



**Pacific Gas and
Electric
Company**

Yvonne J. Meeks
Site Remediation - Portfolio Manager
Environmental Affairs

6588 Ontario Road
San Luis Obispo, CA 93405

Mailing Address
4325 South Higuera Street
San Luis Obispo, CA 93401

805.546.5243
Internal: 664-5243
Fax: 805.546.5232
E-mail: YJMI@pge.com

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Mr. Aaron Yue
Project Manager, Geology Permitting and Corrective Action Branch
California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630

Subject: Responses to Agency and Stakeholder Comments on the Corrective
Measures/Feasibility Study Work Plan,
Pacific Gas and Electric Company, Topock Compressor Station

Dear Mr. Yue

This letter transmits responses to comments on the Corrective Measure/Feasibility Study Work Plan for the PG&E Topock Compressor Station. This response to comments document has been prepared as directed by the Department of Toxic Substances Control (DTSC) letter dated September 3, 2007, which transmitted comments from DTSC, San Diego County Water Authority, Hargis and Associates, Inc. on behalf of the Fort Mojave Indian Tribe, Metropolitan Water District of Southern California, and the Department of the Interior.

Please contact me at (805) 234-2257 with any questions concerning the attached response to comments document.

Sincerely,

Yvonne Meeks
Topock Remediation Project Manager

Enclosure

Cc: Kris Doebbler
Karen Baker
Chris Guerre

Responses to Agency and Stakeholder Comments
 Corrective Measures/Feasibility Study Work Plan
 PG&E Topock Compressor Station, Needles, California

Agency	Comment Number	Section	Comment	Response
Section 1				
U.S. Department of the Interior	DOI-1	Cover page and interior cover	Following "Prepared for Department of Toxic Substances Control", please add "...and United States Department of the Interior"	Yes, while this work plan was specifically directed by DTSC's May 15, 2007 letter, the DOI is the lead federal agency, and the CMS/FS will be prepared in conformance with the Administrative Consent Agreement between PG&E and the federal agencies as discussed in Section 1.0.
U.S. Department of the Interior	DOI-2	Section 1.0	<p>Sentence should read "<i>This work plan conceptually (insert) describes the planned activities and the schedule to complete the corrective measures study/feasibility study (CMS/FS) at the Pacific Gas and Electric Company.....</i></p> <p>Rational: The level of detail (i.e. area of disturbance; machinery to be used; amount of vegetation removed; dates when activities will occur; mitigation etc.) within this Draft Report is not adequate to assess the level of impacts that may occur to the biological environment or to species listed under the Endangered Species Act.</p> <p>Please note that all activities performed must comply with conservation measures established by the <i>Programmatic Biological Assessment for Pacific Gas and Electric, Topock Compressor Station Remedial and Investigative Actions (2007)</i>.</p>	<p>Yes, this work plan is intended to be conceptual and lay out the overall framework for the CMS/FS and is not intended to substitute for, nor provide the detail that will be included in the CMS/FS.</p> <p>It is noted that the Programmatic Biological Assessment is intended to cover field activities up to the final remedy (essentially the RFI and RI data collection, IM operation, and pilot studies) and does not cover implementation of the final remedy. PG&E fully anticipates, however, that the Federal Endangered Species Act (FESA) will be identified as an ARAR that will be considered in the evaluation of alternatives in the CMS/FS.</p>
U.S. Department of the Interior	DOI-3	Sec 1.0	In the last sentence of the third paragraph, please replace "to implement response actions" with "under which PG&E agreed to perform a remedial investigation and feasibility study (RI/FS)"	PG&E does not object to alternative language describing PG&E's obligations under the Administrative Consent Agreement.
U.S. Department of the Interior	DOI-4	Sec 1.1	Please revise the first sentence of the first paragraph to read as follows: "Both the RCRA CMS and the CERCLA FS identify and evaluate remedial alternatives to address the release of hazardous wastes/hazardous substances into the	PG&E does not object to the alternative language describing the consistent purpose between the CMS and FS.

