, to improve Tribal access, and
- 280 reduce incompatible uses.
- 281
- 282 2. Measures to strengthen traditional spiritual, cultural, and funerary traditions.
- 283
- 284 3. Specific measures to mitigate adverse effects or adverse cumulative effects
- 285 important to the Tribes will be addressed in the development of the CHPMP
- 286 specified in Section VII of this PA.
- 287
- 288 H. Endeavor, in consultation with Tribes, to manage Federal lands, Federal assistance
- 289 activities, and Federal permitting and licensing responsibilities in ways that reduce
- 290 adverse effects to the Topock Maze and other geoglyph sites in the area and facilitate
- 291 Tribal access to them and allow continuance of Tribal cultural practices in accordance
- 292 with the principles set forth in this Stipulation. Cumulative effects to both tangible
- 293 and intangible cultural resources occurring in areas beyond the Maze but within the
- 294 APE will be considered during the consultation process. The Agencies will consult
- 295 with Tribes to identify Tribal concerns prior to initiating or permitting activities that
- 296 may create such effects.
- 297
- 298 I. Acknowledge that one hundred sixty-five (165) archaeological sites consisting of one
- 299 hundred forty-three (143) prehistoric and twenty-three(23) historic sites, an additional
- 300 thirty-six(36) isolated prehistoric artifacts or features, and three (3) isolated historic
- 301 artifacts are identified in Appendix E, the most current inventory of archaeological
- 302 and historical resources within the Original APE and Expanded APE of the Topock
- 303 IM No. 3 Project, that any of the one hundred sixty-five (165) archaeological and
- 304 historic sites that have not been formally evaluated for inclusion on the National
- 305 Register of Historic Places (NRHP) will be treated as eligible for inclusion on the
- 306 NRHP for the purposes of this PA.
- 307

## 308 **II. AREA OF POTENTIAL EFFECT (APE)**

309

- 310 A. APE means the geographic area or areas within which an Undertaking may directly or
- 311 indirectly cause alterations in the character or use of historic properties, if any such
- 312 properties exist. The APE is influenced by the scale and nature of an Undertaking and
- 313 may be different for different kinds of effects caused by the Undertaking. (36 CFR
- 314 §800.16 (d)). Adverse effects on historic properties include, but are not limited to:
- 315 physical destruction or alteration of a property or introduction of visual, atmospheric,
- 316 or audible elements that diminish the integrity of the property's significant historic
- 317 features (36 CFR §800.5(a)(2)). There is potential for indirect and cumulative effects
- 318 on these other sites and properties. Adverse effects may include reasonably
- 319 foreseeable effects caused by the undertaking that may occur later in time, be further
- 320 removed in distance, or be cumulative (36 CFR §800.5(a)(1)).
- 321

322 The APE for this Undertaking is initially comprised of 1,600.69 acres of surface area

323 and a section of the Colorado River and is shown on the map attached hereto as

324 Appendix A. The APE includes land and property interests owned or managed by

public and private entities including BLM, USBR, USFWS, Fort Mojave Indian Tribe, San Bernardino County, Burlington Northern Santa Fe Railroad, PG&E, and the Los Angeles Metropolitan Water District. In addition, several entities have easements and/or rights-of-way, including California Department of Transportation (Caltrans), San Bernardino County, Mohave County, Southern California Gas, Transwestern Gas Pipeline Company, Mojave Gas Pipeline Company, PG&E, City of Needles Electric, Southwest Gas Corporation, and Frontier Communications. The Undertaking will occur in an environmental setting that includes the Topock Maze and its relationship and association to other sites and properties which are outside the APE but may relate to the historic and cultural significance of the Topock Maze that could be affected by implementation of the Undertaking. If additional information reveals indirect and/or cumulative effects on other properties eligible for listing on the NRHP, revision of the APE may be appropriate.

- B. At each phase (workplan or design document) of implementation of the Undertaking, an evaluation will occur to determine if the APE should be amended. This evaluation will coincide with the development of the workplan or design document for the specific phase of the Undertaking. Where alternatives under consideration consist of corridors or large land areas, or where access to properties is restricted, the agency official may use a phased process to conduct identification and evaluation efforts (36 CFR §800.4(b)(2)). Prior to implementation of each phase (work plan or design document) of the Undertaking, BLM will determine, in consultation with the AZ SHPO, CA SHPO, Tribes, and PG&E, what, if any, changes are required in the APE. If BLM determines that the APE must be revised, BLM will redefine the APE taking the input from those parties into account. Should such revision to the APE be needed, BLM will amend the CHPMP to include any changes to the APE.

Any Signatory or Invited Signatory to this PA may propose that the APE be modified. BLM shall notify all Signatories and Invited Signatories of the proposal and consult with the Tribes, PG&E, the AZ SHPO, and the CA SHPO for no more than thirty (30) days after such notification to attempt to reach agreement on the proposal according to guidance found at 36 CFR §800.4(a). If an agreement is reached, BLM will ensure that a description and map of the modification is provided to all Signatories and Invited Signatories. Agreement to amend the APE, by itself, will not require an amendment to the PA but will be subject to all other stipulations of this PA.

If final agreement cannot be reached on a proposed modification to the APE, dispute resolution procedures as described in Stipulation XV will be followed.

### **III. REMEDIATING GROUNDWATER CONTAMINATION**

- A. The DOI, pursuant to its CERCLA response action authority, expects to select a remedial action addressing groundwater contamination in the vicinity of the Topock Compressor Station and later expects to select remedial action addressing contamination of soils and subsurface soils. Each of these remedial actions will be selected through the issuance of a CERCLA ROD. Each ROD (for groundwater

remediation and for soil remediation) will establish Cleanup Standards established to address unacceptable risks to human health and the environment, and attain applicable or relevant and appropriate requirements (ARARs). Substantive mitigation measures, including those that may be identified in this PA and through ongoing consultation, that DOI adopts to mitigate, minimize, or avoid adverse effects of these remedial actions on cultural and historic properties within the APE, will be adopted as ARARs and attained through implementation of the CERCLA remedial actions.

Based on the specific circumstances presented at the Topock site, DOI has determined that Alternatives A, B, and I do not satisfy all identified ARARs and cannot be stand-alone remedies. Attaining ARARs is a threshold criterion which must be satisfied, unless the ARAR is waived, for an alternative to be selected as a CERCLA remedial action. Alternatives A, B, and I do not satisfy the “reasonable time frame” requirement established by the California State Water Resources Control Board (hereinafter, “the Water Board”) Resolution 92-49. This Resolution requires that the selected remedy has “a substantial likelihood to achieve compliance, within a reasonable time frame, with the cleanup goals and objectives” established for a site. The Water Board has interpreted this requirement in light of the specific alternatives under consideration at the Topock site and has concluded: “With respect to the nine alternatives and estimated cleanup time frames described in PG&E’s draft Corrective Measures Study/Feasibility Study (CMS/FS), dated January 2009, Alternatives A, B, and I would not comply with the ‘reasonable time frame’ provision in Section III.A. of Resolution 92-49. Alternatives C through H would comply with this provision.” Based on the analysis and supporting information provided by the Water Board, DOI has concurred with the Water Board’s interpretation of this Resolution as it pertains to the Topock site.

In selecting an alternative to implement the groundwater remediation element of the Topock Remediation Project, BLM will ensure that the Federal Agencies, in continuing consultation with the Signatories and Invited Signatories, have given full and fair consideration to the following:

1. *Alternative B (Monitored Natural Attenuation)*. Natural reducing conditions, which are an integral part of natural attenuation, are present at the site where hexavalent chromium is converted to its stable form of Cr (III) and is essentially immobile. Natural attenuation, therefore, can be utilized in conjunction with other alternatives. Monitored natural attenuation could reduce the effects on properties eligible or listed on the National Register and associated cultural values resulting from continued treatment system operation and monitoring.
2. *Alternative E (In situ treatment with freshwater flushing)*, as currently represented in planning documents, would have more effect on cultural values than Alternatives A or B but would have relatively fewer physical effects than the other active remedies (e.g., fewer upland facilities, fewer onsite personnel, and no new aboveground treatment plants). It is thus preferable to alternatives C, D, F, G, and H from the standpoint of Tribal cultural values.



- 417
- 418 3. *Alternatives C, D, F, G, and H*, or any combination thereof, are not preferred from
- 419 the perspective of Tribal cultural values, because they pose adverse effects
- 420 stemming from one or more of the following: additional wells, activity in the
- 421 particularly sensitive upland areas, maintaining treatment facilities within the
- 422 Topock Maze complex, or new, larger treatment plant facilities.
- 423
- 424 B. Once a ROD for remediation of groundwater has been issued, the parties to this PA
- 425 and Tribes who choose not to sign this PA will consult to determine the need for
- 426 amendments to this PA or editing and expansion of the CHPMP to incorporate new
- 427 information regarding the selected remedy's impacts and mitigation. Flexible decision
- 428 making will be essential for ensuring that appropriate mitigation measures are applied
- 429 at the appropriate time.
- 430
- 431 1. Should Monitored Natural Attenuation be included as a component of the selected
- 432 remedy for the Project area, the Federal Agencies will determine, in consultation
- 433 with the Signatories and Invited Signatories, how best to ensure that:
- 434
- 435 a. Existing monitoring wells and related facilities shall be used to the maximum
- 436 extent practicable.
- 437
- 438 2. Should Alternative E be selected, the Federal agencies will ensure, consistent with
- 439 the principles set forth in Stipulation I, that:
- 440
- 441 a. Existing monitoring wells and related facilities shall be used to the maximum
- 442 extent practicable.
- 443
- 444 b. The need for and placement of any new facilities or activities will be
- 445 determined in consultation with the Tribes and the Consulting Parties
- 446 following the guidelines in Appendix B.
- 447
- 448 c. New facilities or activities will be placed in areas already disturbed by
- 449 previous grading and other mechanized activities to the extent practicable,
- 450 consistent with protecting human health and the environment and achieving
- 451 cleanup in a timely manner.
- 452
- 453 d. The Federal Agencies will develop a brochure to notify other state and
- 454 Federal agencies of the Signatories' and Invited Signatories' concerns with
- 455 the actions to be taken within the vicinity of the Topock Remediation Project
- 456 and the Topock Maze.
- 457
- 458 e. The performance of all field activities in support of the remedy shall be
- 459 executed in such a way as to avoid and/or minimize adverse effects to
- 460 cultural and historic properties to the maximum extent practicable.
- 461 f. Subject to Stipulation I(A), direct, indirect, and cumulative adverse effects
- 462 shall be considered and mitigated.
- 463

g. Should any other alternative, including but not limited to Alternative C, D, F, G, or H or any combination thereof, be selected, the Federal Agencies shall re-open consultation with the Signatories, Tribes, and Invited Signatories to this PA to seek an amendment in accordance with Stipulation XIV hereof. In the event that any such amendment should be required, the Signatories and Invited Signatories agree to exercise their best efforts in order not to impede, or delay unnecessarily, issuance of the ROD or implementation of the groundwater remedy.

3. Because the final design of the selected remedy will likely differ from its conceptual design, the Federal agencies shall ensure that:

a. Consultation between the Signatories, Tribes, and Invited Signatories shall be initiated prior to final design and implementation of that alternative.

b. Every effort shall be made to avoid and/or minimize adverse effects in accordance with the principles set forth in Stipulation I.

c. Whatever the selected alternative, the Federal Agencies will consult with Signatories, Tribes, and Invited Signatories during design, implementation, and monitoring activities to determine how best to restore the areas affected by the Topock Remediation Project. These areas will include, but not be limited to, the site of the existing treatment plant and related facilities but will exclude the Topock Compressor Station and related facilities. The Federal Agencies will ensure that environmental restoration to the conditions existing prior to the construction of the Project is planned and conducted to the extent practicable.

4. The mitigation measures described above are based on information known as the execution of the PA. Future studies, work plans, or environmental review documents may identify additional adverse effects and the need for additional consultation with Signatories, Tribes, and Invited Signatories regarding appropriate mitigation measures and are in no way precluded by this PA. Should additional adverse effects be identified through consultation on future studies, work plans, or review documents, the Federal Agencies will incorporate mitigation measures in the Treatment Plan included in the CHPMP as described in Stipulation VII (B) of this PA.

#### **IV. CHARACTERIZING, REMEDIATING, AND MITIGATING SOILS CONTAMINATION**

A. At the time of the execution of this PA, soil investigations are ongoing for the Topock Compressor Station and surrounding area. The Federal Agencies will ensure that:

1. Consultation between the Signatories, Tribes, and Invited Signatories shall continue during development of the work plans for Soil Part A, Phase II Investigation, and Soil Part B Investigation. Should additional adverse effects be

511 identified through consultation on future studies or work plans, the Federal  
512 Agencies will incorporate mitigation measures in the Treatment Plan included in  
513 the CHPMP as described in Stipulation VII (B) of this PA.  
514

- 515 2. Every effort shall be made to avoid and/or minimize adverse effects to the  
516 maximum extent practicable, in accordance with the principles set forth in  
517 Stipulation I. Tribal and Archaeological Monitors shall be authorized to monitor  
518 all such related activities in accordance with Appendix C.  
519

520 B. Once a CMS/FS for remediation of soils has been prepared, the parties to this PA  
521 agree to engage in consultations to determine the need for amendments to this PA or  
522 editing and expansion of the CHPMP to incorporate new information regarding soils  
523 remediation alternatives, adverse effects, and mitigation. The Federal Agencies will  
524 ensure that:  
525

- 526 1. As a general rule, only soils that have been contaminated by human activity are to  
527 be remediated. Response actions to address contaminated soils will be selected in  
528 compliance with the requirements of CERCLA. No soils remediation or  
529 mitigation will proceed until consultation with all Signatories and Invited  
530 Signatories has been completed in accordance with guidelines in Appendix B.  
531

- 532 2. Any and all projects to remove or otherwise remediate the contamination of soils  
533 are planned in accordance with the principles set forth in Stipulation I of this PA.  
534

- 535 3. Tribal and Archaeological Monitors shall be authorized to monitor all soils  
536 characterization, remediation, and mitigation activities in accordance with  
537 Appendix C.  
538

- 539 4. Because the final design of the selected remedy may differ from its conceptual  
540 design, the Federal Agencies agree to ensure that:  
541

542 a. Consultation between the Signatories, Tribes, and Invited Signatories is  
543 initiated prior to final design of the selected remedy.  
544

545 b. Every effort shall be made to avoid and minimize adverse effects to the  
546 maximum extent practicable, in accordance with the principles set forth in  
547 Stipulation I.  
548

- 549 5. The mitigation measures are based on information known as of the execution of  
550 the PA. Studies, workplans, and environmental documents may identify additional  
551 adverse effects and mitigation measures, in consultation with Signatories, Tribes,  
552 and Invited Signatories, which will not be precluded by this PA.  
553

554 a. Whatever the selected alternative, the Federal Agencies will consult with all  
555 Signatories, Tribes, and Invited Signatories during the design activities to  
556 determine how to best restore the areas affected by the Topock Remediation

557 Project. These areas include, but are not limited to, the site of the existing  
558 treatment plant and related facilities, but exclude the Topock Compressor  
559 Station and related facilities to ensure that environmental restoration to the  
560 conditions existing prior to the construction of the Project is planned and  
561 conducted, to the extent practicable.

- 562  
563 b. BLM will include the results of consultation as part of the Treatment Plan  
564 specified in the CHPMP and document specific consultation activities as part  
565 of the administrative record.

566  
567 **V. REMOVAL OF EXISTING TREATMENT PLANT AND OTHER**  
568 **REMEDATION FACILITIES**

- 569  
570 A. All facilities and appurtenances related to the Topock Remediation Project are to be  
571 removed as soon as practicable upon attainment of cleanup standards and a  
572 determination by DOI that removal of such facilities is protective of human health  
573 and the environment. All such removal will be planned in consultation with the  
574 Signatories, Tribes, and Invited Signatories following the guidelines in Appendix B.  
575  
576 B. The removal of such facilities shall be monitored following the monitoring guidelines  
577 in Appendix C.  
578  
579 C. The removal of such facilities shall take place along existing graded roads to the  
580 maximum extent practicable.  
581  
582 D. Prior to decommissioning of any remediation facility, the Federal Agencies will  
583 consult with all Signatories, Tribes, and Invited Signatories during the development  
584 of the closure plan to determine how to best restore the areas affected by the Topock  
585 Remediation Project, including, but not limited to, the site of the existing treatment  
586 plant and related facilities, but excluding the Topock Compressor Station and related  
587 facilities, to ensure that environmental restoration of conditions existing prior to the  
588 construction of the Project is achieved to the extent practicable.  
589  
590 E. PG&E will draft a plan for decommissioning, removal, and restoration of the IM-3  
591 facility prior to implementation of the groundwater remedy in consultation with all  
592 Signatories, Tribes, and Invited Signatories.

593  
594 **VI. INTERIM MEASURES FOR IMPLEMENTATION OF THE UNDERTAKING**  
595

- 596  
597 A. The CRMP was developed to address historical and archeological issues. BLM will  
598 consult with the Signatories, Tribes, and Invited Signatories in order to take into  
599 account Tribal and cultural values that were not addressed in the CRMP. Until such  
600 time as the CHPMP as described in Stipulation VII has been finalized, BLM shall  
601 continue to implement the CRMP as distributed to all Signatories, Tribes, and Invited  
602 Signatories in March 2008 (attached hereto as Appendix H).  
603  
604 B. Until such time as the CHPMP as described in Stipulation VII has been finalized, the

BLM will utilize the State Protocol Agreements between the California and Arizona State Directors of the BLM and the California and Arizona SHPOs which outline how the BLM will meet its responsibilities under the NHPA and the *Programmatic Agreement Among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers Regarding the Manner in Which BLM will Meet Its Responsibilities Under the National Historic Preservation Act* (1997).

