

## **Statement of Decision and Resolution of Approval of the Project**



**CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL  
STATEMENT OF DECISION AND RESOLUTION OF APPROVAL  
FOR THE  
PACIFIC GAS AND ELECTRIC COMPANY  
TOPOCK COMPRESSOR STATION  
FINAL GROUNDWATER REMEDIATION PROJECT  
SCH No. 2008051003**



**A RESOLUTION OF THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL (DTSC) APPROVING THE PACIFIC GAS AND ELECTRIC COMPANY (PG&E) TOPOCK COMPRESSOR STATION FINAL GROUNDWATER REMEDIATION PROJECT (FINAL GROUNDWATER REMEDY), INCLUDING THE FINAL REMEDY DESIGN AND THE CONSTRUCTION/REMEDIAL ACTION WORK PLAN (C/RAWP), ADOPTING THE CEQA FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS, ADOPTING THE MITIGATION MONITORING AND REPORTING PROGRAM (MMRP), AND ADOPTING THE CONDITIONS OF APPROVAL FOR THE FINAL GROUNDWATER REMEDY PROJECT**

WHEREAS, the Subsequent Environmental Impact Report (SEIR) prepared for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Final Groundwater Remediation Project (Final Groundwater Remedy; Project) identifies and considers the potentially significant and reasonably foreseeable adverse environmental effects of various actions associated with the construction, operation and maintenance, and decommissioning of the Final Groundwater Remedy Project. The primary purpose of the Project is to clean up the groundwater contamination related to the historical release of chemicals in and around the PG&E Topock Compressor Station (Station), in San Bernardino County, California. The Project involves in situ treatment of contaminated groundwater with freshwater flushing. In situ treatment of groundwater refers to the reduction in mass, toxicity, mobility, volume, and concentration of the chromium plume using treatment technologies that treat groundwater in place, as opposed to pumping and circulating water through a separate aboveground treatment plant. In situ treatment would be performed by placing a degradable food-grade organic compound (termed a carbon substrate or carbon amendment) in the groundwater to create reducing conditions to convert hexavalent chromium [Cr(VI)] dissolved in groundwater to relatively insoluble trivalent chromium [Cr(III)]. The reduced chromium would precipitate or become adsorbed onto soils below the water table and thereby be removed from groundwater. The organic carbon substrate would be released into the aquifer by injection after mixing on-site with a water source, such as extracted contaminated groundwater or clean water. The Final Subsequent Environmental Impact Report (Final SEIR) consists of two volumes: Volume 1 – Comment letters on the Draft SEIR, responses to comments, and associated revisions to the Draft SEIR; and Volume 2 – Revised Draft SEIR in its entirety. It also includes an Errata and Revisions to the Final SEIR.

WHEREAS, groundwater beneath and near the Station has been contaminated through the discharge and release of Cr(VI), and total chromium [Cr(T)] in the areas known as Bat Cave Wash and East Ravine. Other chemicals of potential concern (COPCs) that might be associated with historical releases from the Station are molybdenum, selenium, and nitrate. In 2004, DTSC determined that immediate actions were necessary within the Project Area as precautionary measures to ensure that Cr(VI)-contaminated groundwater did not reach the Colorado River. Interim Measures (IMs) were therefore instituted to protect the Colorado River. IMs are cleanup actions that are taken to protect public health and the environment while long-term solutions are being developed and evaluated. There have been three separate but related IMs at the Station since 2004 in response to the need to control the groundwater plume. IM-1, IM-2, and mostly IM-3 are collectively referred to as “the Interim Measure,” or “the IM.”

WHEREAS, investigation and remediation at the Station and the surrounding area is being conducted under the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). RCRA corrective action activities at the Project Site were initiated in 1987 with the completion of a RCRA facility assessment conducted by the U.S. Environmental Protection Agency (USEPA).

WHEREAS, RCRA provides a framework for USEPA to remediate hazardous waste sites throughout the United States. In California, DTSC implements RCRA under such delegated authority from the USEPA through state law.

WHEREAS, DTSC has an ongoing Corrective Action Consent Agreement with PG&E, which also describes DTSC’s authority over the Project. Investigative activities at and in the vicinity of the Station date back to the late 1980s with the identification of Solid Waste Management Units (SWMUs) through a RCRA Facility Assessment (RFA). Closure activities of former hazardous waste management facilities at the Station were performed from 1988 to 1993. The RCRA Facility Investigation (RFI) began in 1996 when DTSC and PG&E executed the Corrective Action Consent Agreement to more fully investigate the nature and extent of contamination at the Station and in the surrounding area. In July 2005, PG&E entered into an Administrative Consent Agreement with the federal agencies including the U.S. Department of the Interior (DOI), U.S. Bureau of Land Management (BLM), U.S. Fish & Wildlife Service (USFWS), and the U.S. Bureau of Reclamation (BOR), under CERCLA [DOI 2005]). Later, in 2013, the U.S. District Court for the Central District of California entered the *Remedial Action Remedial Design Consent Decree between the United States of America and Pacific Gas & Electric Company* (DOI Consent Decree) under CERCLA with the DOI as the federal lead agency (DOI 2013). The 2013 DOI Consent Decree governs only the remedial action addressing contaminated groundwater; the terms of the 2005 Administrative Consent

Agreement remain in effect for response actions associated with releases of hazardous substances at or from the Station other than the remedial action addressing contaminated groundwater.