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			environment.”	
Department of Toxic Substances Control	DTSC-1	Page 1-2, Section 1.2, Site History and RFI/RI Status	The CMS Work Plan suggests six phases of investigation at the Topock Site, but did not specifically identify these phases. For clarity, please identify the six phases as stated.	The first five phases of investigation at the Topock Site are described in the <i>Draft RCRA Facility Investigation and Remedial Investigation Report</i> , dated February 2005 (2005 RFI/RI) and illustrated in Figure 9-1 of that report. The sixth phase of investigation consists of data collected between June 2004 and July 2007. An update of Figure 9-1 in the 2005 RFI/RI will be included in the forthcoming <i>RCRA Facility Investigation/Remedial Investigation Report, Volume 2</i> (Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigations) to be published in 2008.
Hargis + Associates, Inc. (on behalf of the Fort Mojave Indian Tribe)	H+A-1	Section 1.2	Section 1.2 mentions that “... there have been six phases of investigation at the Topock Site.” Please identify the six phases of investigation that are being referred to.	The first five phases of investigation at the Topock Site are described in the 2005 RFI/RI and illustrated in Figure 9-1 of that report. The sixth phase of investigation consists of data collected between June 2004 and July 2007. An update of Figure 9-1 in the 2005 RFI/RI will be included in the forthcoming <i>RCRA Facility Investigation/Remedial Investigation Report, Volume 2</i> (Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigations) to be published in 2008.
San Diego Water Authority	SDWA-1	Page 1-2, Section 1.2, second paragraph	Page 1-2, Section 1.2, second paragraph: This paragraph states that there “have been six phases of investigation at the Topock site.” It would be beneficial to reference a document or other source where the reader could locate what the six phases included and when they occurred.	The first five phases of investigation at the Topock Site are described in the 2005 RFI/RI and illustrated in Figure 9-1 of that report. The sixth phase of investigation consists of data collected between June 2004 and July 2007. An update of Figure 9-1 in the 2005 RFI/RI will be included in the forthcoming <i>RCRA Facility Investigation/Remedial Investigation Report, Volume 2</i> (Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigations) to be published in 2008.
Metropolitan Water District of Southern California	MWD-1	Section 1.2	Section 1.2 discusses the site history and Remedial Facility Investigation (RFI)/Remedial Investigation (RI). Six phases of investigation are mentioned. What were those six phases? What	The first five phases of investigation at the Topock Site are described in the 2005 RFI/RI and illustrated in Figure 9-1 of that report. The sixth phase of investigation consists of data collected between June

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			<p>was conducted under each phase?</p> <p>What are the existing data gaps?</p> <p>Volume 1 of the RFI/RI is cited but has yet to be released to the CWG. When will Volume 1 be released to the CWG? It also states that determination of the areas for remediation will be decided prior to the start of the CMS/FS.</p> <p>The PG&E compressor station fenceline is referred to several times. What is the significance off the fenceline compared to areas that have been impacted by past PG&E operations?</p> <p>What will the start date be for the CMS/FS??</p>	<p>2004 and July 2007. An update of Figure 9-1 in the 2005 RFI/RI will be included in the forthcoming <i>RCRA Facility Investigation/Remedial Investigation Report, Volume 2</i> (Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigations) to be published in 2008.</p> <p>Data needs for the RFI/RI are addressed outside of this CMS/FS work plan. PG&E is currently planning or implementing several investigations for completion of the RFI/RI, including bedrock hydraulic testing; groundwater wells in Arizona and within the Topock Compressor Station; and soil sampling at SWMUs, AOCs, and other undesignated areas within and surrounding the Topock Compressor Station.</p> <p>The <i>Revised Final RCRA Facility Investigation/Remedial Investigation Report Volume 1 (Site Background and History)</i> was published in August 2007 and released to the CWG.</p> <p>The soils investigation work plans have been split up into two parts: Part A addresses SWMUs, AOCs, and other undesignated areas outside the compressor station fence line. Part B addresses SWMUs and AOCs within the compressor station fence line. There are some differences in planning and permitting between inside and outside the compressor station fence line, but there is no current plan to continue this separation in RFI/RI Volume 3 or in the CMS/FS.</p> <p>The proposed schedule for the CMS/FS is presented in Section 7.0 of the CMS/FS work plan.</p>
Department of Toxic Substances Control	DTSC-2	Page 1-2, Section 1.2	The third bullet in paragraph 2 should include a reference to the fact that interstitial water and historic wastes were also sampled and analyzed as part of the site investigation conducted at the Topock site.	PG&E does not object to the additional detail about the media sampled as part of previous investigations.