## **VII. CULTURAL AND HISTORIC PROPERTIES MANAGEMENT PLAN (CHPMP)**

- A. The BLM will be responsible for the development of a CHPMP that specifies how cultural and historic properties within the APE are to be treated during implementation of the Undertaking. BLM will consult with all Signatories, Tribes, and Invited Signatories to this PA in the development of the CHPMP. The CHPMP will be finalized by the BLM no later than one year after signing of the ROD for the ground water remediation phase of the Undertaking. The requirements of the CRMP as distributed to all Signatories, Tribes, and Invited Signatories in March 2008 (attached hereto as Appendix H) for IM-3 will remain in effect until execution of the CHPMP. Upon execution, the CHPMP will supersede the CRMP.
- B. The CHPMP will provide a Treatment Plan which incorporates and is consistent with the principles in Stipulation I and the mitigation measures contained in this PA to avoid, minimize, or mitigate adverse effects to cultural and historic properties within the APE. The Treatment Plan will provide a description of known cultural and historic properties within the APE. For each type of historic property, the Treatment Plan will describe mitigation measures and include those taken from this PA that might be used to avoid, minimize, or mitigate adverse effects to the cultural and historic properties within the area of the Undertaking. Should a proposed action be determined to have an adverse effect, the Treatment Plan would be used as the first point of reference in developing a specific course of action that would address how best to avoid, minimize, or mitigate the adverse effect.
- C. The stipulations within the CRMP for IM-3 shall be considered for adoption within the CHPMP.
- D. The CHPMP will include a listing and maps of all cultural and historic resources associated with the Undertaking within the APE, including properties already on the NRHP, and properties determined eligible for inclusion on the NRHP (in a manner consistent with Stipulation XII, Confidentiality).
- E. The CHPMP will include sections that describe the specific steps to be taken if previously unrecorded resources are located or if the Undertaking extends beyond the APE (as defined in Stipulation II(A), see also Appendix A Map), relative to identification, evaluation, and treatment of cultural and historic resources.
- F. After consultation with all Signatories, Tribes, and Invited Signatories, the BLM may amend the finalized CHPMP as additional information is developed regarding cultural

651 and historic resources within the APE, in the event that the APE is revised, and for  
652 any other reasons determined appropriate by BLM. Revision of the CHPMP shall not  
653 require an amendment of the PA. The CHPMP may be revised in phases as the  
654 Undertaking progresses.

655  
656 G. The CHPMP will include a discovery plan consistent with stipulation IX(C).

657  
658 H. The CHPMP will contain a Plan of Action (POA) for use in the event of discovery of  
659 human remains within the APE, which will address the roles of the Signatories,  
660 Tribes, and Invited Signatories. The BLM will be the lead Federal Agency  
661 responsible for seeing that the terms of the POA are executed. The POA will specify  
662 how each Tribe wishes to be contacted and involved in the event of an unanticipated  
663 discovery of human remains within the APE, as described in NAGPRA and all other  
664 applicable State and Federal laws pertaining to human remains and funerary objects,  
665 ceremonial items, and items of cultural patrimony. Human remains and funerary  
666 objects must be treated in a culturally appropriate and respectful manner.

667  
668 I. BLM shall remain responsible for making all recommendations and determinations of  
669 significance, eligibility, and treatment of cultural and historic properties related to the  
670 Undertaking. BLM will consult with all Signatories, Tribes, and Invited Signatories  
671 according to the procedures contained in Appendix B of this PA before finalizing  
672 recommendations, determinations, and treatment plans.

## 673 674 **VIII. IDENTIFICATION OF NATIONAL REGISTER OF HISTORIC PLACES** 675 **PROPERTIES**

676  
677 BLM shall solicit additional input from the Tribes pertaining to the traditional religious  
678 and cultural significance of the Topock Maze, including loci B and C, and any other  
679 associated contributing properties. In consultation with the Tribes and Signatories to this  
680 PA, no later than one year from execution of the PA, a decision will be made regarding  
681 moving forward with a formal nomination to the NRHP for the traditional and religious  
682 property/TCP associated with the Topock Maze and this Undertaking.

## 683 684 **IX. DISCOVERIES**

685  
686 A. If the Undertaking affects a previously unidentified cultural and/or historic resource,  
687 including human remains and/or associated funerary objects or graves, or affect such  
688 resources in a way not previously anticipated, or have greater adverse effect than  
689 previously anticipated, all work in the vicinity of the discovery shall cease. No further  
690 action will be taken until the BLM, in consultation with Tribal and Archaeological  
691 Monitors and PG&E in the field, has determined the nature of the discovery and  
692 delineated an area not to exceed fifty (50) meters from the approximate center point  
693 of the discovery (or a smaller or larger area if warranted by specific circumstances) in  
694 which no further work is to take place until treatment of the discovery is resolved. At  
695 such point, BLM will notify all Signatories, Tribes, and Invited Signatories of the  
696 nature and general location of the discovery. The BLM will implement appropriate

measures, including stabilization or covering, to protect any discovery (human remains, funerary objects, sacred objects, or objects of cultural patrimony) from further disturbance in accordance with the principles set forth in Stipulation I. Ongoing work not within fifty (50) meters (or a smaller area if determined appropriate by parties in the field) of the discovery may continue. If human remains and/or associated funerary objects compose all or part of the discovery, then BLM shall ensure the stipulations of the POA included in the CHPMP, as described in Stipulation VII (H) hereof, will be completed. Also, if human remains and/or funerary objects are encountered, all activities shall follow the procedures and direction provided in NAGPRA and California Public Resources Code sections 5097.98 and 5097.991. For Arizona, such activities shall follow the procedures and direction provided in NAGPRA and applicable state laws, including the Arizona Antiquities Act of 1927 (ARS §41-841 to 41-846), Burial Protection Law of 1990 (ARS §41-865), and ARS §41-844 of 1990.

- B. If the Tribes, PG&E, and BLM can resolve treatment of the discovery in a manner that does not cause adverse effects to significant cultural and historic properties, BLM shall document the resolution, the activities within the work area may proceed and the AZ SHPO and the CA SHPO shall be notified of the discovery and resolution. The Tribes, PG&E, and BLM will use their best efforts to resolve treatment as quickly as possible.
- C. If there is failure to resolve treatment of the discovery in consultation with the Tribes and PG&E, BLM shall then consult with the AZ SHPO or the CA SHPO to develop a treatment plan that takes into account the effects of the Undertaking on the discovery. Within fifteen (15) days of notification of discovery, BLM shall provide the consulted SHPO(s), via email, a recommendation for resolving the discovery situation that takes into account the potential effects of the Undertaking on the discovery.
- D. If the CA SHPO or AZ SHPO (as appropriate, depending on the location of the discovery) does not object to BLM's recommendation(s) within fifteen (15) days, BLM will implement the recommendation(s). If the consulted SHPO objects to the recommendation, BLM will utilize the dispute resolution process in Stipulation XV of this PA to resolve any objection.

## **X. ADMINISTRATIVE STIPULATIONS**

If, in the judgment of DTSC, Federal Agencies, or other qualified monitoring entities, there is an imminent threat of contamination to the Colorado River or to human health, implementation of measures to address the imminent threat will take precedence over compliance with the stipulations of this PA. If such measures must be implemented as determined by DTSC or DOI, additional ground-disturbing activities or construction of facilities will be minimized to the extent practicable and operation will continue until such time as the imminent threat is alleviated. The PA will be followed to the extent practicable during an imminent threat.

743 **XI. STANDARDS**

- 744
- 745 A. All actions prescribed by this PA that involve the identification, evaluation, analysis,
- 746 recordation, treatment, archaeological monitoring, and disposition of historic
- 747 properties and that involve the reporting and documentation of such actions in the
- 748 form of reports, forms, or other records, shall be carried out by or under the direct
- 749 supervision of a person or persons meeting, at a minimum, the Secretary of the
- 750 Interior's Professional Qualifications Standards (PQS) for archaeology, history, or
- 751 architectural history, as appropriate (48 FR 44739). However, nothing in this
- 752 stipulation may be interpreted to preclude any party qualified under the terms of this
- 753 paragraph from using the services of properly supervised persons who do not meet
- 754 the PQS.
- 755
- 756 B. When documentation of non-archaeological cultural and historic properties, TCPs, or
- 757 other types of evidence is deemed necessary by the BLM in order to further document
- 758 the effects of any proposed Undertaking, the guidelines found in National Register
- 759 Bulletin 38, Appendix G: Professional Qualifications: Ethnography should be
- 760 followed to extent practicable, as determined by the BLM.
- 761
- 762 C. Tribal Qualifications: Tribal experts on their cultures and religions shall not be
- 763 subject to Stipulation XI (A). Qualified Tribal Monitors shall be an authorized
- 764 representative of the Tribe with the qualifications the Tribe deems necessary.
- 765
- 766 D. Consistent with paragraphs A, B, and C above, reporting on and documenting the
- 767 actions cited in paragraph A. of this stipulation shall conform to BLM 8100 Manual
- 768 guidance as stipulated in the BLM Cultural Resources Use Permit and Field
- 769 Authorizations for this Undertaking, and to every reasonable extent with the
- 770 *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic*
- 771 *Preservation* (48 FR 44716-44740), as well as the California Office of Historic
- 772 *Preservation's Preservation Planning Bulletin Number 4(a), December 1989,*
- 773 *Archaeological Resource Management Reports (ARMR); Recommended Contents*
- 774 *and Format (ARMR Guidelines) for the Preparation and Review of Archaeological*
- 775 *Reports*, and the Arizona State Historic Preservation Office's *Standards for*
- 776 *Conducting and Reporting Cultural Resources Surveys*, the *Guidance Point Series*,
- 777 and *Recommended Standards for Monitoring, Testing, and Data Recovery* (Arizona
- 778 State Museum), and any specific county or local requirements or report formats as
- 779 necessary.
- 780

781 **XII. CONFIDENTIALITY**

- 782
- 783 A. To the maximum extent allowed by law, the Signatories and Invited Signatories shall
- 784 maintain the confidentiality of records, data, and information pertaining to the
- 785 location, nature, practices, and use of cultural resources, including cultural and
- 786 historic properties about which there are culturally sensitive issues, as consistent with
- 787 NHPA §304, ARPA §9, and California Government Code §6254.10. Such culturally
- 788 sensitive issues will be determined by BLM through consultation with the concerned
- 789 tribes.



- 790
- 791 B. Records describing, listing, or illustrating the locations of historic properties, and any
- 792 other records arguably exempt from public disclosure in the judgment of the Federal
- 793 Agencies, shall be labeled “Confidential, Not for Public Release.” These records will
- 794 be part of the Project record but will not be considered part of the public record for
- 795 the Topock Remediation Project.
- 796
- 797 C. These provisions shall not be construed to prevent Invited Signatory Tribes from
- 798 accessing cultural resources documentation in project records held by the Federal and
- 799 State Government for interpreting their history, or for other cultural usage.
- 800

801 **XIII. CURATION**

802

- 803 A. Federal Lands: As appropriate, BLM shall consult with the Signatories, Tribes, and
- 804 Invited Signatories to establish the appropriate disposition of any Native American
- 805 cultural items recovered from Federal lands and shall repatriate all such items in
- 806 compliance with Federal laws. Cultural items subject to NAGPRA shall be treated
- 807 according to the provisions of NAGPRA, 43 CFR §10. Where Federal lands are
- 808 involved, all appropriate records and materials resulting from implementation of this
- 809 PA, except for those items that are subject to the provisions of NAGPRA, 43 CFR
- 810 §10, shall be curated in accordance with 36 CFR §79, as applicable.
- 811
- 812 B. Tribal Lands: On lands owned by the Tribes, cultural material will remain with the
- 813 Tribes. Material from the IM-3 property shall remain with the Fort Mojave Indian
- 814 Tribe.
- 815
- 816 C. State Lands: If human remains and/or funerary objects are encountered, all activities
- 817 shall follow the procedures and direction provided in NAGPRA and California Public
- 818 Resources Code sections 5097.98 and 5097.991. For Arizona, such activities shall
- 819 follow the procedures and direction provided in NAGPRA and Arizona Antiquities
- 820 Act of 1927 (ARS §41841 to 41-846), Burial Protection Law of 1990 (ARS §41-865),
- 821 and (ARS §41-844 of 1990).
- 822
- 823 D. Private Lands: If cultural materials are recovered from private lands, BLM will seek
- 824 to have the materials donated through a written donation agreement to the closest
- 825 culturally affiliated Tribe. If such an agreement is not executed, BLM will attempt to
- 826 have all collections curated at one location appropriate to each State and County. To
- 827 the extent permitted under §5097.98 and §5097.991 of the California Public
- 828 Resources Code, the items, materials, and records resulting from implementation of
- 829 this PA and located on non-Federal lands shall be curated in accordance with 36 CFR
- 830 §79.
- 831
- 832 E. Cultural materials (with the exception of human remains, funerary objects, sacred
- 833 objects, ceremonial items, or items of cultural patrimony) recovered from within the
- 834 Project Area shall be curated and have laboratory work undertaken as close as
- 835 possible to the originating location and the culturally affiliated peoples.
- 836

- 837 F. Human remains, funerary objects, sacred objects, ceremonial items, or items of  
838 cultural patrimony will neither be collected nor curated. If any such items are  
839 discovered in the course of the Undertaking, they shall be treated respectfully, in a  
840 culturally appropriate manner and in accordance with the Plan of Action for  
841 Discoveries included in the CHPMP.

#### 842 843 **XIV. AMENDMENTS TO THE AGREEMENT** 844

845 Any Signatory or Invited Signatory to this PA may at any time propose amendments and  
846 distribute such written draft amendments to all other parties to this PA. Upon receipt of  
847 such draft amendments, all Signatories, Tribes, and Invited Signatories shall consult for  
848 no more than thirty (30) days to consider such amendments. Amendments to this PA shall  
849 take effect on the dates that they are fully executed by the Signatories.

#### 850 851 **XV. DISPUTE RESOLUTION** 852

- 853 A. Should any Signatory or Invited Signatory to this PA object at any time to any actions  
854 proposed or the manner in which the terms of this PA are implemented, BLM shall  
855 consult with such party to resolve the objection. If BLM determines that such  
856 objection cannot be resolved, BLM will:

- 857  
858 1. Forward all documentation relevant to the dispute, including the BLM's proposed  
859 resolution, to the ACHP. The ACHP shall provide BLM with its advice on the  
860 resolution of the objection within thirty (30) days of receiving adequate  
861 documentation. Prior to reaching a final decision on the dispute, BLM shall  
862 prepare a written response that takes into account any timely advice or comments  
863 regarding the dispute from the ACHP, Signatories, and Invited Signatories and  
864 provide them with a copy of this written response. BLM will then proceed  
865 according to its final decision.
- 866  
867 2. If the ACHP does not provide its advice regarding the dispute within the thirty  
868 (30) day time period, BLM may make a final decision on the dispute and proceed  
869 accordingly. Prior to reaching such a final decision, BLM shall prepare a written  
870 response that takes into account any timely comments regarding the dispute from  
871 the Signatories and Invited Signatories to the PA and provide them and the ACHP  
872 with a copy of such written response.

- 873  
874 B. BLM's responsibilities to carry out all other actions subject to the terms of this PA  
875 that are not the subject of the dispute remain unchanged.

- 876  
877 C. At any time during implementation of this PA, should an objection pertaining to this  
878 PA be raised by a Tribe or a member of the public, BLM shall immediately notify all  
879 Signatories and Invited Signatories of the objection, consult with all Signatories and  
880 Invited Signatories concerning the objection, and take their views into account in  
881 reaching a final decision. The BLM retains the authority to make the final decision  
882 resolving the objection. The BLM will provide its final decision to the objecting party

and all Signatories and Invited Signatories within fifteen (15) days of reaching a decision.

- D. Any dispute pertaining to the NRHP eligibility of historic properties or cultural resources covered by this PA will be addressed by the BLM per 36 CFR §800.4(c)(2) in a manner consistent with the principles outlined in the PA.

## **XVI. TERMINATION**

- A. If any Signatory to this PA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other Signatories and Invited Signatories to attempt to develop an amendment per Stipulation XIV. If within thirty (30) days from commencement of consultation, an amendment cannot be agreed upon, any Signatory may terminate the PA upon written notification to the other Signatories and Invited Signatories.
- B. If this PA is terminated, and prior to work continuing on the undertaking, BLM must either (a) execute an agreement document pursuant to 36 CFR §800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR §800.7. BLM shall notify the Signatories and Invited Signatories as to the course of action it will pursue.
- C. The Signatories have the sole authority to terminate this PA. An Invited Signatory may propose termination but cannot terminate this PA. However, prior to proposing termination, any Signatory or Invited Signatory who has proposed termination must first attempt to amend the PA pursuant to Stipulation XIV.
- D. In the event of termination of this PA, the BLM shall at all times ensure that until and unless a new agreement is executed for the actions covered by this PA, all Undertakings formally addressed in the terminated PA shall be reviewed individually in accordance with 36 CFR §800.4-800.6.