WHEREAS, in 2011, DTSC evaluated the potentially significant adverse environmental effects of various potentially feasible remedies associated with cleanup of groundwater contamination at the Station. As a result, DTSC certified the Topock Compressor Station Groundwater Remediation Project Final EIR (Groundwater FEIR), adopted the CEQA Findings of Fact and Statement of Overriding Considerations, and adopted the Mitigation Monitoring and Reporting Program (MMRP) (DTSC 2011). Based on these documents, as well as all other information obtained through the administrative process, DTSC approved a groundwater remedy design that consists of in situ treatment with freshwater flushing (referred to as “Alternative E” in the Groundwater FEIR) (DTSC 2011). In 2013, DTSC adopted an Addendum to the Groundwater FEIR, which expanded the Project Area and considered the potential environmental effects associated with the investigation of potential well locations for a freshwater source located in Arizona (DTSC 2013).

WHEREAS, following certification of the Groundwater FEIR, PG&E initiated an iterative remedy design process by preparing the preliminary (30%), interim (60%), pre-final (90%), supplemental pre-final 90%, and final (100%) designs for the Final Groundwater Remedy, to implement the method which was selected and approved in 2011, in accordance with the Corrective Action Consent Agreement process. DTSC provided Interested Tribes with a public review and comment period at each design phase. Over a 4-year period, PG&E worked with DTSC, as well as the DOI, Interested Tribes, landowners, and other stakeholders to address comments and questions, collect new data, and develop the *Basis of Design Report/Final (100%) Design Submittal for the Final Groundwater Remedy, PG&E Topock Compressor Station, Needles, California, November* (Final Remedy Design; CH2M Hill 2015a). After DTSC and DOI issued final design directives (i.e., directives for proceeding with the final design) to PG&E, on November 18, 2015, PG&E submitted the Final 100% BOD, referred to as the Final Remedy Design (which includes the Operation & Maintenance Manual), and the *Construction/Remedial Action Work Plan for the Final Groundwater Remedy, PG&E Topock Compressor Station, Needles, California (C/RAWP; CH2M Hill 2015b)* to DTSC and DOI for consideration. Supplemental and Errata Information for the Final Groundwater Remedy was provided to DTSC in November 2016, which corrected minor inconsistencies and clarifications to the Final Design.

WHEREAS, PG&E prepared and completed the Final Remedy Design pursuant to the requirements of the Corrective Action Consent Agreement entered into by PG&E and DTSC in 1996 and the Remedial Design/Remedial Action Consent Decree, executed by PG&E and the United States, on behalf of the DOI,

which was approved by the U.S. District Court for the Central District of California in November 2013. PG&E designed the proposed groundwater remedy to comply with the Groundwater FEIR mitigation measures and applicable regulations, and throughout the design period PG&E submitted quarterly mitigation measure compliance reports documenting actions taken to comply with these mitigation measures. The project description considered in the Final SEIR for the Project is based primarily on the Final Remedy Design and the C/RAWP, which reflect modifications and clarifications by PG&E as a result of the collaborative and iterative design process. Tribal comments and input were received and considered throughout the design development process.

WHEREAS, in addition to certain contingencies that are specifically set forth in the Final Remedy Design and C/RAWP, the Project evaluated as part of the Final SEIR also includes a general contingency or allowance for future activities that may be carried out as part of the Project (the “Future Activity Allowance”). The Future Activity Allowance is included in the Project Description and the Final SEIR to ensure that a comprehensive environmental analysis is included should additional activities be warranted over the decades long project implementation.

WHEREAS, the Project components include an estimated total of up to 96 boreholes would be drilled for monitoring well construction and an estimated total of up to 95 boreholes would be drilled for remediation well construction, for a total of 191 boreholes. In addition to these estimated totals, and as part of the Future Activity Allowance which preserves the DTSC’s ability to make project revisions based on new information not known at the time of the SEIR preparation, the Draft SEIR included an analysis of an additional allowance of 25 percent overage for each of the monitoring and remediation boreholes. The Project also contemplates, as part of the Future Activity Allowance, the potential need for up to 10 additional monitoring well boreholes to be installed in Arizona as part of the monitoring program to assess groundwater conditions to protect existing and future groundwater users by measuring water levels and chemical constituents changes as a result of the groundwater remediation project.

WHEREAS, in addition to the remediation and monitoring well network, the proposed Project also includes maximum quantities of supporting infrastructure such as roads, pipelines, utility connections, freshwater supply and conveyance infrastructure, storage areas, buildings, and other necessary support structures to ensure long-term effectiveness. These infrastructure components were considered at a general level with anticipated maximum build estimates in the 2011 Groundwater FEIR (exact locations were not known with precision) and are now known with a higher level of detail (both quantities and locations), as described in the Final Remedy Design and Final SEIR.