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U.S. Department of the Interior	DOI-5	Sec. 1.2, Page 1-2	It should be clarified and stated in this section which sites will be handled under this work plan...all sites whether or not they are on the compressor station property? Or only sites outside the compressor station fence?	The CMS/FS work plan is intended to be comprehensive to all historic operations at the Topock Compressor Station. The specific number of sites to be carried forward in the RFI/RI and addressed in the Final RFI/RI Volume 2 and Final RFI/RI Volume 3 are identified in the <i>Revised Final RCRA Facility Investigation and Remedial Investigation Report, Volume 1 (Site Background and History)</i> , dated August 2007. As discussed in the CMS/FS work plan, prior to the start of the CMS/FS, a determination will be made as to which of the SWMUs, AOCs, and other undesignated areas will be carried forward from the RFI/RI to the CMS/FS.
U.S. Department of the Interior	DOI-6	Sec 1.2, Page 1-2	Please revise the second, third, and fourth sentences of the fourth paragraph to read as follows: "Volume 2 of the RFI/RI will address the "Groundwater Operable Unit" (OU) comprising groundwater, surface water, pore water, and river sediment and will contain data from those media. Volume 3 will address the "Soils Operable Unit" and will contain soil data. The separation of the Final RFI/RI into three volumes (and two OUs) is intended to manage efficiently (continue with the remainder of the sentence)."	PG&E does not object to the identification of operable units. It should be noted and clarified, however, that RFI/RI Volume 2 is intended to focus on characterization of groundwater, surface water, and pore water from PG&E's historic operational practice of wastewater discharge to Bat Cave Wash and PGE-8, while RFI/RI Volume 3 is intended to focus on the remaining historical Topock Compressor Station operations that will largely focus on soil, but will also include groundwater data from wells within and immediately surrounding the compressor station.
U.S. Department of the Interior	DOI-7	Sec. 1.2, Page 1-3, Last Para.	Has this the final number of sites to be investigated been agreed to?	The SWMUs, AOCs, and other undesignated areas to be addressed in RFI/RI Volume 2 and RFI/RI Volume 3 are identified in the <i>Revised Final RCRA Facility Investigation and Remedial Investigation Report, Volume 1 (Site Background and History)</i> dated August 2007. Both DTSC and DOI have approved this document. Prior to the start of the CMS/FS, a determination will be made as to which of the SWMUs, AOCs, and other undesignated areas will be carried forward from the RFI/RI to the CMS/FS.
U.S. Department of the Interior	DOI-8	Sec. 1.3, Exhibit 1-2, Page 1-4	The Conceptual Site Model (CSM) is generally initiated during the DQO process and refined during the risk assessment. The intent of the	The comment is correct that the risk assessment and RFI/RI refine and finalize the site conceptual model. The first block in the diagram is intended to illustrate