## **XVII. ANNUAL REPORT AND EVALUATION**

- A. The implementation and operation of this PA shall be evaluated on an annual basis by the Signatories, Tribes, and Invited Signatories. This evaluation may include in-person meetings between BLM and the Signatories, Tribes, and Invited Signatories and review for possible modifications or amendments.
- B. BLM shall prepare and submit reports by December 1<sup>st</sup> of annual cultural resource activities to all Signatories, Tribes, and Invited Signatories for each of the first five (5) years after the implementation of this PA and every second year after that for the duration of this PA. Signatories and Invited Signatories may provide comments on annual reports to BLM within thirty (30) business days of receipt. BLM will collate and distribute comments to all Signatories and Invited Signatories, revise the report, as necessary, and explain why particular revisions were or were not made. If there are

significant revisions needed, and if the Signatories agree in writing, a meeting may be held to discuss any needed revisions.

## **XVIII. APPENDICES**

This PA includes eight Appendices (Appendices A - H) whose terms shall be construed in a manner consistent with the terms of this PA. In the event of a conflict between the terms of this PA and the terms of any Appendix the terms of this PA shall control.

## **XIX. DURATION OF THIS AGREEMENT**

- A. Unless the PA is terminated pursuant to Stipulation XVI, another agreement executed for the Undertaking explicitly supersedes it, or the Undertaking itself, including remediation of the site, has been completed, this PA will remain in full force and effect for thirty (30) years from the date of execution.
- B. The BLM will notify the other Signatories and Invited Signatories to the PA when the PA is terminated or ceases to be in full force and effect. The Signatories may extend the duration of the PA through the execution of an amendment per Stipulation XIV prior to its termination or lapse. This PA shall be reviewed every five (5) years to assess the need for modification or amendment.

## **XX. EFFECTIVE DATE**

This PA shall take effect on the date that it has been fully executed by the Signatories. Any amendments or attachments to this PA shall take effect on the dates they are fully executed by the Signatories, or such other self-executing dates as may be described in those documents.

Execution and implementation of this PA is evidence that BLM has afforded the ACHP a reasonable opportunity to comment on the Undertaking and its effects on cultural and historic properties and has complied with Section 106 of the NHPA. The Signatories to this PA represent that they have the authority to sign for and bind the entities on behalf of whom they sign.

976 **XXI. SIGNATORY AND INVITED SIGNATORY PARTIES**

977

978 Separate pages to follow for each party

979

980

981  
982  
983  
984  
985  
986  
987  
988  
989

**\*This page intentionally left blank\***

**A. Signatory Party**

**U.S. BUREAU OF LAND MANAGEMENT**

By: \_\_\_\_\_

James G. Kerma

Date: \_\_\_\_\_

TITLE: State Director

**B. Signatory Party**

**ADVISORY COUNCIL ON HISTORIC PRESERVATION**

By:



John M. Fowler

Date:

10/26/10

TITLE: Executive Director



**C. Signatory Party**

**CALIFORNIA STATE HISTORIC PRESERVATION OFFICER**

By:   
Milford Wayne Donaldson, FAIA

Date: 20 OCT 2010  
TITLE: State Historic Preservation Officer

**D. Signatory Party**

**ARIZONA STATE HISTORIC PRESERVATION OFFICER**

By:

James Garrison  
James Garrison

Date:

10/21/10

TITLE: State Historic Preservation Officer

1178  
1179  
1180  
1181  
1182  
1183  
1184  
1185  
1186  
1187  
1188  
1189  
1190  
1191  
1192  
1193  
1194  
1195  
1196  
1197  
1198  
1199  
1200  
1201  
1202  
1203  
1204  
1205  
1206  
1207  
1208  
1209  
1210  
1211  
1212  
1213  
1214  
1215  
1216  
1217  
1218  
1219  
1220  
1221  
1222  
1223  
1224

**E. Invited Signatory Party**  
**CHEMEHUEVI INDIAN TRIBE**

By: \_\_\_\_\_  
Honorable Charles Wood

Date: \_\_\_\_\_  
TITLE: Chairman

**F. Invited Signatory Party**

**COCOPAH TRIBE**

By: \_\_\_\_\_  
Honorable Sherry Cordova

Date: \_\_\_\_\_  
TITLE: Chairwoman

1272  
1273  
1274  
1275  
1276  
1277  
1278  
1279  
1280  
1281  
1282  
1283  
1284  
1285  
1286  
1287  
1288  
1289  
1290  
1291  
1292  
1293  
1294  
1295  
1296  
1297  
1298  
1299  
1300  
1301  
1302  
1303  
1304  
1305  
1306  
1307  
1308  
1309  
1310  
1311  
1312  
1313  
1314  
1315  
1316  
1317  
1318

**G. Invited Signatory Party**  
**COLORADO RIVER INDIAN TRIBES**

By: \_\_\_\_\_  
Honorable Eldred Enas

Date: \_\_\_\_\_  
TITLE: Chairman

**H. Invited Signatory Party**

**FORT MOJAVE INDIAN TRIBE**

By: \_\_\_\_\_  
Honorable Timothy Williams

Date: \_\_\_\_\_  
TITLE: Chairman

**I. Invited Signatory Party**

**FORT YUMA QUECHAN TRIBE**

By: \_\_\_\_\_  
Honorable Mike Jackson, Sr.

Date: \_\_\_\_\_  
TITLE: President

1413  
1414  
1415  
1416  
1417  
1418  
1419  
1420  
1421  
1422  
1423  
1424  
1425  
1426  
1427  
1428  
1429  
1430  
1431  
1432  
1433  
1434  
1435  
1436  
1437  
1438  
1439  
1440  
1441  
1442  
1443  
1444  
1445  
1446  
1447  
1448  
1449  
1450  
1451  
1452  
1453  
1454  
1455  
1456  
1457  
1458  
1459

**J. Invited Signatory Party**

**HUALAPAI TRIBE**

By: Louise Benson  
Honorable Louise Benson

Date: 7-20-11  
TITLE: Chairwoman



**K. Invited Signatory Party**

**HAVASUPAI TRIBE**

By: \_\_\_\_\_  
Honorable Bernadine Jones

Date: \_\_\_\_\_  
TITLE: Chairwoman

1507  
1508  
1509  
1510  
1511  
1512  
1513  
1514  
1515  
1516  
1517  
1518  
1519  
1520  
1521  
1522  
1523  
1524  
1525  
1526  
1527  
1528  
1529  
1530  
1531  
1532  
1533  
1534  
1535  
1536  
1537  
1538  
1539  
1540  
1541  
1542  
1543  
1544  
1545  
1546  
1547  
1548  
1549  
1550  
1551  
1552  
1553

**L. Invited Signatory Party**  
**TWENTY-NINE PALMS BAND OF MISSION INDIANS**

By: \_\_\_\_\_  
Honorable Darrell Mike

Date: \_\_\_\_\_  
TITLE: President

1554  
1555  
1556  
1557  
1558  
1559  
1560  
1561  
1562  
1563  
1564  
1565  
1566  
1567  
1568  
1569  
1570  
1571  
1572  
1573  
1574  
1575  
1576  
1577  
1578  
1579  
1580  
1581  
1582  
1583  
1584  
1585  
1586  
1587  
1588  
1589  
1590  
1591  
1592  
1593  
1594  
1595  
1596  
1597  
1598  
1599  
1600

**M. Invited Signatory Party**  
**YAVAPAI-PRESCOTT INDIAN TRIBE**

By: \_\_\_\_\_  
Honorable Earnest Jones, Sr.

Date: \_\_\_\_\_  
TITLE: President

N. Invited Signatory Party

PACIFIC GAS AND ELECTRIC COMPANY

By:



David A. Gilbert

Date:

Nov 29, 2010

TITLE: Director, Remediation, Gas  
Transmission and Distribution

**O. Invited Signatory Party**

**U.S. BUREAU OF RECLAMATION**

By: \_\_\_\_\_  
Joe Liebhauser

Date: \_\_\_\_\_  
TITLE: Resource Management Office  
Director

**P. Invited Signatory Party**

**U.S. FISH & WILDLIFE SERVICE**

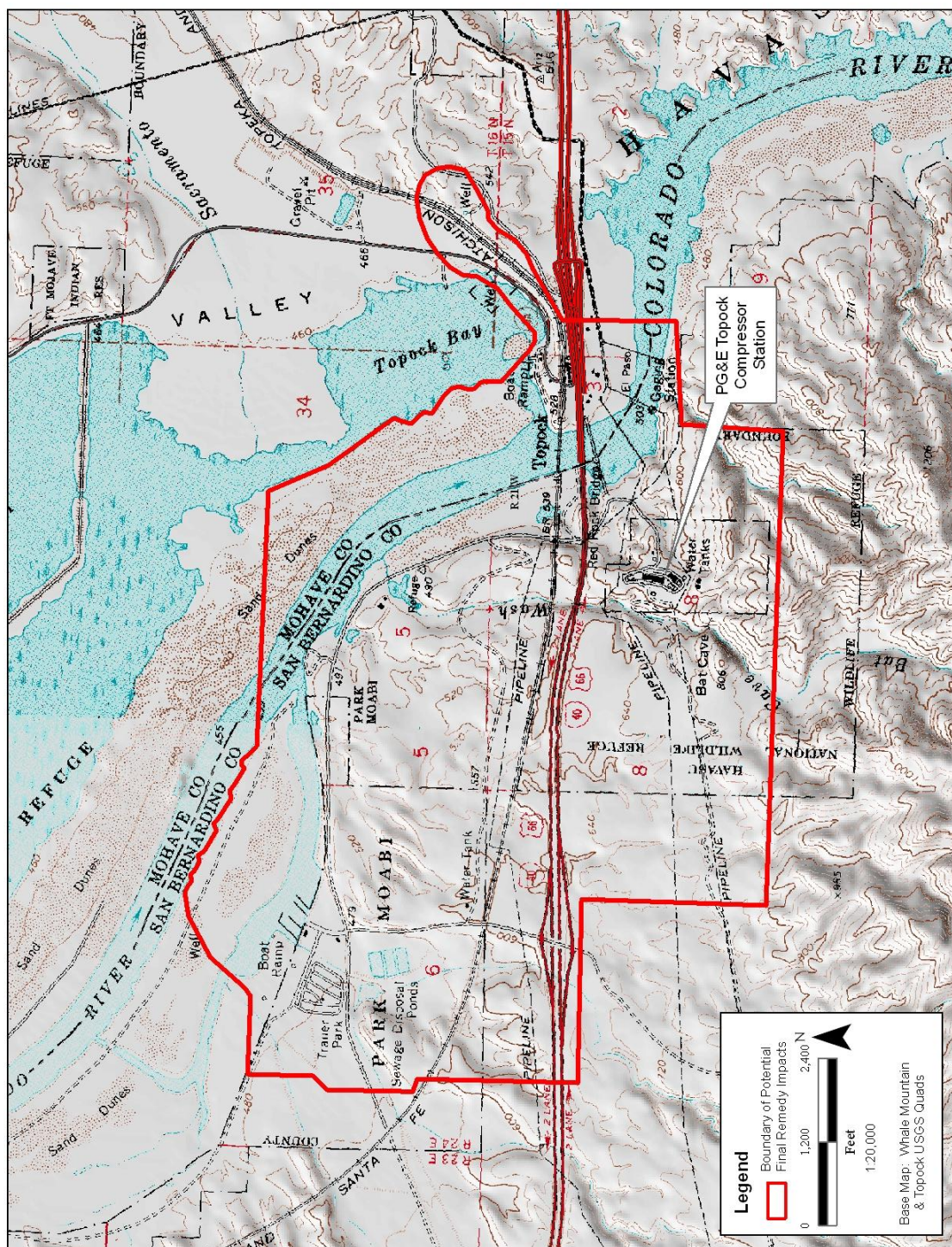
By: Thomas E. Harvey  
for Chris S. Pease

Date: 10-20-10

TITLE: Chief, National Wildlife  
Refuge System, USFWS Southwest  
Region.

**APPENDICES**

- A. **Area of Potential Effect** (APE) for the Groundwater Remediation Phase of the Topock Remediation Project
- B. **Consultation Protocol**
- C. **Monitoring Protocol**
- D. **Archaeological and Historical Resources within the APE of the Topock IM No. 3 Project**
- E. **Acronyms and Abbreviations**
- F. **References, Laws, and Regulations Cited**
- G. **Glossary**
- H. **Cultural Resources Management Plan** Material Associated with Interim Measure 3 (IM-3) of the Topock Remediation Project (March 2008). (archaeological and historical site location information redacted)



**Appendix A. Area of Potential Effect for the groundwater remediation phase of the Topock Remediation Project.**





## **APPENDIX B**

### **CONSULTATION PROTOCOL FOR THE TOPOCK REMEDIATION PROJECT**

#### **I. PURPOSE**

The purpose of this Protocol is to define how the Signatories and Invited Signatories to this Programmatic Agreement (PA) will engage in consultation. The Federal Agencies are the U.S. Department of the Interior (DOI), the U.S. Bureau of Reclamation (USBR), the U.S. Bureau of Land Management (BLM), the Advisory Council on Historic Preservation (ACHP), and the U.S. Fish and Wildlife Service (USFWS). State Agencies include the California State Historic Preservation Officer (CA SHPO), the Arizona State Historic Preservation Officer (AZ SHPO), and the California Department of Toxic Substances Control (DTSC). These agencies will consult with the Pacific Gas and Electric Company and the Chemehuevi Indian Tribe, Cocopah Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe, Hualapai Tribe, Havasupai Tribe, Twenty-Nine Palms Band of Mission Indians, and the Yavapai-Prescott Indian Tribe (hereinafter the Tribes) in carrying out the Topock Remediation Project. This Consultation Protocol describes the manner in which the BLM and other Federal and State Agencies will consult with Signatories, Tribes, and Invited Signatories during the execution of the PA for the Undertaking. (See definition of Undertaking in Glossary.)

#### **II. GENERAL GOVERNMENT-TO-GOVERNMENT AND SECTION 106 CONSULTATION RESPONSIBILITIES**

Federally recognized Tribes are sovereign nations entitled to a government-to-government relationship with the U.S. Government. The Tribes have a unique legal relationship with the United States Government as set forth in the Constitution of the United States, treaties, statutes, and court decisions. This consultation protocol is one expression of that relationship and serves to structure how that relationship will be maintained, respected, and implemented in the course of Federal Agency planning, decision making, and other activities. The BLM Lake Havasu Field Office (LHFO) is the Designated Federal Official responsible for implementation of this protocol and related policies and requirements. Federal Agencies have a trust responsibility to the Tribes, which obligates the Agencies to protect the Trust interests of the Tribe to the maximum extent feasible for resources held in trust by the U.S. Government for the Tribes.

The BLM, mindful of its government-to-government responsibilities, as lead Federal Agency for Section 106 review and implementation of this Undertaking, shall continue to consult with all Tribes who have participated in the Undertaking's consultation process whether or not the Tribes sign this PA.

Consultation refers to meaningful and timely discussion in an understandable language with Tribal governments and their designated representatives. Tribal consultation is a process, not

a single meeting, a notification, or an exchange of correspondence. Consultation may require multiple formal and/or informal meetings and other forms of interaction. Consultation involves seeking, discussing, and considering the views of the various parties involved, seeking ways to resolve disagreements or conflicts, and seeking agreement on how to proceed with a given activity, project, program, or decision. The intent is to ensure that the interests and concerns about the area referred to as Topock, the Topock Maze, and the Topock TCP associated with the Area of Potential Effect (APE) are identified and addressed during Agency planning, decision making, and other activities.

The Agencies recognize the right of self-determination for Indian Tribal governments. The DOI and the BLM are committed to working with Indian Tribal governments in this unique relationship, respecting Tribal sovereignty and self-determination. Tribal consultation will use the process described below, or will use the provisions of the BLM 8120 Series Manual guidance (Tribal Consultation), unless the BLM and a Tribe mutually agree to another procedure or method. Staff-level Tribal consultation will take place primarily on a face-to-face level between BLM staff and Tribal staff. Government-to-government consultation is considered to take place between Tribal Chairs and the BLM Field Office Manager and/or DOI management officials and may not necessarily be face-to-face.

### **III. CONSULTATION PROCESS**

- A. Points of Contact (POCs) shall be established for all Consulting Parties; all parties to this PA agree that all communications between all Consulting Parties shall be channeled through the POCs; and the BLM shall provide all Consulting Parties an up-to-date list of all POCs, with a frequency of at least every other month after the initial POC list is established. Provision of information to the POC(s) provided for a Consulting Party will constitute sufficient distribution of information for purposes of consultation under this agreement.
- B. The BLM shall establish an email list and U.S. mail distribution list for all POCs for the purposes of information exchange, including the transmission of information from various meetings, unanticipated discoveries, and other information related to consultation for Section 106.
- C. This consultation protocol applies to all of the following associated with the Undertaking and occurring after the date this PA is executed:
  - 1. Work-plans and Action Memoranda for ground-disturbing activities, including rehabilitation.
  - 2. Milestone project documents to be prepared under CERCLA that are identified by DOI to require consultation.
  - 3. Various cultural resource management plans and documents including, but not limited to, the APE, APE revision, the Cultural Resources Management Plan (CRMP), the Cultural and Historic Properties Management Plan (CHPMP), the

Treatment Plan, National Register of Historic Places properties identification, discoveries, monitoring, confidentiality, curation, professional and tribal qualifications, and any other consultations associated with Section 106 compliance.