WHEREAS, Section IX(2) of the Corrective Action Consent Agreement signed by PG&E and DTSC in 1996 provides that PG&E “shall use its best efforts to obtain access agreements necessary to complete work required by this Consent Agreement from the present owners of such property [beyond the Facility property boundary] within thirty (30) days of approval of any workplan for which access is required.” DTSC agrees with PG&E to modify that timeframe as a result of the phased construction approach for the groundwater remedy. DTSC finds it reasonable to defer the requirement to obtain access agreements to “at least sixty (60) days prior to the project initiation meetings for Phase 1 and Phase 2 of construction, for access to properties encompassed within the scope of the respective phase of construction, as these terms are described in the Construction/Remedial Action Work Plan (CRAWP).” See CRAWP Section 4.2.1 at 4-5 (project initiation meeting), Section 3.3.1.3 at 3-55 (Phase 1 and Phase 2). In the event that an agreement for access is not obtained at least sixty (60) days prior to the project initiation meetings for Phase 1 and Phase 2 of construction, respectively, or within thirty (30) days of the date that the need for access becomes known to PG&E, PG&E shall notify DTSC in writing within fourteen (14) days thereafter regarding both the efforts undertaken to obtain access and its failure to obtain such agreements. Aside from this change, all other provisions of Section IX(2) remain in effect without modification. WHEREAS, the BLM as the federal lead agency has prepared a draft *Cultural and Historic Properties Treatment Plan for Groundwater Remediation, Topock Compressor Station Remediation Project, San Bernardino County, California and Mohave County, Arizona* (Treatment Plan; Hanes and Price *in progress*, draft circulated March 26, 2018) in compliance with federal requirements and in accordance with Mitigation Measure CUL-1b/c-3 of the Final Groundwater EIR (DTSC 2011) and the *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* (PA; BLM 2017). After review by Interested Tribes and the Section 106 consultation process as led by the BLM is complete, the final Treatment Plan will be implemented in accordance with Mitigation Measure CUL-1a-19 of the Final SEIR. The measures identified in the draft Treatment Plan are imposed as conditions of the Project, herein. However, when the final Treatment Plan is approved by the BLM, in consultation with Interested Tribes, new or revised measures identified in that final Treatment Plan would also apply and/or supplement those identified herein, to the Topock Compressor Station Final Groundwater Remediation Project.

WHEREAS, DTSC prepared, in consultation with Environmental Science Associates (ESA), a SEIR for the Project in full compliance with CEQA.

WHEREAS, DTSC has, on this date, first adopted a resolution certifying the Final SEIR for the Topock Compressor Station Final Groundwater Remediation Project as adequate under CEQA.

WHEREAS, DTSC finds the Final SEIR complies with the terms and the spirit of the Settlement Agreements entered into between the Fort Mojave Indian Tribe and DTSC, executed by the parties in January 2006 to settle the matter of *Fort Mojave Indian Tribe v. DTSC* (Sacramento Superior Court Case No. 05CS00437), and in 2013 to settle the matter of *Fort Mojave Indian Tribe v. DTSC* (Sacramento Superior Court Case No. 34-2011-80000802).

**NOW, THEREFORE, BE IT RESOLVED and ADOPTED** by the Branch Chief and through the authority delegated by the Branch Chief and the Director of DTSC, Barbara A. Lee, and on behalf of DTSC that:

1. DTSC approves the Topock Compressor Station Final Groundwater Remediation Project, including the Final Remedy Design, which includes the *Operation and Maintenance Manual Final (100%) Design Submittal* (O&M Manual), C/RAWP, and the Supplemental and Errata Information for the Final (100%) Groundwater Remedy.
2. The approval of the Project is subject to the following conditions of approval:
  - (i) PG&E shall ensure that the Standard Operating Procedures (SOPs) and Best Management Practices (BMPs) outlined in the Final Remedy Design, the O&M Manual and the C/RAWP are adhered to as a condition of approval for the Project, with oversight and enforcement by DTSC. PG&E shall maintain and keep current all SOPs and Health and Safety Plan for the duration of the project. In addition to having these on site, PG&E shall make these available on the Topock project SharePoint, or equivalent, for agency and stakeholder review.
  - (ii) As commented by the Mojave Desert Air Quality Management District (MDAQMD) on the Draft SEIR, PG&E shall coordinate with MDAQMD and the DOI in compliance with the substantive requirements associated with the construction and operation of the groundwater remedy in accordance with the provisions of the CERCLA permit exemption. The DOI is the overseeing agency for the use of CERCLA permit exemption on this cleanup project.
  - (iii) PG&E shall prepare and implement a Final Habitat Restoration Plan following decommissioning of the Project. The final habitat restoration plan will address restoration of areas that were impacted during construction, operation and maintenance, and decommissioning of the Project, specifying salvage/replanting measures, as well as

success criteria, monitoring, and adaptive management requirements for restored areas. Adaptive management actions to ensure successful establishment of native vegetation and desired density of cover of plants will include weed control, irrigation modification, herbivory protection, and additional plantings. The plan shall be submitted to DTSC, California Department of Fish and Wildlife (CDFW), BLM, BOR, USFWS, and DOI for review and DTSC approval.

- (iv) PG&E shall submit a final decommissioning plan which includes a Bird Impact Avoidance and Minimization Plan within 120 days of certification of remedy completion by the DOI and/or DTSC (hereafter referred to as “the Agencies”). PG&E shall remove all underground utilities and infrastructure to the extent practicable (e.g. removal of infrastructures will create significant damage or undesired adverse impacts to the landscape) at the time of remedy decommissioning, but will work with landowners on decommissioning preferences.
- (v) PG&E and DTSC shall track all activities conducted under the Future Activity Allowance to ensure that development of individual components is within the scope of the SEIR. PG&E shall submit a status report regarding use and implementation of Future Activity Allowance facilities throughout the construction and long-term operation of the Project as part of the quarterly mitigation monitoring compliance reporting. The status report must indicate how much of the Future Activity Allowance (of the maximum 25 percent of all Project infrastructure and 10 additional wells in Arizona) has been used by the particular activity, and how much is remaining.
- (vi) Any activities conducted under the Future Activity Allowance shall, at a minimum, adhere to the “Communication Protocol for Future Activity Allowance” flowchart, included as Exhibit 3 to this Resolution, for all communication to Interested Tribes related to implementation of the Final Groundwater Remedy Project.
- (vii) PG&E shall adhere to all communication protocol with Tribes as specified in Programmatic Agreement (PA), *Cultural and Historical Properties Management Plan* (CHPMP), Cultural Impact Mitigation Program (CIMP), and Mitigation Monitoring and Reporting Programs (MMRP) requirements including any additional protocol to be developed and adopted as part of this project.