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			RFI/RI is to fully characterize the site which includes the finalization of the conceptual site model. The first block of the diagram doesn't present this approach.	this; the site conceptual model is refined based on results from the site investigations and the pathways and receptors included in the risk assessment.
U.S. Department of the Interior	DOI-9	Sec. 1.3, Exhibit 1-2, Page 1-4	Where do ARARs fit into this process? This section should be revised to incorporate the regulatory requirement for ARARs within the CERLCA process. (ref. CERCLA Section 121(d) and	As discussed in Section 3.0 of the CMS/FS work plan, ARARs are used to guide the development of the media cleanup goals and standards. Also, as discussed in Section 5.0 of the CMS/FS work plan, compliance with ARARs is an evaluation criteria that will be used in the CMS/FS evaluation process.
Hargis + Associates, Inc. (on behalf of the Fort Mojave Indian Tribe)	H+A-2	--	The flowcharts depicting the process to be followed within each chapter is both useful and effective. However, it seems that the step involving identification of applicable or relevant and appropriate requirements (ARARs) should appear somewhere in the diagrams as well as the stage at which screening out of alternatives will occur.	As discussed in Section 3.0 of the CMS/FS work plan, ARARs are used to guide the development of the media cleanup goals and standards. Also, as discussed in Section 5.0 of the CMS/FS work plan, compliance with ARARs is an evaluation criterion that will be used in the CMS/FS evaluation process. As shown in the Exhibit 1-2, following the development of remedial action objectives, potential remedial technologies for soil and groundwater are identified, and remedial alternatives are developed. During both the remedial technologies identification step and the remedial alternative development step, technologies and alternatives will be "screened out" as others are retained for evaluation. The flowcharts are intended to provide the primary steps and not to identify all the details within each step.
Metropolitan Water District of Southern California	MWD-21	--	Several wells have been proposed for installation on the Arizona side of the Colorado River. These wells will provide new information on the extent of the plume. The CMS/FS work plan should include a discussion on evaluation of results from the Arizona wells.	The comment is correct that the wells planned for installation in Arizona are intended to be included in the forthcoming RFI/RI and will be considered in the development of the conceptual site model. The forthcoming RFI/RI documents will describe the various phases of investigation at the Topock site and provide detail on wells installed for site characterization.

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Section 2				
U.S. Department of the Interior	DOI-10	Sec. 2.0, Exhibit 2-1, Page 2-1	The initiation of the CSM should be during the planning stages and refined as additional information is collected. This iterative approach will serve to direct the investigation to meet the requirement of an adequate and detailed site characterization. Please provide additional clarification on the development of the CSM.	<p>The purpose of Exhibit 2-1 is to illustrate how the conceptual model fits with the CMS/FS process. Details about the development of the various specific aspects of the site conceptual model are not necessary for this purpose.</p> <p>The comment is correct that the site conceptual model is initiated during the planning stages and refined as additional data are collected. The site conceptual model information provided in the CMS/FS work plan for the Topock site is intended to be a summary of the physical processes associated with the release and potential migration of site related compounds based on currently available information. It is acknowledged that the site conceptual model will be refined and finalized in an iterative manner as additional data are collected during the RFI/RI. Additional refinements will be presented in the risk assessments documents as the relevant human and ecological receptors and their potential exposure pathways are identified. .</p>
Metropolitan Water District of Southern California	MWD-2	Section 2.0	In the flow chart shown in section 2.0, the risk assessment feeds into the site conceptual model, which is incorrect. The site conceptual model provides input to the risk assessment, which is used to estimate the risk to human health and the environment. These results are used in turn to identify impacted media that require treatment for the CMS.	As discussed in response to comment DOI-8, the site conceptual model is initiated during the planning phases but refined based on the results of the site investigations and the needs and objectives for evaluating the relevant receptors and exposure pathways identified in the risk assessment. The figure is not intended to show a linear sequence of process steps, but rather that information from the site investigation and the risk assessment processes both are incorporated into the final site conceptual model. The comment is correct that the risk assessment estimates risk to human health and the environmental and identifies the media to be addressed in the CMS/FS.
Department of Toxic Substances	DTSC-3	Page 2-1,	The exhibit suggests that the site investigation and the risk assessment provide the initial steps to the	As discussed in response to comment DOI-8 and MWD-2, the site conceptual model is initiated during