D. Consultation regarding potential effects on cultural and historic properties shall proceed as follows:

1. The following actions shall be determined to have “no effect” or “no adverse effect” when undertaken in connection with the Undertaking and may proceed without further consultation:
  - a. Pre-construction surveys;
  - b. Marking (including fencing) of identified Cultural and Historic Properties, provided that such activities do not require mechanical disturbance or vegetation removal;
  - c. Monitoring;
  - d. Sampling of existing wells;
  - e. Operation and maintenance of existing and future approved facilities required for the Topock Remediation Project, including transportation associated with such operation and maintenance provided that such activities do not introduce additional visual or audio elements to a previously approved facility;
  - f. Avoidance of Cultural and/or Historic Properties in areas already surveyed; and
  - g. Actions taken in areas of the APE, as delineated by the Appendix A map, which have previously been used or disturbed in connection with Time Critical Removal Actions or other actions related to the Topock Remediation Project, including but not limited to staging areas, roads or pipelines, or for other activities including but not limited to soil or groundwater sampling.
2. If the BLM, in consultation with the AZ SHPO, CA SHPO, and Tribes finds that a cultural and/or historic property (or properties) will not be adversely affected by a proposed action, then no further consultations will take place and all Signatories, Tribes, and Invited Signatories will be notified of the determination.

E. If the BLM determines that there is an adverse effect to cultural and/or historic properties, BLM shall provide materials describing the proposed actions that have potential to adversely affect cultural and/or historic properties to all Signatories, Tribes, and Invited Signatories within ten (10) days of the determination of adverse effect by the BLM. All Signatories, Tribes, and Invited Signatories will have thirty (30) days to provide comments to BLM concerning the effects of proposed actions on cultural and/or historic properties. If no comments are received from a particular consulted individual or

group within thirty (30) days of notification by the BLM, the BLM will assume that party has no comments and may proceed.

- F. The BLM has fifteen (15) days from the close of the thirty (30)-day comment period described in E. above to take all comments into account and reach a decision on how to best avoid, mitigate, or minimize any adverse effects. The BLM will notify all Signatories, Tribes, and Invited Signatories of any such decision within the fifteen (15)-day period, and may proceed to implement the decision after notifying the other Consulting Parties.
- G. BLM shall meet with Signatories, Tribes, and Invited Signatories on a bi-annual basis, at a time and place agreeable to the majority of participants. Signatories, Tribes, or Invited Signatories may request the BLM to hold additional or supplemental meetings if the need arises. The hosting of such meetings will be determined on a meeting-by-meeting basis. The BLM will inform all POCs of the proposed meeting date(s) and location(s) no less than thirty (30) days prior to the proposed meeting to allow for adequate time in scheduling. Such meetings will provide an opportunity for all Signatories, Tribes, and Invited Signatories to express any concerns related to the Undertaking and its effect on historic properties. The annual meeting should be considered an opportunity to discuss content for each annual report.
- H. Consultation meetings may contribute toward discussion and explanation regarding implementation of this protocol and/or any problems or opportunities that have arisen with regard to planning, decision making, and/or other aspects of the Undertaking.
- I. The BLM retains all responsibility for conducting government-to-government consultation with Tribes, including consultation not directly related to Section 106.
- J. In addition to the bi-annual consultation provided for above, agency executives will consult with Tribal Chairs when requested.
- K. Within thirty (30) days after the election of a new Tribal Chair or the designation of a new BLM Field Office Manager, the relevant Tribal Chair(s) and the Field Office Manager will endeavor to meet to review this agreement and ensure continuity in its implementation. To the extent feasible, the outgoing Tribal Chair and/or Field Office Manager will take part in such meetings.
- L. Staff level consultations between the BLM and Tribes may occur as needed and determined necessary by staff. Staff may include the BLM LHFO archaeologist, Tribal Liaison, BLM AZ State Office cultural resources management staff, and other natural and cultural resource managers. Tribal staff may include Tribal cultural resources management staff, Tribal Historic Preservation Officers, traditional religious leaders, elders, Tribal chairmen/chairwomen and other council members, and other Tribal staff who may be concerned, such as law enforcement officials or wildlife specialists.

1. The professional staff of the Tribes will represent the Tribes in consultation with BLM about actions reviewed under this agreement, unless a Tribal Chair otherwise specifies or delegates review authority to other or additional individuals.
2. Unless modified by written agreement between a Tribal Chair and the BLM, consultation between Tribal staff and BLM staff will be in accord with the following procedures:
  - a. Informal, routine interaction and ongoing communication are encouraged, provided the topics of all meetings and discussions are clearly defined in advance to the extent practicable, and that such discussions are understood to be informal and not to constitute official findings or determinations.
  - b. Tribal officials and the BLM senior staff may be involved as needed.
  - c. In advance of meetings or other consultative activities, the BLM will provide the Tribes with documents, maps, photographs, and other information pertinent to the subject of consultation, to the extent practicable. Whenever possible, these materials will be provided at the initiation of consultation. Tribes will have thirty (30) days from the initiation of consultation to respond to the BLM. If the BLM does not receive a response from an individual Tribe within that period, the BLM will assume the Tribe has no comment, document this result to the administrative record, and proceed. The BLM will be responsible for documenting the administrative record regarding the dates of transmission to each Tribe of individual notices of initiation of consultation.
  - d. Signatories, Tribes, and Invited Signatories, may involve other parties in consultation, including as applicable other Tribes, applicable State Historic Preservation Officers, other federal and state agencies, local governments, and other interested parties.
  - e. Tribes, due to their sovereign status, have special consultative rights that BLM will respect in the conduct of consultation, which may include consultation on technical, policy, and other issues of a proposal.
  - f. To the extent feasible, Signatories, Tribes, and Invited Signatories will follow the guidelines of this Protocol in the event of emergency situations and situations, such as where discoveries require immediate action. It is understood, however, that such situations may require that consultation be expedited and, in extreme cases, may restrict BLM's ability to consult.



## **APPENDIX C**

### **TOPOCK REMEDIATION PROJECT PROGRAMMATIC AGREEMENT TRIBAL AND ARCHAEOLOGICAL MONITORING PROTOCOL**

The intent of this Monitoring Protocol is to provide best practices and guidance for monitoring activities for work conducted in, and areas related to, remedial actions conducted by Pacific Gas & Electric Company (PG&E or the Company) in the Topock Remediation Project Area.

This protocol provides guidance for monitoring activities specifically related to the Topock Remediation Project Undertaking. This protocol outlines procedures for use by Archaeological and Tribal Monitors in identifying and/or evaluating effects to previously recorded or newly discovered cultural and historic resources during ground-disturbing activities associated with the Undertaking. Monitoring provides a means of preventing potentially unanticipated adverse effects to cultural and/or historic resources.

Working with Tribal Cultural Monitors (hereafter referred to as Tribal Monitors) and Tribal community members requires awareness of, and sensitivity to, Tribal cultures, customs, traditions, and histories. This protocol provides a set of guidelines that facilitates a collaborative partnership between Tribes and the Department of the Interior (DOI), the Bureau of Land Management (BLM), and PG&E throughout the Topock Remediation Project (Undertaking).

Cultural sensitivity training will be required of all staff, workers, and contractors engaged in activities in the Topock Remediation Project Area of Potential Effect (APE) to familiarize them with the sacred nature of the area so that they will perform their jobs in a respectful manner. This training will also be given to new personnel before they are allowed to do fieldwork within the APE. This training will be conducted by PG&E with participation by Tribes and Tribal Monitors, Archaeological Monitors, Federal Agency staff, and PG&E supervising staff, as appropriate. Consistent with PG&E's stated policy, PG&E will not tolerate any disrespectful behavior in the field and will remove any staff, workers, or contractors who do not comply with this section.

This Protocol specifies ways in which the Tribes, BLM, and PG&E may ensure that:

1. Tribes, BLM, and PG&E, each are kept well informed of Undertaking activities and outcomes;
2. Tribal and Archaeological Monitors have the opportunity to alert PG&E's site supervisor (or designee) to potentially sensitive areas or issues that Monitors may be aware of or may become aware of while fieldwork is in progress;
3. PG&E's site supervisor (or designee) notifies BLM of potentially complicated situations. These situations may include discovery of a new cultural or historical resource, damage to a previously recorded cultural or historical resource, or unanticipated effects identified;
4. Tribal concerns regarding work activities are addressed while fieldwork is in progress.

Nothing in this Protocol shall be taken to substitute or supersede BLM's performance of its responsibilities under other Federal laws and policies including NHPA Sections 106 and 110, the



American Indian Religious Freedom Act, the Religious Freedom and Restoration Act or for compliance with the terms of the PA.

## **MONITOR QUALIFICATIONS**

Qualified Tribal Monitors:

1. Shall be appointed by the Tribe to represent Tribal interests;
2. Shall have the training the Tribe deems necessary;
3. Must be physically capable of doing the required work.

Qualified Archaeological Monitors:

1. Must meet Secretary of the Interior professional qualification standards as indicated in PA Stipulation XI A.;
2. Must be physically capable of doing required work;
3. Must be able to work with Tribal Monitors and assist, where appropriate, in communicating the recommendations of such Monitors;
4. Will have standard field monitoring tools of the profession available onsite (including but not limited to GPS, camera, brush, trowel, notebook, etc).

## **WORK SCHEDULE**

The Signatories and Invited Signatories to the PA understand that not all activities at the Topock Compressor Station site are undertaken as a part of the Topock Remediation Project, nor do all activities require the services of Tribal and Archaeological Monitors. Tribal and Archaeological Monitors will be provided with anticipated schedules for Topock Remediation Project work that requires monitoring as early as possible but at least three (3) business days in advance of the initiation of the identified project work, whenever possible. Recognizing that changes to the work schedule may be inevitable, any change in the work schedule will be provided to the Tribal and Archaeological Monitors as soon as possible after the change becomes part of the work schedule. If there is a question regarding need for a monitor, the questioning party shall consult the BLM Project or Field Manager who will make the final determination of need.

## **MONITORING DUTIES AND RESPONSIBILITIES**

Prior to execution of the PA for the Undertaking, PG&E sometimes invited the Tribes to be present on site during construction to monitor and observe non-maintenance grading, trenching, or other excavation for any facilities, new roads, or other project components related to the Undertaking which may have had the potential to adversely impact cultural and historic resources. The Tribal and Archaeological Monitors shall both be invited to monitor such field work.

PG&E has found that the participation of Tribal Monitors is beneficial to both the Company and to the Tribes with whom the Company works. Tribal Monitors are encouraged to provide recommendations to the PG&E site supervisor (or designee), but may not direct or supervise work activities. Any concerns or recommendations Tribal Monitors may have during work activities are to be directed to the PG&E's site supervisor (or designee), BLM Field Manager, and the Tribes. The Tribal Monitor shall document any such recommendations and concerns as well as the extent to which the recommendations were implemented.

The duties of Tribal Monitors include, but are not limited to:

1. Being on site during construction to monitor and observe grading, trenching, or other excavation for any facilities, roads, or other project components related to the Undertaking which may have the potential to adversely impact cultural and historic properties.
2. Alerting the Archaeological Monitor, designated PG&E site supervisor, and/or PG&E's onsite project manager (or designee) as to potentially sensitive areas or issues that the Tribal Monitor may be aware of or may become aware of during fieldwork. The designated site supervisor and/or onsite project manager (or designee) must then contact BLM's Topock Project Manager or Field Manager and provide notice of discovery or damage. Any issues regarding sensitive areas are to be resolved as specified in the Dispute Resolution clause on page 5.
3. Identifying and understanding the types of impacts with comparisons to baseline data and previous monitoring data while in the field.
4. Through observation, being aware of the magnitude and probability of further impacts.
5. Effectively communicating impacts affecting traditional resources, including but not limited to, cultural features in and of the landscape.
6. Being prepared to interpret impacts that reflect ecological, economical, political, and socio-cultural consequences to Tribal norms, values, and beliefs while in the field.
7. Ensuring that the Tribe(s) Monitor representative is regularly updated on project progress and is aware of any issues that may arise.
8. Consulting with other Tribal experts and/or the Tribal Council before making recommendations, as appropriate.
9. When cultural items are found, the Tribal Monitor will be consulted to determine if discovered artifacts are items of cultural patrimony or may have had other traditional ceremonial or cultural uses.
10. Tribal Monitors may consult other Tribal experts and/or their Tribal Council before making recommendations. Final recommendations shall be offered within fifteen (15) days of the discovery and identification of objects specified in 9.

The duties of Archaeological Monitors include, but are not limited to:

1. Determining what types of cultural and historic resources have been previously recorded in or near areas in which work is being monitored.
2. Understanding how the CHPMP and its contents apply to discovery or damage situations prior to fieldwork.
3. Being on site during construction to monitor and observe grading, trenching, or other excavation for any facilities, roads, or other project components related to the Undertaking which may have the potential to adversely impact cultural and historic properties.
4. Alerting the Tribal Monitor, designated PG&E site supervisor, and/or PG&E's onsite project manager (or designee) as to potentially sensitive areas or issues that the Archaeological Monitor may be aware of or may become aware of during fieldwork. The designated site supervisor and/or project manager must then contact BLM's Topock Project Manager or Field Manager and provide notice of discovery or damage. Any issues regarding sensitive areas are to be resolved as specified in the Dispute Resolution clause on page 5.

5. Through observation, being aware of the magnitude and probability of further impacts.
6. Being able, during fieldwork, to identify measures which would avoid further adverse effects to cultural and historic properties.
7. Ensure that PG&E, the BLM, and Tribes are aware of any issues that may arise.

## **DISCOVERIES**

If the Undertaking will affect previously unidentified resources, or affect a previously recorded cultural or historical resource in a way not previously anticipated, or have greater or different effects than previously anticipated, all work having potential for adverse affect shall cease within a fifty (50)-meter radius (or a smaller or larger area if determined appropriate by the BLM, the Monitors, and PG&E in the field) of the point of discovery. The Archaeological and Tribal Monitors will work with BLM and PG&E to ensure that the PA requirements of Stipulation VII (CHPMP) and Stipulation IX (Discoveries) are met.

## **HUMAN REMAINS**

If the Undertaking affects previously unidentified human remains and/or associated funerary objects or graves, or affects such resources in a way not previously anticipated, or has greater adverse effect than previously anticipated, all work in the vicinity of the discovery shall cease. No further action will be taken until the BLM, in consultation with Tribal and Archaeological Monitors and PG&E in the field, has determined the nature of the discovery and delineated an area not to exceed fifty (50) meters from the approximate center point of the discovery (or a smaller or larger area if warranted) in which no further work is to take place until treatment of the discovery is resolved.

At such point BLM will notify all Signatories, Tribes, and Invited Signatories of the nature and general location of the discovery. The BLM will implement appropriate measures, including stabilization or covering, to protect any discovery (human remains, funerary objects, sacred objects, or objects of cultural patrimony) from further disturbance in accordance with the principles set forth in Stipulation I. Ongoing work not within fifty (50) meters (or a smaller area if determined appropriate by parties in the field) of the discovery may continue. If human remains and/or associated funerary objects compose all or part of the discovery, then BLM shall ensure the stipulations of the Plan of Action included in the CHPMP, as described in Stipulation VII (H), will be completed. Also, if human remains and/or funerary objects are encountered, all activities shall follow the procedures and direction provided in NAGPRA and California Public Resources Code sections 5097.98 and 5097.991. For Arizona, such activities shall follow the procedures and direction provided in NAGPRA and applicable state laws, including the Arizona Antiquities Act of 1927 (ARS §41-841 to 41-846), Burial Protection Law of 1990 (ARS §41-865), and ARS §41-844 of 1990.

## **MONITORING AND REPORTING REQUIREMENTS**

Monitors shall check-in and out with the designated site supervisor and/or PG&E's site manager (or designee) each day. Each monitor shall complete a Daily Monitoring Log detailing monitoring activities. This log will provide the Tribe, BLM, and PG&E with details on the

activities that took place during each day, any concerns or issues, and how those concerns or issues were resolved.

The Daily Monitoring Log must be completed and signed by the monitor and the designated site supervisor and/or PG&E's onsite project manager (or designee), both, at the end of each day. PG&E will also provide copies of the Daily Monitoring Log to the BLM Topock Project Manager. This Log will provide details on the activities that took place during each day, any concerns or issues, and how those concerns or issues were resolved. In the event that the designated site supervisor and/or PG&E's onsite project manager is not available to sign the log at the end of the day, the monitor will acquire their signature(s) the next time they meet. The Daily Monitoring Log will be the property of PG&E; and the company shall fax or email a copy to the Tribe, upon request. The Tribal and Archaeological Monitors may also maintain additional monitoring notes and photos, which will be the property of the Tribes and BLM, respectively.

## **SAFETY**

Tribal and Archaeological Monitors will be required to meet with PG&E's site supervisor prior to initiating monitoring activity and will be required to obtain any applicable training required under 29 CFR 1910.120 and 40 CFR 300.150. The PG&E site supervisor will identify the safety and logistical guidelines that are appropriate for the monitoring activity. Tribal and Archaeological Monitors are invited to attend the safety meetings at the start of each workday or new work task. If the Monitors do not attend this meeting, they will be instructed about the safety concerns of the day by a PG&E representative. Tribal and Archaeological Monitors will be expected to wear all personal protective equipment specified by PG&E's site supervisor and required of other similarly situated field workers. Tribal and Archaeological Monitors will be expected to actively participate to enhance the safety of themselves and the other workers onsite by communicating with PG&E's site supervisor if any safety concerns are identified. Due to safety considerations at the Project site, Tribal and Archaeological Monitors will also be prohibited from conducting any monitoring within designated construction exclusion zones, unless otherwise authorized by PG&E. Such zones are to be clearly delineated to the Tribal and Archaeological Monitors by PG&E's site supervisor. In these situations, other efforts to provide alternative methods for accommodating Monitors including, but not limited to, high-powered binoculars, spotting scopes, or other vision enhancement tools or alternative viewing platforms will occur.