- (viii) Per Mitigation Measure CUL-5, and for purposes of further reducing the cumulatively significant impact to the Topock Traditional Cultural Property (TCP), PG&E shall provide a one time payment for use by the following Tribes: Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, and Hualapai Indian Tribe (see specific details in Mitigation Measure CUL-5). PG&E shall provide one-time funding in the total amount of \$1,461,500, to be equally distributed amongst the aforementioned Tribes. Funding shall be made by PG&E within 30 days of notification by DTSC that the funding management organization has been established. PG&E shall provide documentation to DTSC that the required funding contribution has been made. It is anticipated that an additional administrative processing fee may be required as part of this condition of approval, and that this will be dependant on the ultimate funding management mechanism that is selected by DTSC.
- (ix) PG&E shall carry out treatment measures as identified in the draft Treatment Plan (March 26, 2018 version) to reduce significant impacts to historical resources:
- PG&E and its archaeological contractor will add the Tribes' cultural perspectives to site documentation through the use of a site form Continuation Sheet or other means. Section 13 of Form 523A (Primary Form) will reference the Continuation Form if available (BLM request). PG&E will also review and update all site forms not updated in the past ten years and add Tribal perspective continuation sheets. Updates will be conducted in conjunction with annual monitoring or other monitoring events.
  - In consultation with the Tribes, revisions to the Annual Monitoring and Site Condition Assessments strategy will be assessed, such as reviewing access routes to particular sites to reduce possible site disturbance and perhaps the removal of some sites from the monitoring target list based on concerns including worker safety, legal access, and potential harm to sites form monitoring-associated foot traffic.
  - PG&E will protect trail segment CA-SBR-29943 near Maze Locus A and monitoring well MW-15 by implementing specific measures to ensure that the trail is not physically impacted by well monitoring activities. Methods will entail physically preventing sampling hoses from touching the ground surface within 20

feet of either side of the trail (if sawhorses or similar equipment is used, it will be weighed down to ensure proper function such as weighing down the sawhorses or similar equipment with sandbags so they do not tip over). In addition, the BLM suggests erecting a post-and-cable fence on top of the mesa to block unauthorized access to the sensitive area and MW-15 from that direction. PG&E will access the monitoring well by way of an existing defined vehicle path.

- PG&E shall establish an Informational Outreach Trailer at Moabi Regional Park during the construction phase of the Project to explain to visitors the nature of the Project and the cultural sensitivity of the area, as deemed appropriate in coordination with Tribal representatives. PG&E will solicit input on design of a multiple panel, high-quality information kiosk from representatives from federal agencies, Tribes, and other interested parties such as the California Historic Route 66 Association. Information panels will provide relevant information (e.g., Topock Maze and its meaning to Colorado River Indian Tribes) aimed at educating the public and stressing respect for the area's prehistoric and spiritual resources. Signage may include information on local history and natural resources of the Colorado River. Signage and infrastructure will compliment and be compatible with a proposed Route 66 kiosk and other agency requirements. PG&E will be responsible for long-term care and maintenance of the kiosk and replacement of panels as necessary due to extreme climate (i.e., usually every 5 years).
- PG&E will minimize impacts to National Old Trails Highway (NOTH)/Route 66 to the greatest extent practicable through careful placement of liquid conveyance pipeline trenches, drill locations, and limiting access of construction vehicles and equipment along road segments that retain historical integrity. To accomplish this goal, the following measures will be applied to all segments with integrity that may be affected by the Project:
  - A Qualified Cultural Resource Consultant shall inspect each location of proposed Project activity once identifiably marked on the ground prior to commencement of construction to ensure avoidance of road segments and associated features to the greatest extent feasible.

- PG&E shall minimize visual intrusions through methods consistent with Final SEIR Mitigation Measure AES-1, including minimizing impacts to mature plant specimens and use of matte paints in muted, earth-tone colors for aboveground and exterior project elements, that are consistent with the surrounding color palette.
- To prevent damage to the fabric of the roadways, portions of the roads may be closed to construction use, or other protective measures (e.g. of dirt or gravel covering, metal or wood protective plates) may be placed over the existing road surfaces where they are needed for construction work. The road shall remain covered with protective materials until all construction activities are completed, including IM-3 decommissioning.
- A Qualified Cultural Resource Consultant will monitor grading, trenching, installation of extraction or injection wells, pipelines, access roads and other transportation facilities, or other ground disturbing activities during construction. The purpose of the monitoring will be to ensure that construction does not inadvertently damage the integrity of NOTH/Route 66 roadway segments and associated features beyond what is anticipated. The Qualified Cultural Resource Consultant 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 impact avoidance and other historic resource issues. The Qualified Cultural Resource Consultant will have the authority to halt construction if unanticipated disturbances to significant road segments are observed.
- Upon completion of the groundwater remediation process, the historical setting will be restored to the extent practicable.
- All planned or inadvertent disturbances to erosion control structures or other road-related features of historical significance shall be restored following completion of the work to the extent practicable.