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Control		Exhibit 2-1	Site Conceptual Model. The reality is probably more of an iterative process to refine the Site Conceptual Model leading to a good predicative risk assessment to derive at the Remedial Action Objectives.	the planning phases but is refined based on the results of the site investigations and objectives of the risk assessment. The comment is correct that the development and refinement of the site conceptual model is iterative. However, the final site conceptual model is derived from the results of the site investigations and modifications presented in the risk assessment that incorporate the receptors and exposure pathways identified during that evaluation step.
U.S. Department of the Interior	DOI-11	Figure 2-1 and Secs. 2.1.1 and 2.1.2, Page 2-2	<p>The CSM presented in the figure does not illustrate the other potential sources of contamination. It focuses on the percolation beds in Bat Cave Wash without considering other potential and uncharacterized sources.</p> <p>Please revise the CSM to illustrate other potential sources and make it consistent with other CSMs developed during the DQO process.</p>	It should be clarified that Section 2.1 and Figure 2-1 of the CMS/FS focus on the conceptual model associated with the historic practice of wastewater discharge to Bat Cave Wash. This is a known source of groundwater contamination for which extensive characterization has been performed. If any of the other historic operations at the Topock Compressor Station have affected groundwater, these activities would likely be secondary sources due to the relatively low quantities released, types of materials managed, depth to groundwater, and precipitation rates at the site. While the effect on groundwater of other historic operations at the Topock Compressor Station is considered secondary to the historic practice of wastewater discharge to Bat Cave Wash, characterization of these other potential sources is planned and will be included in the forthcoming RFI/RI Volume 3. The conceptual site model to be presented in the CMS/FS will incorporate the data developed from the characterization of these other sources.
San Diego Water Authority	SDWA-2	Page 2-2, Section 2.1.1, second paragraph	Page 2-2, Section 2.1.1, second paragraph: The information presents a 13-year period for release of the Cr(VI), which represents the time period before 1951 to 1964. However, depending on the time in 1951 it started and the time in 1964 it ceased, it may be more appropriately represented as a 14-year period.	PG&E does not object to defining the period between 1951 and 1964 when untreated wastewater was discharged to Bat Cave Wash as a 14-year period.

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U.S. Department of the Interior	DOI-12	Sec. 2.1.1, Page 2-2	Source of Groundwater Contaminants, Second Paragraph, Second Sentence – Electrical conductivity is listed as a COPC (Chemical of Potential Concern). Electrical conductivity is a measurement of a material's (in this case ground water) ability to conduct an electric current. The COPC to be listed here is probably instead total dissolved solids.	<p>The COPCs in groundwater as listed in Section 2.1.1 are consistent with the COPCs identified for SWMU 1, AOC 1, and SWMU 2 in Table 4-1 of the <i>Revised Final RCRA Facility Investigation/Remedial investigation, Volume 1 (Site Background and History)</i>, dated August 2007.</p> <p>Electrical conductivity was defined as a potential COPC in the DTSC Corrective Action Consent Agreement. Electrical conductivity is an analog for total dissolved solids but much easier to measure.</p>
Metropolitan Water District of Southern California	MWD-3	Section 2.1.1 Section 2.1.2	Section 2.1.1 describes the source of contamination and lists the chemicals of potential concern (COPCs) as chromium VI, chromium (T), copper, nickel, lead, zinc, pH, electrical conductivity, and total petroleum hydrocarbons. Although other COPCs may be identified later in the project, these represent the main COPCs for groundwater and should be the basis for the CMS. Some of the metals have been deleted from the routine groundwater monitoring because they have been infrequently detected or detected at low levels. Releases of COPCs from the old evaporation ponds and the disposal well should also be identified in addition to the releases to Bat Cave Wash. In section 2.1.2 it states that COPCs that will be addressed in the CMS/FS will be restricted to those that are found to be elevated. The plan should stipulate the identity of these COPCs and what is meant by elevated (i.e., compared to a regulatory standard or background level).	<p>The COPCs in groundwater as listed in Section 2.1.1 are consistent with the COPCs identified for SWMU 1, AOC 1, and SWMU 2 in Table 4-1 of the <i>Revised Final RCRA Facility Investigation/Remedial investigation, Volume 1 (Site Background and History)</i>, dated August 2007. These are based on the history of wastewater discharge. Section 2.1.2 considers groundwater monitoring data in the discussion of the COPCs. The term “elevated,” as used in this work plan, is intended to mean above a risk threshold and/or above an ARAR level. Only those COPCs identified as “elevated” will be carried forward as COCs. Because the RFI/RI, risk assessment, and ARARs identification are not yet complete, the list of chemicals of concern to be addressed in the CMS/FS cannot be completely defined at this time. The CMS/FS will clearly establish the chemicals of concern and media cleanup goals.</p>