## **DISPUTE RESOLUTION**

PG&E's site supervisor (or designee) shall take into consideration all Tribal and Archaeological Monitor recommendations, subject to final approval by BLM in the event of a dispute. The Tribal and Archaeological Monitor's recommendations and the extent of their implementation will be detailed in the Tribal and Archaeological Monitor's Daily Monitoring Log and also in the PG&E's site supervisor's daily notes. If the Tribal and Archaeological Monitors' recommendations relate to either the discovery of human remains or other cultural or historical material, the Tribal and Archaeological Monitors have the responsibility to notify PG&E's site supervisor (or designee), who must then follow procedures specified in the PA Stipulation IX Discoveries. The Tribal and Archaeological Monitors and PG&E's onsite site supervisor (or designee) must then immediately contact BLM's Topock Project Manager or Field Manager.

Work will not proceed within fifty (50) meters from the approximate center point of the discovery. If the Tribes, PG&E, and BLM can resolve treatment of the discovery in a manner that does not cause adverse effects to significant cultural and historic properties and follows the procedures outlined in PA Stipulation IX B, the activities may proceed. Any concerns or disputes that cannot be resolved in the field will be directed to BLM for consideration and appropriate action under PA Stipulation XV, Dispute Resolution. The Tribal and Archaeological Monitors, PG&E, and BLM will use their best efforts to resolve any dispute as quickly as possible.

## **COMPLIANCE AND MONITORING GUIDELINES**

It is the Tribal and Archaeological Monitors' responsibility to comply with all the monitoring guidance provided in this Protocol. If the monitor is unable to do so, the designated field supervisor and/or PG&E's onsite project manager (or designee) will contact PG&E's Cultural Resources Specialist who will consult with BLM and the Tribe regarding the situation.

## **ADMINISTRATION**

The Signatories and Invited Signatories to the PA agree to designate a contact person in writing to assist in implementing these guidelines within thirty (30) calendar days of execution of the PA. This contact person may be the same as called for as a Point of Contact (POC) in Appendix B of this PA. Any future changes to contact person or contact information for PG&E, BLM, and the Tribes shall be communicated in writing within ten (10) calendar days of any such change.

## **APPENDIX B**

### **Tribal Access Plan for Federal Properties**



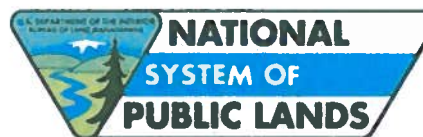
**U.S. Department of the Interior**  
**Bureau of Land Management**

---

**PG&E TOPOCK REMEDIATION PROJECT**  
**TRIBAL ACCESS PLAN**  
**FOR FEDERAL PROPERTIES**

**Prepared by:**  
**Department of the Interior**  
**Bureau of Land Management**  
**Lake Havasu Field Office**  
**2610 Sweetwater Avenue**  
**Lake Havasu City, Arizona 86404**

**Date: November 26, 2011**





## **PG&E TOPOCK REMEDIATION PROJECT TRIBAL ACCESS PLAN FOR FEDERAL PROPERTIES**

- I. Introduction
- II. Surrounding Property Owners, Easements, and Right-of-Way Holders within the Topock Remediation Project Area of Potential Effect (APE)
- III. Current Public Access Routes within the Topock Remediation Project APE
- IV. Federally Managed Lands within the Topock Remediation Project APE closed by Emergency Closure in 2006
- V. Management Prescriptions
- VI. Privacy Prescriptions
- VII. Appendices
  - 1. Map Showing Surrounding Property Owners, Easements, and Rights-of-Way within the Topock Remediation Project APE
  - 2. Topock Remediation Project Area Emergency Road Closure Document

## **PG&E TOPOCK REMEDIATION PROJECT TRIBAL ACCESS PLAN FOR FEDERAL PROPERTIES**

### **I. Introduction**

The Fort Mojave Indian Tribe believes that the entire landscape within which the Topock Remediation Project is being carried out is the significant cultural resource. The Bureau of Land Management (BLM) acknowledges that there is a Traditional Cultural Property (TCP) of religious and cultural significance to the Fort Mojave Indian Tribe and other Lower Colorado River Tribes within the presently identified Area of Potential Effect (APE) for the Topock Remediation Project that is eligible for inclusion on the National Register of Historic Places (NRHP). BLM also recognizes that the boundaries for this TCP may extend beyond the present boundaries of the expanded APE, but BLM believes that the Topock Remediation Project is not the proper forum for a determination of a proposed cultural landscape beyond what is required to complete the project for CERCLA cleanup actions.

The purpose of this Tribal Access Plan is to assure the rights of Tribes to access their places of spiritual and cultural importance located on federal lands contained within the boundary of the APE, including those recognized pursuant to the National Historic Preservation Act of 1966, as amended, the American Religious Freedom Act of 1978 and amendments of 1994, and Executive Order 13007 - Indian Sacred Sites.

This Tribal Access Plan assures that the Lower Colorado River Tribal governments and their members are able to freely exercise their religious rights in their aboriginal territories. Management of those parts of the Topock Remediation Project APE that are on federal land will be done in a manner that respects the cultural, religious, and spiritual importance of that portion of the TCP bounded by the APE. The federal lands within the APE will be managed in a way that minimizes incompatible land and resource uses while recognizing the important cultural, spiritual, and religious values held by the Lower Colorado River Tribes. In no manner will Tribes be subject to more restrictions than are imposed on the general public, as the point of this tribal access plan is to allow the Tribes greater, culturally appropriate access that that afforded to casual visitors without cultural ties to the area.

This Access Plan for Tribes to the Topock Remediation Project APE for traditional, religious, cultural, or spiritual purposes is and shall be interpreted in a manner consistent with the United States Constitution, applicable laws, regulations, and agreements governing property within the APE and in accordance with the stipulations in the Programmatic Agreement for the Topock Remediation Project, signed October 26, 2010. The PA defines the process by which compliance with the National Historic Preservation Act will be accomplished from this point forward. Stipulation I(C) of the Programmatic Agreement provides that access may not impede the Topock Remediation Project, may not create health and safety concerns and shall exclude the Topock Compressor Station and related facilities owned and/or operated by PG&E. Although the majority of the Tribes did not sign the Programmatic Agreement, they will nevertheless be consulted and afforded access in accordance with the Federal Government's responsibility for government-to-government consultation and in the exercise of its trust responsibilities.

### **II. Surrounding Property Owners, Easements, and Right-of-Way Holders within the Topock Remediation Project APE**

Surrounding property owners, easement, and right-of-way holders within the Topock Remediation APE are shown on the map provided as Appendix 1. The parties holding such ownership, easements, and rights-of-way include: the Bureau of Land Management (BLM), the Bureau of Reclamation (BR),

the US Fish and Wildlife Service (USFWS), the Fort Mojave Indian Tribe, San Bernardino County, the Burlington Northern Santa Fe (BNSF) Railroad, Pacific Gas and Electric (PG&E), the Metropolitan Water District of Southern California, the California Department of Transportation (Caltrans), Mohave County, Southern California Gas, Trans-Western Gas Pipeline Company, Mojave Gas Pipeline Company, the City of Needles Electric Company, the Southwest Gas Corporation, Southwest Water Company, Mohave Electric Cooperative, Frontier Communications and various private property landowners within the APE in Arizona.

The Tribes will work with PG&E to obtain access to any fenced-off PG&E facility that is authorized to be on Federal Government land within the APE. PG&E shall grant access on a case by case basis and in coordination with the federal agency having jurisdiction over the lands. Portions of some of these areas may need to be controlled due to health and safety issues. Any restriction by PG&E on tribal access to such areas will be explained in writing to the tribe requesting access and the federal agency with jurisdiction. Any access granted to Tribes must include procedures established to ensure human health and safety, and shall not impede the Topock Remediation Project.

If the Tribes desire to obtain access to fenced-off facilities managed by other property managers (So Cal Gas Company, Trans-Western Gas Company, Caltrans, etc.) on Federal Government land within the APE, the federal agency with jurisdiction over the lands in question will work with the Tribes to obtain such access from the respective property managers.

### **III. Current Public Access Routes within the Topock Remediation Project APE**

For the purposes of the Tribal Access Plan, a public road is any purposely constructed and legally designated right-of-way which is under the jurisdiction of the Federal Highway Administration, the State Highway Department, a county, a municipal government, or identified or maintained by one of the Federal land management agencies. Public roads do not include informal routes of passage created by off-road vehicle traffic. Public roads are open to public travel unless closed by order of the agency or local government having jurisdiction.

Motorized vehicle use, equestrian use, and the use of any other form of conveyance within the Topock APE are restricted to public roads as defined above. Allowable motorized vehicle uses near cultural resource sites and site complexes are restricted to activities that are compatible with the objective of preserving cultural resources.

Neither members of the public nor employees of the agencies or PG&E will be allowed by the agencies or PG&E to disturb Maze remnants, cairns, pottery sherds, the work stations of tribal ancestors, lithic scatters, earth figures, geoglyphs, petroglyphs, pictographs, ruins, rock rings, historic buildings, or any other artifacts that may be present on federally managed lands within the Topock APE.

Tribal members accessing the area may carry out cultural activities appropriate to their spiritual beliefs and practices, including but not limited to the burning of sage and leaving of offerings.

The BLM will review requests from Tribes for vehicular access to road-less sacred areas and consider authorizing such use on a case-by-case basis. Consistent with the Stipulations in the Programmatic Agreement, administrative access will be granted to Tribes so they may access the area(s) requested. Neither emergency nor permanent road closures would inhibit any Tribe's use of the APE for traditional cultural or religious purposes.

### **IV. Federally Managed Lands within the Topock Remediation Project APE Closed by Emergency Closure in 2006**

For purposes of the Tribal Access Plan, *federally managed* lands mean any land managed by the BLM, BR, or USFWS. Such lands are generally open to public recreational use, including hunting

and fishing, subject to the regulations of the managing agency. Within the Topock Remediation Project APE, public entry to a portion of the northern half of the APE in California is closed by order of BLM dated July 31, 2006.

This northern portion of the APE was subject to an Emergency Closure in 2006 to protect both public safety and sensitive cultural and natural resources (refer to Appendix 2). Pursuant to Title 43 Code of Federal Regulations, Subpart 8364.1, the BLM, Lake Havasu Field Office, closed portions of roads on public lands within the Topock Remediation Project APE to motorized and mechanical vehicle use, to protect soils, vegetation and cultural resources that have been adversely impacted, or are at risk of being adversely impacted by off-highway vehicle (OHV) use.

This emergency road closure began August 1, 2006, and will remain in effect until adverse effects giving rise to the closure are eliminated, and measures are implemented to prevent recurrence of these adverse effects. The placement of notices, signs, and rock barriers used to block existing roads will be determined after the Federal Government's consultation with regional tribes has been completed. Comments offered by the Tribes will be taken into consideration before any measures are employed to block and sign roads. Law enforcement patrols and citations are used to enforce road closures. Signage includes the posting of narratives regarding penalties or citation to law.

## **V. Management Prescriptions**

Management prescriptions will respect the traditional cultural practices of the Lower Colorado River Tribes that ascribe religious or other heritage values to properties within the APE. The BLM shall cooperate with the Tribes to allow them to select, access, and utilize harvesting areas (personal or Tribal use) for the collection of: a) medicinal, craft, or ceremonial plants, b) minerals (e.g., quartz, clay) or c) other natural materials, for traditional or ceremonial noncommercial use without specific authorization on federally managed lands.

The Tribes will request BLM's specific permission should they wish to build a fire anywhere within the Topock APE on federal lands. BLM will not unreasonably withhold such permission; however, this prescription is necessary for maintaining obvious health and safety standards within the setting which includes multiple high-pressure natural gas pipelines. BLM will consult with PG&E and other gas companies if fires are proposed in the vicinity of gas facilities.

Individual Tribal members and groups of such members, not to exceed approximately one hundred (100) persons, may utilize unfenced areas of the APE for traditional, religious, cultural, or spiritual purposes consistent with applicable laws, regulations, and agreements governing the federal property within the APE. However, should a Tribe or tribal member wish to camp or hold gatherings of Tribal members for more than a 24 hour period on federal lands, the Tribe or individual will need to inform BLM so that BLM can ensure that appropriate health and safety precautions are in effect. Notification of intent to undertake such an encampment or gathering will be submitted in writing, two weeks in advance to the BLM – Lake Havasu Field Manager.

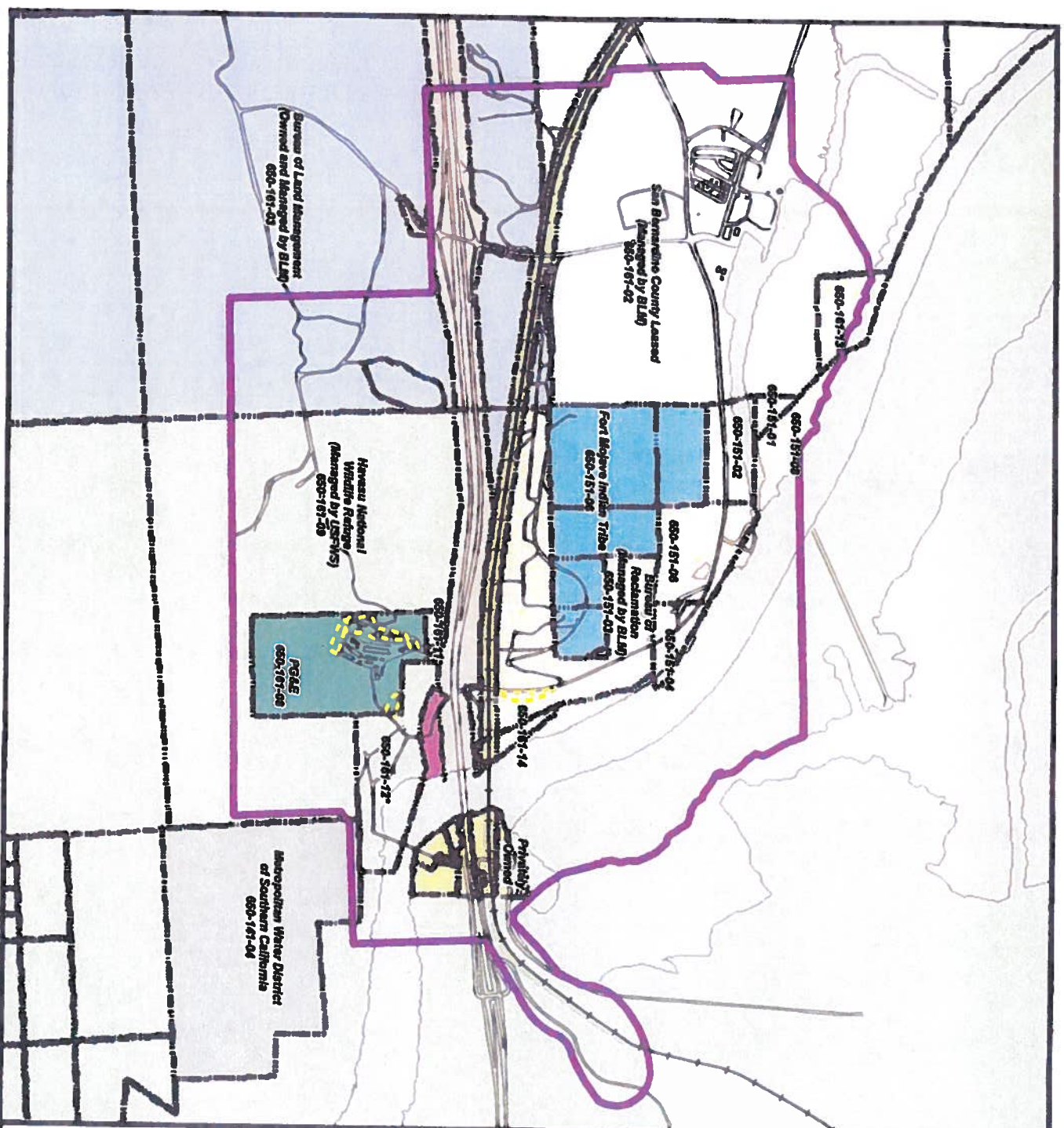
## **VI. Privacy Prescriptions**

No federal agency, PG&E or any other party under the control of a federal agency or PG&E shall videotape, audiotape, photograph or otherwise record or monitor any tribal cultural activities on the land subject to this access plan. The tribes require privacy and maintenance of as natural and safe a setting as modern conditions permit, with appropriate aural and visual conditions, and may regard such monitoring or recording as substantial burdens on their practice of religion.

## **VII. Appendices**

1. Map showing Expanded Topock Remediation Project APE and Property Owners within the APE

2. **BLM AZ-330-06-2641-HO-AZZF Topock Project Area Emergency Road Closure Document**



# LEGEND

Area of Potential Effects (APE)

## Property Owner

BNSF Railroad

Bureau of Land Management (owned and managed by BLM)

Bureau of Reclamation (managed by BLM)

Caltrans Leased From Underlying Federal Owner

Fort Mojave Indian Tribe Owner in Fee, With PG&E Easement and Access for Remediation

Havasu National Wildlife Refuge

Metropolitan Water District of Southern California

PG&E

Privately Owned

San Bernardino County

San Bernardino County Leased (managed by BLM)

MW-20 Bench Area

## Note.

1. \* = PG&E has a possessory interest on these parcels (650-161-11, 650-161-12) for the operation of a compressor station and associated pipelines.