- Establish selected photo points (with GPS coordinates) along those portions of the road segments that will be impacted to aid in restoration following the remedy.
- Temporary barrier fences will be installed around work locations to aid in avoidance of inadvertent disturbance of the road features away from the immediate location of planned construction activity. Metal fence posts and orange mesh all-weather fabric will be used for temporary fencing, unless other appropriate materials are identified as preferable, and will be regularly inspected and maintained. Permanent post and double-cable fencing may be required in sustained traffic areas. The Qualified Cultural Resource Consultant will clearly delineate the sensitive areas to be avoided by construction and supervise fence installation. Project personnel will be notified that Project activity is to not extend beyond the established barriers.
- As specified above, during the construction phase of the Project PG&E shall establish the Informational Outreach Trailer at Moabi Regional Park. This temporary visitor center in a modular building will explain to visitors the nature of the Project and the cultural sensitivity of the area, as deemed appropriate in coordination with Tribal representatives.
- PG&E will minimize impacts to individual segments of NOTH/Route 66 that will be affected by the Project through the application of the following segment-specific measures:
  - Segment A: PG&E will perform a detailed condition assessment and develop a plan that will guide careful restoration of the existing circa-1935 Route 66 Welcome sign near the western terminus of Segment A, including such components as the terra cotta tiles on top of the sign. Restoration of the sign shall be consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for Restoration. As lead agency, the BLM will seek plan approval from the Havasu National Wildlife Refuge, the land managing agency. Prior to construction to provide guidance for any needed

restoration, PG&E also will complete a HAER Level II documentation following National Park Service (NPS) Standards of the affected portions of the Segment A roadbed and associated character-defining features, such as the guardrail.

- Segment J: To remedy the adverse effect on the Segment J roadway resulting from trenching to bury the liquid conveyance pipelines and conduits along the north shoulder of Route 66, the disturbed surface area will be compacted and restored after placement of the pipe using materials that blend with the adjoining areas to the extent feasible. In addition, well sites shall be similarly restored when the wells are removed at the conclusion of remediation efforts. To protect remaining undisturbed roadway surfaces, use of this segment by construction vehicles and equipment shall be limited to the extent feasible.

Prior to construction to provide guidance for any needed restoration, PG&E will complete HAER Level II documentation following NPS Standards for the affected portions of the Segment J roadbed noted above and the following associated character defining features. Two small historic-era refuse scatters (Features 37 and 38), one cement highway marker (Feature 20), a wooden culvert (Feature 35), and a rock gutter (Feature 33) associated with Segment J also may be adversely affected by the Project. The rock gutter is a long linear feature made of flat stone slabs set in cement; it lines the roadway edge on some slopes to control erosion by channeling runoff away from the road. These features will be avoided and protected to the greatest extent feasible, but the precise nature and extent of effects cannot be determined until the field inspection is conducted immediately prior to construction. If the pre-construction field inspection determines that these features will be affected, PG&E shall perform additional documentation of the rock and wooden culverts and historic highway marker prior to construction using appropriate recording procedures determined in consultation among the BLM, California State Historic Preservation Officer, and DTSC. Also, prior video recordings of Segment J should be used to produce a DVD of the road segment and its associated features. Additionally, if the highway marker (Feature 20)

cannot be avoided and protected during construction, PG&E shall remove the object prior to disturbance and determine its disposition in consultation with the BLM and DTSC. Options for disposition may include replacement at its original location following Project completion, placement in an alternative location to be determined, or use as part of an interpretative display. The refuse scatters (Features 37 and 38) represent discrete roadside dumping episodes. Each feature was recorded thoroughly during the previous field surveys; nonetheless, each will be revisited prior to construction to collect any additional information not captured during the prior documentation and ensure that the archaeological data potential of these features has been thoroughly captured.

- Segment L: To remedy the adverse effect on the short stretch of Segment L where the liquid conveyance pipeline and conduits will be buried and two wells (MW-1 and IRL-2) will be installed, disturbed areas will be restored and compacted using materials that blend with the adjoining roadway material to the extent feasible. Prior to commencement of construction activities, photo documentation will be conducted to both capture the character-defining features of the roadway and provide guidance for restoration. To protect remaining undisturbed roadway surfaces, use of this segment by construction vehicles and equipment shall be limited to the extent feasible. Prior to construction to provide guidance for any needed restoration, PG&E will complete HAER Level II documentation following NPS Standards for the affected portions of the Segment L roadbed and the associated character defining features.
- Segment X: PG&E anticipates installing approximately 35 wells along a 2,000-foot-long section of the eastern portion of Segment X and the underlying railway bed (CA-SBR-6693H). In addition, a liquid conveyance pipeline and conduits will be buried along the east shoulder of Route 66 and the railway bed. To remedy adverse effects on these features, PG&E shall document any newly exposed road/railway historic materials identified during monitoring. Additionally, the trench along the east shoulder of Route 66 and railway bed will be compacted. For two buried pipeline trenches intersecting the roadway, Route 66 will be

repaved to County standards. For the proposed well locations along the east side of the roadway at the road surface level, the disturbed surface will be restored using local materials to blend with the surrounding landscape to the extent feasible. For the numerous wells within the road/rail substructure itself, Route 66 will be repaved to County standards as will the two pipeline crossings. Off-road access shall be limited to the extent feasible for construction vehicles and equipment along this segment.

- Segment Y: To remedy any project impacts on Segment Y, the pipeline trench along the west shoulder of Route 66 will be compacted and the portion of the pipeline trench under the railroad undercrossing and within Route 66 will be repaved to County standards.

Periodic site monitoring and condition assessments are critically important treatment measure to ensure known archaeological and historical sites within the Project Area and Area of Potential Effect are adequately protected. PG&E shall pursue the following actions in this regard:

- Continue implementing the periodic monitoring and condition assessments during the remedy construction phase in a manner that considers all historic properties, as directed by §6.6.5 of the CHPMP and Final SEIR Mitigation Measure CUL-1a-3a.
- Prior to completing the remedy construction phase, evaluate the monitoring program and propose changes that take into account ongoing site access problems, potential impacts to sensitive resources by the monitoring activities themselves, and site locations that pose safety hazards to employees, contractors, and monitors.
- The revised periodic monitoring strategies shall take into account monitoring at specific sites performed during construction of the final remedy. The results of construction monitoring shall be included in the next periodic monitoring event to avoid duplication in site visits and unnecessary site impacts.