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U.S. Department of the Interior	DOI-20	General comment	The term COPCs is used throughout this document to refer to the chemicals that will be evaluated during the CMS/FS. However, following convention, the COPCs are defined in the RFI/RI and the COCs are identified during the risk assessment. Once the COCs have been identified, the CMS/FS evaluates technologies to deal with the COCs not the COPCs.	It should be clarified that COPCs are defined and evaluated in the RFI/RI and risk assessments, while COCs are defined in the remedial action objectives, considering the results of the risk assessments and ARARs evaluations. The CMS/FS evaluates technologies to address the COCs requiring remedial action, not the COPCs.
Hargis + Associates, Inc. (on behalf of the Fort Mojave Indian Tribe)	H+A-4	Section 2.1.2	The Tribe is also concerned with the apparently open-ended statement in Section 2.1.2 that indicates "As ... new wells are installed, the plume will be more precisely defined." As you are aware, in commenting on past work plans involving proposed drilling of new wells, the Tribe has emphasized the need for minimization of the number of intrusions (such as the drilling of new wells) into sacred areas.	<p>PG&E respects the Fort Mojave Indian Tribe's desire to minimize the number of intrusions (such as drilling new wells) into sacred areas, and supports with this position.</p> <p>The CMS/FS work plan does not propose any new wells. If additional wells are required by regulatory agencies, a specific separate work plan with clear data objectives and defined mitigation measures associated with additional well installation will be developed and provided.</p>
Department of Toxic Substances Control	DTSC-5	Page 2-2, Section 2.1.2	The first paragraph identifies the California MCL for Cr(T) in units of milligrams per liter (mg/L). Since the figures in the CMS/FS Work Plan present concentrations of COPCs, including Cr(T), in units of micrograms per liter (µg/L), this paragraph also should provide the MCL for Cr(T) in units of µg/L. The text and figures should be consistent in the units of measure utilized.	PG&E does not object to reporting the California MCL in the units of µg/L rather than mg/L.
U.S. Department of the Interior	DOI-13	Sec. 2.1.3, Page 2-3	<p>This section focuses on groundwater as the primary route of contaminant migration, however, overland flow by surface runoff should also be considered. There has been documented erosion within Bat Cave Wash at the location of the former percolation beds. The white material identified as potentially containing Cr has been eroded down stream.</p> <p>There is also the potential for vertical migration</p>	<p>It should be clarified that Section 2.1 focuses on the conceptual model of groundwater contamination associated with the historic practice of wastewater discharge to Bat Cave Wash, while Section 2.2 focuses on the remaining Topock Compressor Station operations, as well as other media associated with Bat Cave Wash. This is a consistent separation planned for RFI/RI Volume 2 vs. RFI/RI Volume 3.</p> <p>The comment is correct that the potential migration</p>