**Appendix 1**  
Map showing Expanded Topock Remediation Project APE and Property Owners within the APE PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA





## APPENDIX 2

### UNITED STATES DEPARTMENT OF THE INTERIOR

Bureau of Land Management

AZ-330-08-2841-HO-AZZF

**AGENCY:** Bureau of Land Management, Lake Havasu Field Office, Arizona

**ACTION:** Topock Project Area Emergency Road Closure

**SUMMARY:** Pursuant to Title 43 Code of Federal Regulations, Subpart 8364.1, the Bureau of Land Management, Lake Havasu Field Office, will close portions of roads on public lands to motorized and mechanized vehicle use. The purpose of the emergency closure is to protect soils, vegetation and cultural resources that have been adversely impacted, or are at risk of being adversely impacted, by off-highway vehicle (OHV) use. In addition, this closure is needed to alleviate congestion in the project area during Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) remediation of hexavalent chromium in the groundwater at the Pacific Gas and Electric (PG&E) Topock Compressor Station in Needles, California. Copies of this Emergency Closure Notice and map are available at the BLM Lake Havasu Field Office, 2610 Sweetwater Avenue, Lake Havasu City, AZ 86406, phone (928) 505-1200.

**EFFECTIVE DATES:** This emergency road closure is in effect beginning August 1, 2008, and will remain in effect until considerable adverse effects giving rise to the closure are eliminated, and measures are implemented to prevent recurrence of these adverse effects.

**FOR FURTHER INFORMATION CONTACT:** Michael Dodson, Law Enforcement Ranger, Bureau of Land Management Lake Havasu Field Office, 2610 Sweetwater



Avenue, Lake Havasu City, AZ 86406, phone (928) 505-1200.

**SUPPLEMENTARY INFORMATION:** The BLM Lake Havasu Field Office and other entities have observed and documented considerable adverse effects to soils, vegetation, and cultural resources from motorized or mechanized vehicle use in this area. Based on this information, the BLM authorized officer has determined that motorized or mechanized vehicle use in this area is causing, and will continue to cause, considerable adverse effects. In addition, portions of roads in the emergency road closure area are utilized by Pacific Gas and Electric Company to control and remove hexavalent chromium from the groundwater. The emergency road closure in the area will help protect public safety and remediation efforts during CERCLA operations, by restricting motorized and mechanized use of the area. The public lands affected are closed to travel by motorized and mechanized vehicle use (including trucks, sport utility vehicles, all-terrain vehicles, cars, motorcycles, bicycles), except for authorized access to private lands and rights-of-way (ROW), use by fire and law enforcement vehicles, emergency activities, and other authorized government uses. The authorities for this emergency closure and restriction order are 43 CFR 8384.1 and 9288.3(d). BLM is implementing this action on 269 acres of public land in San Bernardino County, California. OHV use on the remainder of the public lands administered by the BLM Lake Havasu Field Office will continue to be managed according to existing Federal Register orders, and the 1985 Yuma District Resource Management Plan.

**DESCRIPTION OF CLOSED AREA:**

This emergency closure affects 289 acres of public lands and roads, subject to the exceptions below, located within the Topock Project area. Public lands in the following described tracts are hereby closed to motorized and mechanized vehicles:

T. 7 N., R. 24 E., portions of sections 5, 6, 7 and 8.

Private lands within the closure boundary are not under the jurisdiction of the BLM, and not affected by this emergency closure.

#### Exceptions to the Emergency Closure and Restriction Orders

Exceptions to this closure include emergency personnel (law enforcement, fire, medical), authorized BLM personnel, and persons authorized access to private lands and Rights of Way within the closure boundary

#### Penalties

Under section 303(a) of the Federal Land Policy and Management Act (FLPMA) of 1976, (43 U.S.C. 1733(a), and 43 CFR 8360-7, if you violate these closures or restrictions on public lands within the boundaries established, you may be tried before a United States Magistrate and fined no more than \$100,000 or, imprisoned for no more than 12 months, or both. Such violations may also be subject to the enhanced fines provided for by 18 U.S.C. 3571

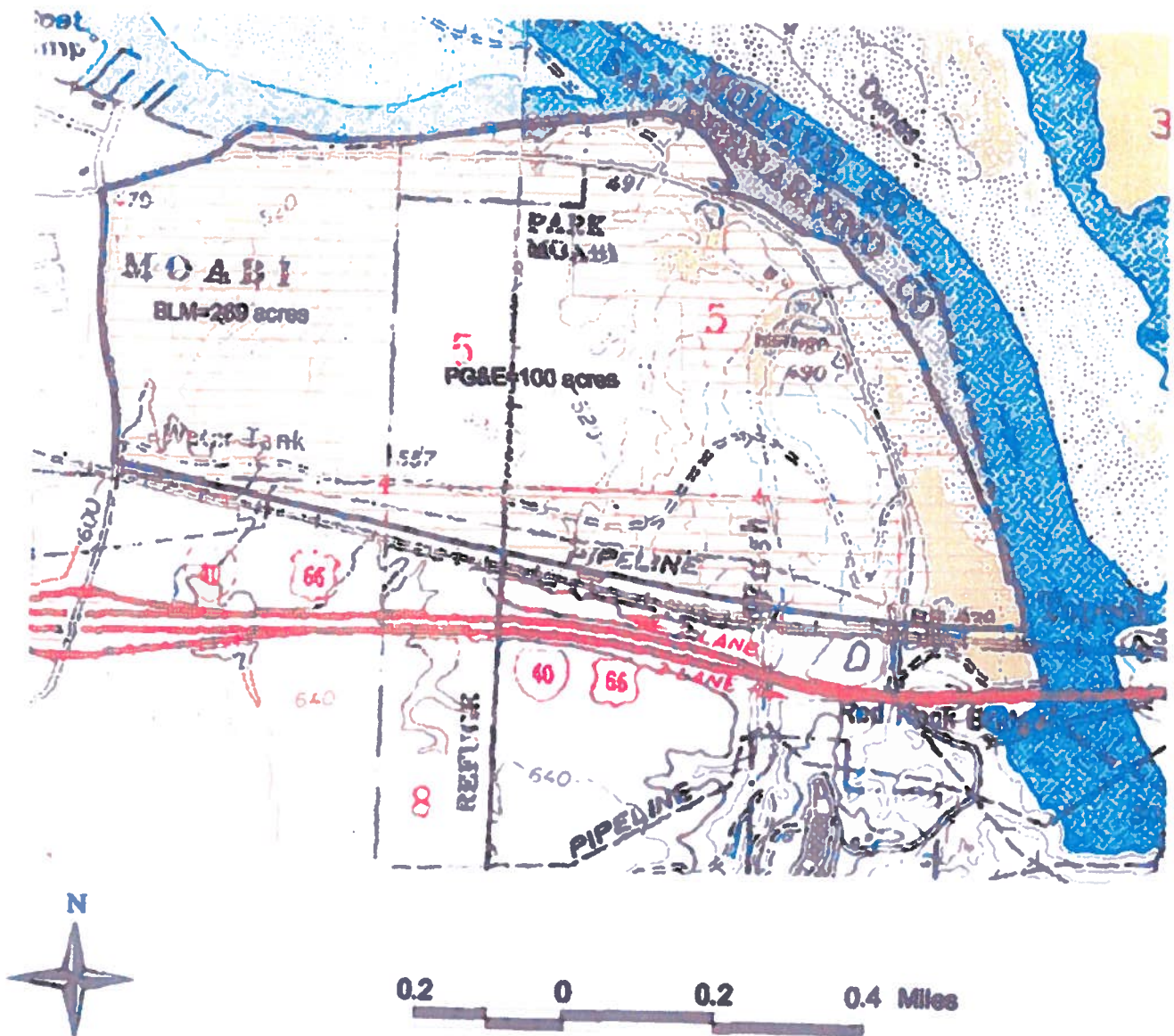
Date: July 31, 2008

Signed:



Timothy Z. Smith, Field Manager  
BLM Lake Havasu Field Office

# Topock Emergency Closure



## **APPENDIX C**

### **Discovery Plan**



# **DISCOVERY PLAN**

## **C.1 INTRODUCTION**

Stipulation VII.E of the Programmatic Agreement specifies that the CHPMP will include sections describing specific steps to be taken if previously unrecorded resources are located, while Section VII.G stipulates that the CHPMP will include a discovery plan. PA Stipulation IX.C further states that:

If there is failure to resolve treatment of the discovery in consultation with the Tribes and PG&E, BLM shall then consult with the AZ SHPO or the CA SHPO to develop a treatment plan that takes into account the effects of the Undertaking on the discovery. Within fifteen (15) days of notification of discovery, BLM shall provide the consulted SHPO(s), via email, a recommendation for resolving the discovery situation that takes into account the potential effects of the Undertaking on the discovery (BLM et al. 2010:16).

The general steps to be taken in the event of any discovery within the APE are described in Chapter 7 of the CHPMP. This Discovery Plan provides additional detail on the procedures to be followed in the event that previously unidentified archaeological or historical resources are encountered during implementation of the Project. Specific procedures related to the discovery of human remains, funerary objects, sacred objects, and objects of cultural patrimony are set forth in Appendix C (Plan of Action).

## **C.2 GENERAL PRINCIPLES**

The exposure of and damage to previously unidentified cultural resources may occur as a result of maintenance activities, erosion, new construction, or other factors. In addition, known and recorded cultural resources may reveal characteristics that were previously unknown. Four basic functions must be carried out if such unanticipated discoveries are made:

1. Cease all actions and secure and protect the discovery site;
2. Contact BLM (the lead in resolving discovery issues) to determine a course of action;
3. Define the nature of the site and evaluate its integrity and significance (NRHP eligibility); and
4. Assess Project effects on significant qualities of the resource, and implement treatment measures to resolve the effect, if warranted.

This Appendix outlines the procedures that accomplish those goals, consistent with Stipulations VII.E, VII.G, and IX.C of the PA. In broad outline, the discovered property will be examined by a qualified archaeologist and recorded according to accepted contemporary standards. BLM will coordinate with PG&E and consult with the Tribes if the resource is of Native American origin, to determine the appropriate course of action. BLM may require an evaluation of the property for NRHP eligibility. When prehistoric resources are involved, such evaluations will be made in



consultation with a Tribal representative. If the resource is not formally evaluated, it will be assumed to be eligible for the NRHP and managed accordingly.

### **C.3 SITE IDENTIFICATION AND PROTECTION**

PG&E will retain an archaeologist to inspect and evaluate any previously unidentified or suspected archaeological or historical resources found during construction, operation, or decommissioning of the Project. Should any such resources be uncovered, all such activities shall cease immediately within an area extending not less than 5 meters and not more than 50 meters (to be determined in the field on a case-by-case basis) of the find. The BLM, and Tribal representatives if the resource is Native American in nature, will be notified immediately of the discovery. No further action will be taken until the BLM, in consultation with Tribes and PG&E, has determined the nature of the discovery and developed appropriate measures for its evaluation and/or treatment in accordance with PA Stipulation IX.

If warranted, stabilization measures such as protective covering or fencing may be placed over or around the area of the discovery, which will be identified as an Exclusion Zone (EZ) or an Environmentally Sensitive Area (ESA) to protect any discovery (including human remains, funerary objects, sacred objects, or objects of cultural patrimony) from further disturbance. Ongoing work not within the agreed upon EZ/ESA extending 5-50 meters from the discovery may continue. The BLM, in consultation with PG&E and the Tribes, may reduce the size of the EZ/ESA if determined appropriate by parties in the field.

During the initial inspection, the archaeologist will use simple visual observation to record information on the content, structure, stratigraphic integrity, approximate date of deposition, and range and quantity of artifacts present. For historic-period deposits, the archaeologist may gauge the approximate depth of refuse-filled pits by probing with a steel rod or using other low-impact methods to better define data potentials without excavation. Artifact collection will be minimized during this phase of work, thereby reducing the need for laboratory processing and analysis. During this phase of work, the archaeologist will complete a Primary Record, Archaeological Site Record, and/or other forms necessary to document the discovery and obtain a registration number from the California Historical Resources Information System or the Arizona State Museum, as appropriate.

If intact prehistoric deposits, primary pit features, structural remains, or other potentially significant deposits are revealed, it may be necessary—after consultation with BLM—to expose them in profile or plan view using hand tools, photograph the remains, and map them in relation to a permanent datum. Features that are located in highly disturbed contexts or are too recent to meet significance criteria (those less than 50 years old) may be dismissed without further investigation and construction work will be allowed to resume upon approval by BLM, after consultation with PG&E, and the Tribes.

If the deposit's content, age, and integrity are not evident from the exposed portion, it may be necessary to hand excavate an adequate sample to assess the deposit's or feature's significance and eligibility for the NRHP. In this case, PG&E and its archaeologist will consult with the BLM, and BLM will consult with Tribal representatives if the resource is Native American in nature, to define the nature and extent of further studies.

Work will not resume in the discovery area until the measures set forth in PA Stipulation IX.A–D (BLM et al. 2010:15–16) have been implemented.

#### **C.4 SITE DEFINITION AND EVALUATION**

Adverse effects occur when project actions directly or indirectly alter the qualities of a historic property that qualify it for the NRHP (36 CFR 800.5(a)(1)). A historic property is any prehistoric or historic object, building, structure, site, district, or traditional cultural property listed in, or eligible for listing in, the NRHP (36 CFR 60 and 36 CFR 800.16(l)). Except in rare circumstance, a resource must be 50 years old or older and must meet at least one of the following criteria of significance:

- (a) Is associated with events that have made a significant contribution to the broad patterns of history and cultural heritage;
- (b) Is associated with the lives of persons important in our past;
- (c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- (d) Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to being significant, the resource must retain integrity, or enough of its historic character to convey the reason for its significance. There are seven aspects of integrity, which are defined as follows:

Location is the place where the historic property was constructed or the place where the historic event occurred....

Design is the combination of elements that create the form, plan, space, structure, and style of a property....

Setting is the physical environment of a historic property....

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property....

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory....

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time....

Association is the direct link between an important historic event or person and a historic property...(National Park Service 2002: Part VIII).

“Integrity is based on significance: why, where, and when a property is important” (National Park Service 2002:Part VIII). Only after significance is fully established is the issue of integrity



addressed. Ultimately, the question of integrity is answered by whether or not the property retains the identity for which it is significant.

Historically significant resources can include prehistoric and historic archaeological sites, historic buildings and structures, and objects of cultural importance to Native American tribes or other social groups. Native American sites may include *in-situ* artifact- and feature-rich midden deposits, although lithic reduction areas, resource procurement and processing zones, and other site types also may be significant. Historical feature types that may be present include ***refuse deposits***, where deep and potentially stratified fill may be present and where association can be verified; ***pit or hollow features*** that can be associated with a given residence or commercial establishment; and ***industrial features*** associated with the ranching and agriculture.

Significance evaluations may require additional archival and background research, test excavations, backhoe trenching, or other forms of subsurface investigation; laboratory processing and analysis of recovered remains; and a variety of special technical studies. Importantly, a site must be evaluated within its context, which requires establishment of the age, thematic associations, unique characteristics, and archaeological data potentials of the site.

The age and associations of historical sites are typically defined through historic archival research. Test excavations also may be needed to (1) define the site's areal extent, depth, artifact assemblage, age of deposits, and stratigraphy; (2) determine whether the site retains integrity and if the integrity affects its National Register eligibility, and (3) provide information regarding the potential effects of the Project on the site.

Archaeological data potentials are identified through the linkage of data classes present at the site with research themes relevant to the project area. The discovery of a house floor, foundation, or other structural features, for example, would signal the potential to answer questions about settlement structure, social and political organization, and intra-site functional patterning with possible implications for mobility, seasonality, and ethnicity. Charcoal, shell beads, projectile points, bottles, ceramic tableware, or other stylistic artifacts would permit the study of cultural chronology and social class structure. Faunal and floral remains provide information on food procurement, diet, seasonality, economic status, and the biotic environment, while obsidian, shell beads, imported goods, or other non-local materials would enable studies of trade, commerce, and linkages with broader networks at the regional or national scale. The presence of these kinds of remains in an undisturbed context would indicate a significant cultural deposit. If such remains are lacking, or if their contextual integrity has been lost as a result of postdepositional disturbances, then the site likely would be deemed ineligible for the NRHP.

If, after consultation among BLM, PG&E, and the Tribes, it is determined that additional work is warranted to identify and assess the integrity of the discovery, construction work will be redirected to another area while BLM determines if the proposed additional work falls within the cubic volume allowable for testing in the BLM California Protocol and meets the intent of testing as a means of site identification. Further consultation with the CA or AZ SHPO may be warranted prior to initiating additional work. If additional testing proceeds, *in-situ* prehistoric remains will be sampled using standard archaeological procedures. Hand-excavated sampling units of various sizes may be employed, depending on the nature of the discovery. Such

decisions will be made by the Project archaeologist in consultation with the BLM, Project representatives, and Tribal representative (if warranted).

In the case of a refuse-filled pit or privy, the feature may be cross-sectioned by hand and part of each stratigraphic layer excavated. For structural remains the area may be cleared in plan view in order to examine its horizontal extent. Generally, features should not be cross-sectioned by mechanical trenching unless discovered during trenching. Excavated soil from a refuse-filled pit or privy shall be passed through 1/8- or 1/4-inch wire mesh screen, as appropriate, to document the presence of all artifact classes. Additionally, each cross section shall be drawn and photographed to illustrate the stratigraphic relationships of the various sediments and fill deposits. Where physical layers of deposition are not present, excavations should be controlled by means of successive arbitrary measured levels. The integrity and data potential of each deposit or feature should be continuously assessed during the course of excavation.