- Continue monitoring those sites potentially vulnerable to future effects associated with the Project on a periodic schedule determined in consultation with BLM and interested parties; the CHPMP anticipates that the frequency of periodic monitoring will decline over time.
  - For continued site visits, the Site Condition Assessment Record (SCAR) forms shall be maintained to identify existing conditions and any trends in impacting activities that may be occurring.
  - After each periodic monitoring event, PG&E and other interested parties will assess the effectiveness of the program and consider possible adjustments.
- Procedures for monitoring ground-disturbing construction activities are provided in the CHPMP §6.6.4, the SEIR MM CUL-1b/c-4a, and CIMP §2.10, §2.12 and §2.13. Protocols applicable to all are provided in Appendix C (Tribal and Archaeological Monitoring Protocol) of the PA. As with periodic site monitoring and condition assessments, construction monitoring is a critically important treatment measure to ensure protective measures are implemented effectively and to identify and provide appropriate protection for any previously undiscovered archaeological and historical sites encountered during construction. As stated in the CHPMP §6.6.4, “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 the APE.” Through implementation of the above Project guidance, PG&E shall pursue the following actions:
    - Notify qualified archaeological and Tribal monitors at least two weeks in advance and invite to be on site during 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 (CHPMP §6.6.4; CUL-1b/c-4a; CIMP §2.12).
    - Ensure Tribal and archaeological monitors comply with all safety requirements (CHPMP §6.6.4).

- Ensure monitors are qualified, and perform their duties as specified in Appendix C of the PA.
- Monitor remediation facilities and staging areas during construction (CIMP §2.16).
- Ensure monitors work as part of the construction crew, participating in all daily construction meetings and advising the Project Manager and construction site superintendent regarding avoidance of effects and other cultural resource issues.
- Maintain Daily Monitoring Logs detailing results of the monitoring effort and:
  - Keep Daily Monitoring Logs on file with PG&E’s archaeologist and the PG&E Topock Site Manager.
  - Forward copies of the Daily Monitoring Logs to the BLM and, upon request, to any of the concerned Tribes (CHPMP §6.6.4).
- During construction PG&E shall document monitoring activities in monthly reports (CUL-1b/c-4a).
- Tribal monitors shall prepare and submit Daily Monitoring Logs (CIMP §2.12).
- Ensure monitors record date- and time-stamped digital photos of cultural sites to document site conditions at the time of surface disturbance (CHPMP §6.6.4).
- After each monitoring event, assess the effectiveness of the construction monitoring program and consider possible adjustments.
- If monitoring reveals previously unknown remains during grading, trenching, or other construction work, cease activities in the vicinity of the discovery until the archaeological and/or Tribal monitor has evaluated the discovery and a course of action is decided upon in accordance with the Discovery Plan (CHPMP §6.6.4; CHPMP, Appendix C; CIMP§2.15).

- Ensure the following treatment actions proposed for the TCP are implemented prior to the initiation of on-the-ground disturbance activities:
  - Temporary barriers are placed around sensitive locations near proposed actions (CIMP § 2.15).
  - Tribal access for cultural activity purposes is provided to the extent feasible during construction (CIMP §2.11).
  - Cultural sensitivity training is provided to workers (PA, Appendix C; CUL-1a-13a).
  - Plant transplantation/monitoring is implemented according to protocols (CUL-1a-5; CIMP, Appendix A).
  - Clean soil cuttings are repatriated according to protocols (CUL-1a-17).
  - The public education initiative is implemented, including brochure (CUL-1a-3c).
- In regard to treatment actions proposed for NOTH/Route 66, ensure monitors conduct a pre-construction field verification to examine proximity of flagged activity areas to resources.
- Ensure appropriate paints are used to minimize visual intrusions and mature plants are placed where feasible for screening (CIMP §2.9).
- Prior to completing the remedy construction phase:
  - Evaluate implications for the periodic monitoring program and propose changes that take into account ongoing site access problems, potential impacts to sensitive resources by the monitoring activities themselves, and site locations that pose safety hazards to employees, contractors, and monitors.

- Provide results of construction monitoring in the next periodic monitoring event to avoid duplication in site visits and unnecessary site impacts.
- (x) Riverbank extraction wells, RB-1 through RB-5, shall be installed, tested and ready to be used for extraction to capture hexavalent chromium and/or remedy by-products prior to initiation of carbon injection at the in situ reactive zone (IRZ). However, pipelines associated with the Riverbank extraction wells as specified in the final design can be installed at a later phase.
- (xi) PG&E shall provide validated groundwater monitoring data to the Agencies within 60 days of sample collection. PG&E shall provide advanced notifications to Agencies in accordance with the Consent Decree and the Corrective Action Consent Agreement of any resampling and confirmation sampling events.
- (xii) PG&E shall revisit and calibrate the groundwater flow and solute transport model in accordance with the latest model Appendix B of the design (currently as part of the updated and revised groundwater modeling report of February 2016 and its January 2017 addendum) unless otherwise directed by DTSC. The groundwater model shall be updated with data collected within the previous year to determine if there are deviations from the conceptual site model, fate and transport of chromium, remedy by-products or groundwater quality changes because of the operation of remedy including freshwater extraction in Arizona.
- (xiii) PG&E shall install two monitoring wells in the Arizona peninsula, monitoring well MW-X shall be installed at location as shown in the November 2015 final design. However, monitoring well MW-Y shall be at the Y alternate location as shown in Volume 2, Final SEIR Figure 3-3d.
- (xiv) PG&E shall obtain access agreements to properties encompassed within any proposed construction at least sixty (60) days prior to the project initiation meetings for access to properties encompassed within the scope of the respective phase of construction, as these terms are described in the C/RAWP. In the event that an agreement for access is not obtained at least sixty (60) days prior to the project initiation meetings for Phase 1 and Phase 2 of construction, respectively, or within thirty (30) days of the date that the need for access becomes known to PG&E, PG&E shall notify the DTSC in writing

within fourteen (14) days thereafter regarding both the efforts undertaken to obtain access and its failure to obtain such agreements.