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			<p>from potential sources in the AOCs and SWMUs that will be investigated under the soils work plan. The CMS/FS work plan should be able to deal with all the sources once they are identified. The CSM should also reflect all potential migration pathways.</p> <p>Please revise this section to include a discussion of other potential migration pathways.</p>	<p>routes from the SWMUs, AOCs, and other undesignated areas (other than the groundwater contamination associated with SWMU 1, AOC 1, and SWMU 2) are being evaluated and will be included in the forthcoming RFI/RI Volume 3.</p> <p>As discussed in Section 2.3, the conceptual model information presented in the work plan is based on existing data, and the conceptual site model will be updated as additional data are planned and evaluated. The information in the CMS/FS work plan is not intended to substitute for the final conceptual site model that will be developed through completion of the RFI/RI and risk assessment and presented in the CMS/FS.</p>
Department of Toxic Substances Control	DTSC-6	Page 2-3, Section 2.1.3	<p>No quantification is provided with regard to reducing conditions observed in groundwater in the fluvial deposits and sediments beneath the Colorado River. The last sentence in this section misleads the effectiveness of the natural reducing conditions to limit or prevent Cr(VI) impacted groundwater through the sediments. Please notes that the deepest well screen interval for MW-34 has Cr(VI) concentrations above 50 µg/L.</p>	<p>The conceptual site model descriptions provided in the CMS/FS work plan are intended to be a summary based on currently available information and are not intended to present all the details or quantification on the hydrogeologic conditions and groundwater characterization, which is presented in the RFI/RI. Information on the reducing conditions in the fluvial deposits and sediments beneath the Colorado River will be included in the forthcoming <i>RCRA Facility Investigation/Remedial Investigation Report, Volume 2</i> (Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigations) to be published in 2008.</p>
Metropolitan Water District of Southern California	MWD-4	Section 2.1.3	<p>In section 2.1.3 the description of groundwater movement as “relatively slow” is misleading. While compared to other sites, movement of the PG&E chromium plume may be slow, it should be pointed out that the plume has moved approximately 2,800 feet in less than 50 years equating to a rate of movement greater than 50 feet per year. Section 2.1.3 also discusses the reducing conditions that exist in the floodplain. The pore water study did find reducing conditions, but the depth of testing was limited to only 6 feet. Groundwater in the floodplain</p>	<p>The conceptual site model descriptions provided in the CMS/FS work plan are intended to be a summary based on currently available information and are not intended to present all the details on the hydrogeologic conditions and groundwater characterization, which is presented in the RFI/RI. Information on groundwater movement, results from the pore water study, results from the slant well installation and monitoring, and results from the core testing of sediments in the floodplain will be including in the forthcoming <i>RCRA Facility</i></p>

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			<p>and below the river exists at much deeper depths. Initial sampling from the slant wells has also indicated reducing conditions, but these wells have not yet equilibrated. Metropolitan believes that the equilibration process for these wells will take some time (6 months or more) because of the low flow conditions of the wells. Proper evaluation of the chromium VI levels and reducing conditions cannot be accurately determined until the wells have equilibrated. In addition, the anaerobic core testing will be conducted on core samples taken from the slant wells. The anaerobic core testing will determine the reducing capacity of the fluvial sediments below the river and in the floodplain. Until these studies are complete the reducing capacity of the sediments in the floodplain cannot be definitely stated.</p>	<p><i>Investigation/Remedial Investigation Report, Volume 2</i> (Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigations) to be published in 2008.</p> <p>The description of groundwater movement as “relatively slow” is accurate for the Topock site, particularly in the context of the CMS/FS. The slow groundwater flow at the site must be considered in the design of the final remedy.</p>
<p>Hargis + Associates, Inc. (on behalf of the Fort Mojave Indian Tribe)</p>	<p>H+A-5</p>	<p>Section 2.1.4</p>	<p>Section 2.1.4 refers to the protection of “... potential receptors in the future.” It is unclear as to which future receptors this might refer to as well as why, if it is unlikely there are any complete exposure pathways in the present, there would be any in the future.</p>	<p>Exposure assumptions considering potential future receptors will be based on reasonably foreseeable land uses and will be defined in the forthcoming risk assessments. The intent of the statement in Section 2.1.4 is to clarify that the final remedy will be designed to protect potential future receptors, if any are identified.</p>
<p>Metropolitan Water District of Southern California</p>	<p>MWD-5</p>	<p>Section 2.1.4</p>	<p>Section 2.1.4 states that there is currently no evidence of a complete pathway for chromium VI in groundwater to reach a receptor. Although this statement may be true, it is premature to state this definitively at this time. It has been stated that the plume has traveled under the river. It is likely that a pathway could exist for chromium VI to enter the Colorado River. Interim Measures 3 (IM3) has been put in place to reverse the hydraulic gradient to protect the river. In addition, the reducing conditions below the river may present a natural barrier of protection for the river. Additional studies are being conducted to determine if the objectives of IM3 and the reducing capacity of the sediments actually protect the river.</p>	<p>The conceptual site model descriptions provided in the CMS/FS work plan are intended to be a summary based on currently available information. The final conceptual site model, including definition of complete pathways between a source and receptor, will be refined to include additional data collected during the completion of the RFI/RI, summarized in the risk assessment and presented in the CMS/FS.</p>