### **C.5 ASSESSMENT AND TREATMENT OF EFFECTS**

Avoidance will be the priority treatment for resolving effects related to an unanticipated discovery. If the discovery cannot be avoided, then, depending on the significance assessment, prehistoric or historical archaeological remains may require further data recovery through excavations to resolve any adverse effects. If a feature or artifact deposit demonstrates sufficient age, contains a sufficient quantity and variety of artifacts, lacks redundancy, and has the potential to illuminate important historical themes and/or archaeological research questions identified during testing, the feature may require full excavation to mitigate the adverse effects of the project. The archaeologist will offer recommendations regarding the significant historical and/or archaeological associations and data potentials as well as recommend treatment alternatives. The BLM will be responsible for the preparation of a treatment plan that sets forth the measures by which the adverse effect will be addressed. BLM will consult with the ACHP, CA and AZ SHPOs, Tribes, and other Parties as appropriate in the development of the treatment plan as required by Appendix B of the PA (BLM et al. 2010:Appendix B).

### **C.6 ARTIFACT PROCESSING AND CURATION**

All archaeological artifacts, remains, and records collected during site identification, evaluation, or treatment shall be processed according to standard archaeological procedures. Significant materials will be taken to the laboratory for cleaning, processing, and analysis. Retained artifacts will be temporarily packaged to ensure conservation of materials and boxed by feature, stratum, or other provenience. A repository for final curation of the materials will be selected in accordance with Stipulation XIII of the PA (BLM et al. 2010:18–19). The final cataloging and artifact preparation will be consistent with the requirements of the selected repository.

### **C.7 TECHNICAL REPORTING**

A final technical report will be prepared describing the treatment and analysis of any archaeological remains discovered. The report will contain an introduction to the project, a description of the resources identified, a description of the field, laboratory, and analytic methods, an interpretation of any finds, and further site management recommendations, if warranted. Copies of this report will be provided to the BLM, Project representatives, Tribal

representatives if appropriate, and the Arizona State Museum (if the site is in Arizona) or Regional Information Center of the California Historical Resources Information System (if the site is in California). Confidentiality of any such report and the information contained therein will be ensured in accordance with Stipulation XII of the PA (BLM et al. 2010:17–18).

## **C.8 PERSONNEL**

BLM will ensure that PG&E retains a qualified archaeologist to oversee all activities described in this Plan. Fieldwork will be carried out by appropriately qualified technical personnel familiar with the Project area, Plan requirements, and work scope. All senior personnel will meet the Secretary of Interior's Professional Qualification Standards for Archaeology (National Park Service 1983) as updated and expanded (National Park Service 1997). All personnel responsible for treatment of a discovery will be qualified, and all treatment actions applied to such discovery will be performed, in accordance with Stipulation XI of the PA (BLM et al. 2010:18).

## **C.9 REFERENCES CITED**

Bureau of Land Management, Arizona State Historic Preservation Officer, California State Historic Preservation Officer, and the Advisory Council on Historic Preservation

- 2010 *Programmatic Agreement among the Bureau of Land Management, Arizona State Historic Preservation Officer, California State Historic Preservation Officer, and the Advisory Council on Historic Preservation for the Topock Remediation Project in San Bernardino County, California, and Mohave County, Arizona*. Executed 4 October 2010.

National Park Service

- 1983 Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines. *Federal Register* 48:44716–44742.
- 1997 The Secretary of the Interior's Historic Preservation Professional Qualification Standards. *Federal Register* 62:33703–33723.
- 2002 *How to Apply the National Register Criteria for Evaluation*. Revised for the Internet, <http://www.cr.nps.gov/nr/publications/bulletins/nrb15/>. National Register Bulletin 15. U.S. Department of the Interior, National Park Service, Cultural Resources Division, Washington, D.C.

## **APPENDIX D**

### **Plan of Action**



## **PLAN OF ACTION**

### **D.1 INTRODUCTION**

Section VII.H of the Programmatic Agreement stipulates that the CHPMP will include a Plan of Action (POA) to be implemented if human remains are discovered within the APE, and that the POA will address the roles of the PA Signatories, Tribes, and Invited Signatories. The PA (Section VII.H) stipulates further that:

The BLM will be the lead Federal Agency responsible for seeing that the terms of the POA are executed. The POA will specify how each tribe wishes to be contacted and involved in the event of an unanticipated discovery of human remains within the APE, as described in NAGPRA and all other applicable State and Federal laws pertaining to human remains and funerary objects, ceremonial items, and items of cultural patrimony. Human remains and funerary objects must be treated in a culturally appropriate and respectful manner (BLM et al. 2010:15).

The PA also specifies, in Section IX, the procedures to be followed

If the Undertaking affects a previously unidentified cultural and/or historic resource, including human remains and/or associated funerary objects or graves, or affect[s] such resources in a way not previously anticipated, or...[has] greater adverse effect than previously anticipated...(BLM et al. 2010:15).

While the steps to be taken in the event of any discovery within the APE are described in Appendix B (Discovery Plan), the procedures specifically related to the discovery of human remains, funerary objects, sacred objects, and objects of cultural patrimony are detailed in the present appendix.

### **D.2 APPLICABLE LAWS**

Depending on land ownership and other factors, either Federal law or State law, or both, will apply to any human remains, funerary objects, sacred objects, or objects of cultural patrimony that may be discovered within the APE. Federal statutes, most notably ARPA and NAGPRA (see Section 1.4, Regulatory Context of the CHPMP), govern discoveries on Federal or Tribal land. State laws, prominently ARS 41-865 in Arizona and H&SC 7050.5(b) and PRC 5097.98(a-b) in California (see Section 1.4 of the CHPMP) govern discoveries on non-Federal/non-Tribal land.

This POA complies with the NAGPRA regulations, which state that the Federal Agency official “must complete a written Plan of Action (described in [43 CFR] § 10.5(e)) and execute the actions called for in it” (43 CFR 10.3(c)(2)). The regulations also specify that a copy of the POA must be provided to the involved lineal descendants and Indian tribes, and that such descendants and tribes may sign the POA (43 CFR 10.5(e)). Moreover, the regulations require the POA to comply with 43 CFR 10.3(b)(1), which speaks to responsibilities under ARPA, and to address and document nine topics (see 43 CFR 10.5(e)(1-9)) related to the discovery and treatment of

human remains and cultural items as defined at 43 CFR 10(2)(d). These nine topics are taken up in Subsections D.3.1-D.3.9, below.

### **D.3 PLAN OF ACTION**

#### **D.3.1 Cultural Items**

The Topock Remediation Project is a Federal undertaking that encompasses multiple land statuses. The POA provides specific direction for how the BLM, other Federal Agencies, Tribes, and Invited Signatories will comply with legal requirements governing treatment and custody of human remains for the Undertaking. Although a requirement of the PA this POA is meant to address the requirements of the Native American Graves Protection and Repatriation Act (NAGPRA), as well as state-specific statutes concerning human remains. As lead Federal Agency for cultural resources compliance for this Undertaking, the BLM is the primary contact and executor for the POA.

According to NAGPRA and implementing regulations, a POA must identify “the kinds of objects to be considered ‘cultural items’ as defined in [43 CFR] § 10.2(d)” (43 CFR 10.5(e)(1)).

In this POA, human remains and three types of Native American cultural items are recognized: (1) “funerary objects,” including both “associated funerary objects” and “unassociated funerary objects”; (2) “sacred objects”; and (3) “objects of cultural patrimony.” The full definitions of these terms, as set forth in the NAGPRA regulations (43 CFR 10.2(d)(1-4)), are incorporated herein by reference and adopted for use throughout the present CHPMP, including this POA. Also for the purposes of this POA, the term “grave goods,” as used in California law (e.g., in PRC 5097.98), is deemed to be subsumed by the Federal term “funerary objects.” More generally, the term “cultural items,” as used in this POA, includes funerary objects, sacred objects, and objects of cultural patrimony.

#### **D.3.2 Custody**

The POA is to present “the specific information used to determine custody pursuant to [43 CFR] § 10.6” (43 CFR 10.5(e)(2)).

##### **D.3.2.1 Federal Land**

In the event of any discovery of human remains and/or funerary objects on Federal land within the APE, custody (i.e., ownership or control per 43 CFR 10.6(a)) shall vest in the lineal descendant of the deceased individual (per 43 CFR 10.6(a)(1)), or, “in cases where a lineal descendant cannot be ascertained and no claim is made, and with respect to unassociated funerary objects, sacred objects, and objects of cultural patrimony,” in the Indian tribe identified in accordance with the priority and criteria set forth at 43 CFR 10.6(a)(2). BLM is responsible for ensuring that the custody of any human remains and/or funerary objects discovered within the APE of the Project is established in accordance with these regulations. Additionally, prior to the transfer of custody of the remains and/or objects to the lineal descendant or Indian tribe, BLM must publish general notices of the proposed disposition in accordance 43 CFR 10.6(c) (see also Subsection C.3.9.1, below).

### **D.3.2.2 Non-Federal/Non-Tribal Land in Arizona**

Arizona law—while protecting the constitutional rights of property owners, prescribing minimal disturbance of human remains and funerary objects, and requiring consultation with “representatives from the scientific community and groups with a cultural affinity regarding the treatment and protection of human remains and funerary objects” (ARS 41-865.C.4)—recognizes tribal custody of Native American remains and funerary objects:

If Native American human remains or funerary objects are involved, [the rules implementing ARS 41-865 must] give the governing body of the group with a cultural affinity the authority to take responsibility for the remains or objects and to determine the most appropriate treatment or disposition of them pursuant to subsection E [ARS 41-865.C.5].

BLM will consult with the Tribes and the Director of the Arizona State Museum (at the University of Arizona, Tucson) to ensure compliance with ARS 41-865.

### **D.3.2.3 Non-Federal/Non-Tribal Land in California**

The custody of human remains discovered on non-Federal/non-Tribal lands in California is a complex matter and ultimately, after prescribed consultation with the Native American individual or group identified by the NAHC as the Most Likely Descendant (MLD), lies with the land owner. Relevant procedures and responsibilities are set forth at PRC 5097.98(a-b, e-f) and summarized in Subsection C.3.3 of this POA.

## **D.3.3 Treatment, Care, and Handling**

The NAGPRA regulations require the POA to address “the planned treatment, care, and handling of human remains, funerary objects, sacred objects, or objects of cultural patrimony recovered” (43 CFR 10.5(e)(3)).

In the event that human remains are discovered within the APE, either inadvertently or in the course of archaeological investigations, and without respect to land ownership, PG&E will:

- (1) Immediately cease or cause to be ceased any earth-disturbing activity within an area extending not less than 5 and not more than 50 meters (to be determined in the field on a case-by-case basis) from the discovered remains;
- (2) Take whatever feasible steps may be needed to ensure that the subject remains are not disturbed further and are secure pending implementation of the treatment measures prescribed in this POA;
- (3) Ensure that the remains are treated with appropriate respect and cultural sensitivity at all times;
- (4) Within 24 hours, contact BLM to report the discovery; and
- (5) Cooperate fully with the parties responsible for carrying out the treatment measures described in Subsections D.3.3.1-D.3.3.3, below.



#### **D.3.3.1 Discoveries on Federal Land**

If human remains or funerary objects are discovered on Federal lands, all activity in the area of the discovery will cease immediately. PG&E will notify BLM by telephone within 24 hours of the discovery, followed within three days by written confirmation. BLM will then be responsible for notifying the appropriate Tribe(s), and for initiating Tribal consultation as prescribed by 43 CFR 10.5. If the remains are found in California, BLM will also notify the San Bernardino County coroner who, pursuant to H&SC 7050.5 et seq. and PRC 5097.98, will determine whether the remains are those of a Native American; if so, the coroner will contact the NAHC, and the procedures set forth at PRC 5098.98 will be implemented together with the Federal procedures required by 43 CFR 10.3-10.6.

BLM will ensure that the stipulations of this POA are fully implemented before authorizing PG&E to any ground-disturbing activity. Such activity will be suspended in the discovery area (i.e., within not less than 5 nor more than 50 meters in all directions from the discovered remains and/or objects) until authorized by BLM to resume such activities. Such activity will be suspended in the discovery area until the Tribes, PG&E, and BLM can resolve treatment in this manner, then BLM shall consult with the AZ SHPO or CA SHPO to develop a treatment plan within 15 days of notification of discovery, pursuant to Stipulation IX.C of the PA. Absent objection by the SHPO, BLM will then implement the treatment plan as prescribed by PA Stipulation IX.D, or, if the SHPO objects, BLM will utilize the dispute resolution process set forth in Stipulation XV to resolve any objection. Human remains and any funerary objects will not be excavated or otherwise removed unless approved by BLM or USFWS and after consultation with the Tribes as appropriate. Disposition of any such remains discovered on or removed from Federal or Tribal lands will follow the protocols discussed in Subsection C.3.9, below.

#### **D.3.3.2 Discoveries on Non-Federal/Non-Tribal Land in Arizona**

If human remains and/or funerary objects are discovered unintentionally within the portion of the APE in Arizona on “lands, other than lands owned or controlled by this state, any agency or institution of this state or any county or municipal corporations within this state,” BLM, in coordination with PG&E, will report the discovery to the Director of the ASM. PG&E will not further disturb the remains or objects without obtaining the written permission of the Director, pursuant to ARS 41-865.B.

Under direction of BLM, PG&E will coordinate with the ASM before conducting any excavations that may involve the collection of archaeological or paleontological materials or the disturbance of Native American human remains and/or funerary objects (per ARS 41-841). If such remains or objects are found, PG&E will notify BLM as described in Subsection C.3.3.1, above. BLM will then consult with the Signatories (particularly, the AZ SHPO), Invited Signatories, Tribes, and Director of the ASM, and subsequent to consultation will give the governing body of the “group with cultural affinity the authority to take responsibility for the remains and to determine the most appropriate treatment or disposition of them” (ARS 41-865.C.5). Pending disposition of the remains and/or funerary objects, PG&E will ensure that the remains and objects are not disturbed and that they are treated respectfully (ARS 41-865.C.2-3).

### **D.3.3.3 Discoveries on Non-Federal/Non-Tribal Land in California**

When human remains and/or “grave goods” (i.e., funerary objects) are discovered on non-Federal/non-Tribal land other than a dedicated cemetery in California, the party responsible for the discovery must notify the county coroner. If such remains and/or grave goods are found within the APE of the Project, PG&E will notify the BLM and the San Bernardino County coroner. After notification, BLM will be responsible for notifying appropriate Signatories (particularly the California SHPO), Invited Signatories, and Tribes.

The coroner will determine whether or not the circumstances, manner, and cause of death require further investigation. If the coroner determines that the remains are Native American, the coroner will contact the Native American Heritage Commission (CH&SC 7050.5(b)). The NAHC will then immediately identify those persons it believes to be to be most likely descended from the deceased Native American. With the permission of the landowner, the MLD may inspect the site of the discovery and recommend means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD will complete the inspection and make a recommendation within 48 hours following notification by the NAHC. If the NAHC is unable to identify a MLD, or if the MLD fails to make a recommendation, or if the landowner rejects the MLD’s recommendation and mediation by the NAHC fails to provide measures acceptable to the landowner, the landowner will reinter the human remains and associated items with appropriate dignity on the property in a location not subject to further subsurface disturbance (PRC 5097.98).

### **D.3.4 Archaeological Recording**

Also to be discussed in the POA is “the planned archaeological recording of the human remains, funerary objects, sacred objects, or objects of cultural patrimony recovered” (43 CFR 10.5(e)(4)).

Following the initial discovery and identification of any human remains, funerary objects, sacred objects, or objects of cultural patrimony within the APE, no further archaeological excavation or recording of such remains and/or objects will occur until after (1) the lineal descendant or Tribe entitled to custody pursuant to 43 CFR 10.6(a), if the discovery is on Federal or Tribal land, or (2) the MLD identified pursuant to PRC 5097.98, if the discovery is on non-Federal or non-Tribal land in California, or (3) “the group with cultural affinity” (ARS 41-865.C.5), if the discovery is on non-Federal or non-Tribal land in Arizona, has made a recommendation to BLM and the landowner with respect to the disposition of the remains and/or objects.

Thereafter, BLM will take into account the recommendation(s) of the appropriate Native American lineal descendant or Tribe, or MLD, or group with cultural affinity and will decide on the nature of any archaeological excavation or recording to be done of the discovered remains and/or funerary objects.

### **D.3.5 Analysis**

The regulations also call for the POA to identify “the kinds of analysis planned for each kind of object” (43 CFR 10.5(e)(5)).

No scientific analysis of human remains and/or funerary objects will occur until after (1) the lineal descendant or Tribe entitled to custody pursuant to 43 CFR 10.6(a), if the discovery is on Federal or Tribal land, or (2) the MLD identified pursuant to PRC 5097.98, if the discovery is on non-Federal or non-Tribal land in California, or (3) “the group with cultural affinity” (ARS 41-865.C.5), if the discovery is on non-Federal or non-Tribal land in Arizona, has made a recommendation to BLM and the landowner with respect to the disposition of the remains and/or objects, including whether or not destructive and/or nondestructive analysis should be permitted.

Thereafter, BLM will take into account the recommendation(s) of the appropriate Native American lineal descendant or Tribe, or MLD, or group with cultural affinity and, in consultation with PG&E, will decide on the nature of any scientific analysis is to be done of the discovered remains and/or funerary objects.

### **D.3.6 Tribal Contacts**

Another important feature of the POA is that it must state “any steps to be followed to contact Indian tribe officials at the time of intentional excavation or inadvertent discovery of specific human remains, funerary objects, sacred objects, or objects of cultural patrimony” (43 CFR 10.5(e)(6)). As discussed in the PA, BLM has invited nine Indian tribes (the Tribes) to participate in the Section 106 consultation process and to be Invited Signatories (BLM et al. 2010:2) to the PA. Each tribe is listed below, together with specifications as to how it wishes to be contacted and involved if human remains are discovered within the APE.