- (xv) PG&E shall conduct opportunistic sampling when visual staining or unexpected contamination is encountered when installing pipelines and infrastructure pursuant to C/RAWP Table 5.1-1. PG&E shall coordinate with DTSC on the necessity and location of detailed trench logs or photographic logs where construction passes through soil investigation areas identified as Areas of Concern (AOCs) or SWMUs in the Soil RFI Workplan.
- (xvi) Prior to use of either Well HNWR-1A or Site B water for injection, PG&E shall notify Agencies and Interested Tribes if the water temperature at the point of extraction exceeds anticipated normal groundwater temperatures, in particular if extracted water is considered geothermic. This notification can be accomplished by submitting an initial water quality sampling report in advance of injection startup.
- (xvii) PG&E shall minimize degradation of the surface environment when using water for surface dust suppressant. If IM3 water is to be used, the total dissolved solids (TDS) of the water shall be equal to or better than the TDS of water from Well Topock 2/3.
- (xviii) PG&E shall monitor TDS trends downgradient of the remedy injection wells, in particular IRL-1 and IRL-2. If TDS concentrations in the shallow zone of the downgradient monitoring wells shows an increasing trend, PG&E shall modify the injection procedure to reduce TDS impact to the upper shallow zone of the aquifer.
- (xix) For early detection of potential adverse impacts to groundwater aquifer and protection of groundwater users in Arizona, PG&E shall evaluate installation of a monitoring well between HNWR-1A and the Topock 2/3 production wells. Agencies will consult with Tribes, signatories, and invited signatories to the PA regarding the installation of this well.
- (xx) PG&E shall collect and conduct quantitative analysis for major cation and anions (e.g. Sodium, Potassium, Ammonium, Calcium, Magnesium, Bromide, Fluoride, Sulfate, Nitrate-N, Nitrite, and Chloride) to establish baseline values prior to commencement of injection. PG&E shall continue to collect and analyze for cation and anions at a

minimum of twice a year for comparison to baseline. PG&E can modify frequency of sampling with DTSC concurrence.

- (xxi) As soon as possible, PG&E shall prepare an addendum or revision to update the Soil Management Plan based on risk evaluation to define the screening levels for non-hazardous soil.
- (xxii) The use of various staging areas shall be in conformance with Table 4.2-1 of the C/RAWP, Section 4, Site Management Plan. PG&E shall continue to evaluate the use of staging areas during construction and an effort should be made to limit the actual area used, and to minimize impacts on these areas and their surroundings.
- (xxiii) PG&E shall minimize impacts from vehicular movement while conducting all work associated with construction, operation, maintenance, and periodic monitoring. PG&E shall review its Standard Operating Procedures and recommend vehicular traffic minimization efforts, if possible, for DTSC's review and consideration in the quarterly reports.
- (xxiv) PG&E states that nighttime access is not normally required for the remedy buildings and structures; therefore, PG&E shall not install lighting that are photocell activated outside of the PG&E property. Within 6 months of design approval, operation of any necessary lighting, including but not limited to the MW-20 Bench, shall be either motion or manually activated and used only when necessary for health and safety of workers.
- (xxv) Except for extenuating circumstances approved by DTSC during pilot drilling of the IRZ wells along the IRZ line, PG&E shall not temporarily decommission by backfilling or collapsing a borehole with intent to over drill in the future for well installation. Practice of backfilling or collapsing a borehole is prohibited for any monitoring well installation.
- (xxvi) PG&E shall notify the Agencies within a reasonable time prior to installation of "jumper" pipes to the IM-3 injection piping. PG&E shall photo document this installation and decommissioning of the "jumper" as part of the monthly progress report.
- (xxvii) PG&E shall provide all surveying control points used for construction as part of the Construction Completion Report.

(xxviii) Prior to ground disturbing activities, PG&E shall conduct a new high-resolution aerial photograph of the Project Area to document pre-construction conditions. PG&E shall provide copies of the image file to the Agencies, Interested Tribes, and stakeholders. The photograph(s) shall cover the entire Project Area (as defined for example in Figure 3-3 of the Final SEIR) and shall be kept as reference for site closure and restoration.

(xxix) PG&E shall provide concrete color pigment information to Agencies and Tribes prior to initial casting in place for concrete.

(xxx) PG&E shall make available in a reasonable timeframe all notes, photographs, and entries of the maintenance management system to the Agencies when requested.

(xxxi) PG&E shall ensure the implementation of the following sustainability factors and BMPs as described in the Final SEIR (see Section 4.8, Utilities, page 4.8-28) and as described in the Final Remedy Design (Appendices C and D).

- Use energy generated from non-petroleum sources where possible, such as small photovoltaic solar panels at select remote well locations, Remedy-produced Water Conditioning Building, and Operations Building.
- Use of alternative fuels, e.g., biodiesel during construction, operation and maintenance, and decommissioning activities. The nearest retail vender of biodiesel is Loves Travel Store at the intersection of Interstate 40 and Highway 95 about 10 miles east of the Station.
- Use energy efficient architectural elements.
- Use energy efficient equipment and lighting.
- Use EPANET water supply program to design the piping network and minimize energy consumption.
- Locate the conditioned water tank to allow for gravity flow to injection wells to minimize energy use.

- Operation and maintenance activities will minimize energy use by optimizing equipment via routine maintenance and minimizing energy consumption during peak energy use periods. The O&M Manual (Appendix L of the Final Remedy Design) describes the maintenance activities.

(xxxii) PG&E shall ensure the use of certain identified equipment (see **Table 1** below), or industry equivalent or better in terms of reducing noise and air emissions, in order to ensure that the less-than-significant impact conclusions for noise and air quality remain applicable.

#### IRZ Carbon Amendment Building

- The 3 carbon substrate pumps shall operate at a sound level of 64 A-weighted decibels (dBA) at 1 meter or less (operating at  $\frac{3}{4}$  horsepower according to Appendix D).
- The well maintenance reagent pump shall operate at a sound level of 64 dBA at 1 meter or less (operating at  $\frac{3}{4}$  horsepower according to Appendix D).
- The 2 sump pump shall operate at a sound level of 72 dBA at 1 meter or less (operating at .5 horsepower and 3450 rpm according to Appendix D).
- The clean-in-place reagent pump shall operate at a sound level of 77 dBA at 1 meter or less (operating at 10 horsepower and 3500 rpm according to Appendix D).
- The conditioned water injection pump shall operate at a sound level of 76 dBA at 1 meter or less (operating at 5 horsepower and 3500 rpm according to Appendix D).
- The produced water transfer pump shall operate at a sound level of 80 dBA at 1 meter or less (operating at 25 horsepower and 3500 rpm according to Appendix D).
- The booster pump shall operate at a sound level of 76dBA at 1 meter or less (operating at 5 horsepower and 3500 rpm according to Appendix D).

#### Topock Compressor Station (TCS) Pond

- The natural gas generator shall operate at a sound level of 79 dBa at 7 meters or less (for example, the Cummins GGMC in Appendix D).

- The booster pump shall operate at a sound level of 76 dBA at 1 meter or less (operating at 5 horsepower and 3500 rpm according to Appendix D).

RPWCP Building

- All pumps within this building shall be insulated with metal walls on the second floor and with concrete walls on the first floor.

**Table 1 - EQUIPMENT USED DURING FINAL GROUNDWATER REMEDY PROJECT**

| Type of Equipment Used                    | Number at Peak Week |                     |         |                      |
|---|---------------------|---------------------|---------|----------------------|
|   | Pre-Construction    | Remedy Construction |         | IM-3 Decommissioning |
|   |                     | Phase 1             | Phase 2 |                      |
| 2,000 Gal Water Truck                     | 1                   | 20                  | 17      | 2                    |
| Backhoe, Medium                           | 1                   | 1                   | 1       |                      |
| Backhoe, Small                            |                     | 5                   | 6       | 1                    |
| Concrete Pump Trailer-Mounted             | 1                   | 1                   | 1       |                      |
| Concrete Ready-Mix Truck                  | 1                   | 11                  | 3       |                      |
| Crane, 40-ton, Truck Mounted, All-Terrain | 1                   | 1                   | 1       | 1                    |
| D4 Dozer                                  |                     | 2                   |         |                      |
| Drill Rig, Rotary                         |                     | 2                   | 2       |                      |
| Drill Rig, Rotosonic                      |                     | 2                   | 2       |                      |
| Drill Rig Support (pipe truck/tender)     |                     | 4                   | 4       |                      |
| Drilling Development/Testing Rig          |                     | 2                   | 2       |                      |
| Dump Truck                                | 1                   | 1                   | 1       | 2                    |
| Excavator, Large with Demolition Hammer   |                     |                     |         | 1                    |
| Excavator, Large with Pulverizer          |                     |                     |         | 1                    |
| Excavator, Large with Shear               |                     |                     |         | 1                    |
| Excavator, Medium                         | 1                   | 6                   | 7       |                      |
| Excavator, Small/Mini                     |                     | 2                   | 3       |                      |
| Fork Lift, Long Reach                     | 1                   | 5                   | 5       | 1                    |
| Loader, with 4-Yard Bucket                | 1                   | 7                   | 7       | 2                    |
| Man/Boom Lift                             | 1                   | 1                   | 1       |                      |
| Mobile Concrete Crusher                   |                     |                     |         | 1                    |
| Plate Vibratory Compactor                 |                     | 8                   | 9       |                      |
| Scraper                                   |                     | 3                   |         |                      |
| Soil Compactor - 24" Walk Behind          |                     | 5                   | 7       |                      |
| Soil Compactor - 54"                      | 1                   | 5                   | 4       |                      |

2.5 years    2 years

3. The CEQA Findings of Fact and Statement of Overriding Considerations for the Topock Compressor Station Final Groundwater Remediation Project, attached hereto as "Exhibit 1" and incorporated herein by reference, are hereby adopted.
4. The MMRP for the Topock Compressor Station Final Groundwater Remediation Project, attached hereto as "Exhibit 2" and incorporated herein by reference, is hereby adopted.  
DTSC directs staff to pay the applicable fees to DFW and file a Notice of Determination (NOD) with the California Governor's Office of Planning and Research regarding this determination within five working days and to mail notice to any person who has filed a written request for notices.

**PASSED AND ADOPTED** by the DTSC on April 24, 2018

CALIFORNIA DEPARTMENT OF  
TOXIC SUBSTANCES CONTROL

By Karen Baker  
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Branch Chief  
Office of Geology