In the event that human remains and/or funerary objects, or sacred objects, or objects of cultural patrimony are discovered within the APE, either inadvertently or in the course of intentional archaeological excavations, PG&E will immediately (1) cease or cause to be ceased any earth-disturbing activity within an area extending not less than 5 meters and not more than 50 meters (to be determined in the field on a case-by-case basis) from the discovered remains; (2) ensure that the remains and/or cultural objects are protected from further disturbance; and (3) inform BLM by telephone within 24 hours following the discovery. BLM will then contact the appropriate Tribes, Signatories, and Invited Signatories. The Tribes will be contacted and consulted in accordance with the information provided below, including the designated Point of Contact (POC) for each Tribe, and in other sections of this POA.

#### *CHEMEHUEVI INDIAN TRIBE*

POC Contact Information  
How the Tribe Wishes to Be Involved

#### *COCOPA INDIAN TRIBE*

POC Contact Information  
How the Tribe Wishes to Be Involved

#### *COLORADO RIVER INDIAN TRIBES*

POC Contact Information  
How the CRIT Wishes to Be Involved

*FORT MOJAVE INDIAN TRIBE*

POC Contact Information  
How the Tribe Wishes to Be Involved

*FORT YUMA QUECHAN TRIBE*

POC Contact Information  
How the Tribe Wishes to Be Involved

*HUALAPAI TRIBE*

POC Contact Information  
How the Tribe Wishes to Be Involved

*HAVASUPAI TRIBE*

POC Contact Information  
How the Tribe Wishes to Be Involved

*TWENTY-NINE PALMS BAND OF MISSION INDIANS*

POC Contact Information  
How the Tribe Wishes to Be Involved

*YAVAPAI-PRESCOTT INDIAN TRIBE*

POC Contact Information  
How the Tribe Wishes to Be Involved

**D.3.7 Traditional Treatment Measures**

As stipulated in the NAGPRA regulations (43 CFR 10.5(e)(7)), the POA must describe “the kind of traditional treatment, if any, to be afforded the human remains, funerary objects, sacred objects, or objects of cultural patrimony by members of the Indian tribe....”

Following any discovery of Native American human remains and/or funerary objects, and prior to the disposition of such remains and/or objects, BLM will consult with the appropriate Native American lineal descendant or Tribe, or MLD, or group with cultural affinity, and will ascertain the wishes of such lineal descendant or Tribe, or MLD, or group with cultural affinity with respect to the kind of traditional treatment, if any, to be afforded the human remains or objects. BLM, in coordination with PG&E, will then take the necessary steps to ensure that the lineal descendant or Tribe, or MLD, or group with cultural affinity is granted the opportunity, access, and privacy required for the traditional treatment of the remains and/or objects in compliance with NAGPRA, AIRFA, and all other applicable statutes and regulations.

### **D.3.8 Reporting**

The POA also must address “the nature of reports to be prepared” (43 CFR 10.5(e)(8)). Although it is difficult to suggest the nature of reports to be prepared without knowing the kinds of remains and/or objects that would be discovered, or whether the discovery would be made inadvertently or in the course of planned and permitted archaeological excavations, one can define the procedures to be followed with respect to deciding on the scope, content, distribution, and confidentiality of any reports that may be produced.

Decisions about report preparation and content will be based on a consultative process very similar to what is described for scientific analysis (see Subsection C.3.5, above). No reports of human remains and/or funerary objects will be released until after (1) the lineal descendant or Tribe entitled to custody pursuant to 43 CFR 10.6(a), if the discovery is on Federal land, or (2) the MLD identified pursuant to PRC 5097.98, if the discovery is on non-Federal or non-Tribal land in California, or (3) “the group with cultural affinity” (ARS 41-865.C.5), if the discovery is on non-Federal or non-Tribal land in Arizona, has made a recommendation to BLM and the landowner with respect to the disposition of the remains and/or objects, including whether or not archaeological reporting should take place.

Thereafter, BLM will take into account the recommendation(s) of the appropriate Native American lineal descendant or Tribe, or MLD, or group with cultural affinity and will decide on the nature of any archaeological report to be prepared on the discovered remains and/or funerary objects. BLM also will ascertain whether or not photographs of the subject remains and/or objects are culturally permissible, who (i.e., which agencies, Tribes, institutions, etc.) should receive copies of any report that is produced, and how best to maintain the confidentiality of such report and the information therein to comply with ARPA, NAGPRA, and other laws (see Subsection 8.3 of this POA).

### **D.3.9 Disposition of Remains and Objects**

Finally, the NAGPRA regulations require the POA to set forth a plan for “the disposition of human remains, funerary objects, sacred objects, or objects of cultural patrimony following [43 CFR] § 10.6” (43 CFR 10.5(e)(9)). The procedures to be followed in arriving at decisions regarding disposition depend upon land ownership and the state in which the remains and/or objects are found. In addition, the final disposition or custody of human remains, funerary objects, sacred objects, or objects of cultural patrimony is also subject to change based on consultation with the parties having claim(s) to the remains and materials in question.

#### **D.3.9.1 Discoveries on Federal Land**

In the event that human remains and/or cultural items are found within the APE of the Project on Federal lands, and following consultation as required by 43 CFR 10.6, BLM will ascertain custody in accordance with 43 CFR 10.6(a–c) (see Subsection C.3.2 of this POA). Once BLM has made a determination of the party entitled to custody, BLM will publish at least two notices of the proposed disposition of the remains and/or objects, as required by 43 CFR 10.6(c). These notices must be published at least one week apart. If no additional claimants come forward within 30 days following the second publication of the notice, then BLM will transfer custody of

the remains and/or cultural items to the party named in the notices pursuant to 43 CFR 10.6(c). The party having custody will then decide on the ultimate disposition of the remains and/or cultural items. If the party given custody should decide that any of the remains and/or items are to be curated, then they will select for that purpose and deliver such remains and/or items to a repository that meets the standards and criteria set forth at 36 CFR 79.

#### **D.3.9.2 Discoveries on Non-Federal/Non-Tribal Land in Arizona**

If human remains or funerary objects are found, PG&E will notify BLM as described in Subsection C.3.3.1, above. BLM will then consult with the Signatories (particularly the AZ SHPO), Invited Signatories, Tribes, and Director of the ASM. Subsequent to this consultation, BLM will give the governing body of the “group with cultural affinity the authority to take responsibility for the remains and to determine the most appropriate treatment or disposition of them” (ARS 41-865.C.5). Pending disposition of the remains and/or funerary objects, PG&E will ensure that the remains and objects are not disturbed and that they are treated respectfully (ARS 41-865.C.2-3). The governing body of the group with cultural affinity will then assume custody and decide on the ultimate disposition of the discovered remains and/or objects. ARS 41-865.C.5 also sets forth a proscription: “In no event shall this state, or any group, individual, or entity benefit financially from the sale of any human remains or funerary objects removed from private property.”

#### **D.3.9.3 Discoveries on Non-Federal/Non-Tribal Land in California**

If Native American human remains and/or grave goods are found within that portion of the APE in California—and after PG&E has notified the BLM and the San Bernardino County coroner, and the coroner has contacted the NAHC, and the NAHC has designated a MLD, and the MLD has visited the discovery site, pursuant to CH&SC 7050.5 *et seq.* and PRC 5097.98(a-b)—the landowner will discuss and confer with the MLD “all reasonable options” regarding the MLD’s preferences for treatment of the human remains and/or grave goods. These options may include:

- A. The nondestructive removal and analysis of human remains and items associated with Native American human remains.
- B. Preservation of Native American human remains and associated items in place.
- C. Relinquishment of Native American human remains and associated items to the descendants for treatment.
- D. Other culturally appropriate treatment [PRC 5097.98(b)(1)(A-D)].

The landowner may accept the MLD’s recommendation, or agree to extend discussions taking into account the possibility that additional or multiple Native American human remains may be present, or reject the MLD’s recommendation. If the NAHC is unable to identify an MLD, or the MLD does not make a recommendation, or if the landowner rejects the MLD’s recommendation, and if mediation (as provided for by PRC 5097.98(k)), if invoked, fails to provide measures acceptable to the landowner,

the landowner or his or her authorized representative shall inter the human remains and items associated with Native American remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance. To protect these sites, that landowner shall do one or more of the following:

1. Record the site with the commission [i.e., the NAHC] or the appropriate Information Center [of the California Historical Resources Information System (CHRIS)].
2. Utilize an open-space or conservation zoning designation or easement.
3. Record a document with the county in which the property is located [PRC 5097.98(e)(1-3)].

In these circumstances, it is the landowner who, after the prescribed consultation, makes the final decision regarding the disposition of Native American human remains and/or grave goods governed by PRC 5097.98. The Undertaking, however, remains under Federal jurisdiction, so these restrictions of California law may only take effect after pertinent Federal requirements are complied with.

#### **D.4 SUMMARY OF THE POA**

In summary, in the event that human remains and/or funerary objects are found within the APE of the Undertaking, the Plan of Action (POA) to be implemented includes;

- (1) BLM will be the lead Federal Agency responsible for seeing that the terms of the POA are executed and that the Undertaking is in compliance with NAGPRA, and other applicable Federal statutes and regulations.
- (2) BLM will maintain ongoing consultation, as necessary and appropriate, with the PA Signatories, Invited Signatories, and Tribes, and specifically will involve the Tribes in decision making with respect to any human remains and/or cultural items that may be discovered within the APE, in accordance with 43 CFR 10.
- (3) PG&E will summarize in construction and maintenance contracts all relevant legal requirements regarding the discovery and treatment of human remains and/or funerary objects, and will take appropriate steps to ensure that its contractors and employees are familiar with the required procedures.
- (4) In the event that human remains and/or funerary objects are found within the APE of the Project, PG&E will immediately cease or cause to be ceased any activity within an area extending not less than 5 meters and not more than 50 meters (to be determined in the field on a case-by-case basis) from the discovered remains;
- (5) PG&E will notify the BLM as soon as possible. The BLM will make a determination as to whether the remains are human, or non-human. This determination will be made by qualified personnel, such as a physical or

forensic anthropologist (in conjunction with a cultural resources contractor, if one is involved with the discovery). If the remains are identified as non-human, no further notification or action is required, although further archaeological assessment may be needed. If the remains are human, additional measures and procedures, as described below, apply.

- (6) PG&E, under the direction of BLM will take whatever steps may be needed to ensure that the subject remains and or/funerary objects are not disturbed further and are secure pending implementation of the treatment measures prescribed in the POA. BLM, in coordination with PG&E, will ensure that the remains and/or objects are treated with appropriate respect and cultural sensitivity at all times.
- (7) If human remains or funerary objects are discovered on Federal land, PG&E will notify BLM by telephone as soon as possible, but no later than 24 hours after the discovery, followed within three business days by written confirmation. BLM will then be responsible for notifying the appropriate Tribe(s), and for initiating Tribal consultation as prescribed by 43 CFR 10.5. If the remains are found in California, BLM, in coordination with PG&E will also notify the San Bernardino County coroner, pursuant to H&SC 7050.5 *et seq.*
- (8) In the event of an inadvertent discovery of human remains on Federal lands, any potentially disturbing activity will be suspended in the discovery area (i.e., within not less than 5 nor more than 50 meters in all directions from the discovered remains and/or objects) until authorized by BLM to resume such activities. BLM will ensure that the stipulations of this POA are fully implemented. Such activity will be suspended in the discovery area until the Tribes, PG&E, and BLM can resolve treatment in this manner, then BLM shall consult with the AZ SHPO or CA SHPO to develop a treatment plan within 15 days of notification of discovery, pursuant to Stipulation IX.C of the PA. Absent objection by the SHPO, BLM will then implement the treatment plan as prescribed by PA Stipulation IX.D, or, if the SHPO objects, BLM will utilize the dispute resolution process set forth in Stipulation XV to resolve any objection. Human remains and any funerary objects will not be excavated or otherwise removed unless approved by BLM or USFWS and after consultation with the Tribes, as appropriate. Disposition of any such remains discovered on or removed from Federal or Tribal lands will follow the protocols discussed in Subsection D.3.9, above.
- (9) Human remains and/or funerary objects discovered on Federal land will not be excavated or otherwise removed unless approved by BLM or USFWS and after consultation with the Tribe(s) and BLM, as appropriate. Disposition of any such remains and/or objects discovered on or removed



from Federal lands will follow the protocols discussed in POA Subsection D.3.9.

- (10) If human remains and/or funerary objects are discovered unintentionally on non-public lands within the portion of the APE in Arizona, BLM, in coordination with PG&E will report the discovery to the Director of the Arizona State Museum (ASM) and will not allow further disturbance to the remains or objects without obtaining the written permission of the Director, pursuant to ARS 41-865.B.
- (11) BLM, in consultation with Signatories, Tribes, and Invited Signatories, will coordinate with the ASM before authorizing or conducting any excavations associated with this Undertaking in Arizona that may involve the collection of archaeological or paleontological materials or the disturbance of Native American human remains and/or funerary objects (per ARS 41-841). If such remains or objects are found, PG&E will notify BLM as described in Subsection D.3.3.1 of the POA. BLM will then consult with the Signatories (particularly the AZ SHPO), Invited Signatories, Tribes, and Director of the ASM, and subsequent to consultation will give the governing body of the “group with cultural affinity the authority to take responsibility for the remains and to determine the most appropriate treatment or disposition of them” (ARS 41-865.C.5).
- (12) When human remains and/or “grave goods” (i.e., funerary objects) are found within the APE in California, PG&E will notify by telephone the BLM and the San Bernardino County Coroner as soon as possible, and no later than 24 hours after the time of discovery. In turn, BLM will be responsible for notifying the Tribes. The telephone number of the coroner’s main office in San Bernardino is 909-387-3978, and that of the County Coroner’s Desert Division office in Victorville is 760-955-8535. BLM’s Lake Havasu Field Office number is 928-505-1200. PG&E’s Senior Archaeologist can be reached at 415-238-2440.
- (13) The San Bernardino County Coroner will determine whether or not the circumstances, manner, and cause of death require further investigation as a crime scene. If not, the coroner will endeavor to determine if the remains are those of a Native American. This will be accomplished in consultation with a physical anthropologist, human osteologist, or other qualified specialist to verify that the remains are human and, if so, whether or not they appear to be those of a Native American. This aspect of the work will be coordinated very closely with the coroner, as required by law, to ensure that any potential evidence of a crime is not disturbed.
- (14) If the coroner determines that the remains are Native American and not related to a crime, the coroner will contact the Native American Heritage Commission [per CH&SC 7050.5(b)]. The NAHC will then immediately

identify those persons it believes to be to be most likely descended from the deceased Native American. With the permission of the landowner, the MLD may inspect the site of the discovery and recommend means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD will complete the inspection and make a recommendation within 48 hours following notification by the NAHC. If the NAHC is unable to identify an MLD, or if the MLD fails to make a recommendation, or if the landowner rejects the MLD's recommendation and mediation by the NAHC fails to provide measures acceptable to the landowner, the landowner will reinter the human remains and any associated items with appropriate dignity on the property in a location not subject to further subsurface disturbance, given the restrictions addressed in Item 16 (below), and subject to any additional compliance measures that address human remains within the APE of the Undertaking [PRC 5097.98].

- (15) Regardless of the discovery site's ownership status (Federal, Tribal, State, or other public, or private), if the human remains are not those of a Native American, then BLM, PG&E, and the landowner, if the discovery site is not on Federal land, will consult with the coroner, a biological anthropologist or human osteologist, and a qualified historical archaeologist to develop an appropriate plan for treatment. BLM will consult with the CA SHPO and other concerned parties to determine if historical research, further archaeological excavations, and/or other studies may be necessary before a treatment plan can be finalized. Also, if the remains are those of an identifiable individual and not part of a crime scene, BLM will notify the next of kin. Such kin may wish to influence or control the subsequent disposition of the remains.
- (16) If the next of kin (for non-Indian remains), MLD, or other appropriate Native American entity (e.g., culturally affiliated tribe, indigenous tribe, other tribe likely to have a cultural relationship, or lineal descendants) so requests, BLM will coordinate discussion between concerned parties to determine if reburial at or near the original site in a location not subject to further disturbance is feasible. If a proximate reburial location is not feasible, then BLM may continue to coordinate discussions until a final disposition of the remains is decided upon
- (17) Following the initial discovery and identification of any human remains, funerary objects, sacred objects, or objects of cultural patrimony within the APE, no further archaeological excavation, recording, or analysis, of such remains and/or objects will occur until after (1) the lineal descendant or Tribe entitled to custody pursuant to 43 CFR 10.6(a), if the discovery is on Federal or Tribal land, or (2) the MLD identified pursuant to PRC 5097.98, if the discovery is on non-Federal land in California, or (3) "the group with cultural affinity" (ARS 41-865.C.5), if the discovery is on non-Federal land in Arizona, has made a recommendation to BLM and the

landowner with respect to the disposition of the remains and/or objects. Thereafter, BLM will take into account the recommendation of the appropriate Native American lineal descendant or Tribe, or MLD, or group with cultural affinity and, in consultation with PG&E, will decide on the nature of any archaeological excavation, recording, or analysis, to be done of the discovered remains and/or funerary objects.

Following any discovery of Native American human remains and/or funerary objects, and prior to the disposition of such remains and/or objects, BLM will consult with the appropriate Native American lineal descendant or Tribe, or MLD, or group with cultural affinity, and will ascertain the wishes of such lineal descendant or Tribe, or MLD, or group with cultural affinity with respect to the kind of traditional treatment, if any, to be afforded the human remains or objects. BLM, will then take the necessary steps to ensure that the lineal descendant or Tribe, or MLD, or group with cultural affinity is granted the opportunity, access, and privacy required for the traditional treatment of the remains and/or objects in compliance with NAGPRA, AIRFA, and all other applicable statutes and regulations.