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Department of Toxic Substances Control	DTSC-7	Page 2-3, Section 2.1.4, Potential Groundwater Receptors	The conclusion or suggestion that there is currently no evidence of a complete pathway for Cr(VI) in groundwater to reach a receptor is premature and unsubstantiated. Unless PG&E provides full justification and discussion of potential pathways with the site conceptual model in this work plan, DTSC can not concur with this statement and suggests its removal.	The conceptual site model descriptions provided in the CMS/FS work plan are intended to be a summary based on currently available information. The final conceptual site model, including definition of complete pathways between a source and receptor, will be defined following completion of the RFI/RI and will be presented in the risk assessment.
Department of Toxic Substances Control	DTSC-4	Page 2-2, Contaminant Distribution in Groundwater	Section 2.1.1 identifies the following COPCs for groundwater: total chromium (Cr(T)), hexavalent chromium (Cr(VI)), copper, nickel, lead, zinc, pH, electrical conductivity and total petroleum hydrocarbons (TPH) as well as other COPCs as ongoing investigation are completed. Section 2.1.2 states that, in August 2004, DTSC approved the deletion of copper, nickel and zinc from the routine groundwater monitoring suite. However, the Work Plan does not seem to emphasize and carry forward other COPCs except chromium in groundwater. DTSC notes that arsenic and molybdenum were also identified as potentially elevated in recent groundwater investigations for some wells.	The COPCs in groundwater as listed in Section 2.1.1 are consistent with the COPCs identified for SWMU 1, AOC 1, and SWMU 2 in Table 4-1 of the <i>Revised Final RCRA Facility Investigation/Remedial investigation, Volume 1 (Site Background and History)</i> , dated August 2007. These are based on the history of wastewater discharge. Section 2.1.2 considers groundwater monitoring data in the discussion of the COPCs. The CMS/FS states that the chemicals of concern to be addressed in the CMS/FS will be limited to those that are found to be elevated in groundwater during the site investigation and risk characterization. It is acknowledged that the CMS/FS work plan has been prepared prior to the completion of the site investigation and risk characterization. Based on the investigation findings to date, the principal contaminant in groundwater at the site is hexavalent chromium. However stating this in this work plan is not intended to circumvent the conclusions of the final RFI/RI and risk assessment.
U.S. Department of the Interior	DOI-14	Sec. 2.2, Page 2-3	The CSM should be finalized before the completion of the CMS/FS. As discussed in the DQOs the CSM is the foundation of the investigation and is revised as needed until the characterization is complete. Waiting until the CMS/FS is complete to evaluate the CSM is not acceptable.	PG&E agrees that the site conceptual model should be finalized before the completion of the CMS/FS. This is clearly described in the work plan, and Exhibit 1-2 shows the conceptual site model as the first step in the CMS/FS process.
Department of Toxic Substances Control	DTSC-8	Page 2-3, Section 2.2, Conceptual	DTSC notes that PG&E cited one SWMU, 17 AOCs and one undesignated area for the soil investigation, but listed SWMU 2 in Figure 1-2 to be inclusive. DTSC recommends inclusion of a table	The specific SWMUs, AOCs, and other undesignated areas to be included in the forthcoming RFI/RI Volume 2 and RFI/RI Volume 3 are identified in the <i>Revised Final RCRA Facility Investigation and</i>

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		Model for Soil	of all SWMUs, AOCs, and other undesignated areas as an additional exhibit for clarity. This table can also differentiate which units are studied within the soil or groundwater RFI.	<i>Remedial Investigation Report, Volume 1 (Site Background and History)</i> , dated August 2007. The CMS/FS work plan is intended to be conceptual and not to provide all the detail that is included in other documents.
U.S. Department of the Interior	DOI-15	Sec. 2.2.1, Page 2-4	Define the term elevated.	The term “elevated” as used in this work plan is intended to mean above a risk threshold and/or above an ARAR level. Only those COPCs identified as “elevated” will be carried forward as COCs in the CMS/FS. The CMS/FS will clearly establish the chemicals of concern and media cleanup goals. See also response to MDW-3 in Section 2.
Department of Toxic Substances Control	DTSC-9	Page 2-4, Section 2.2.1	PG&E only noted the origin of contaminants to be released through spills and leaks. PG&E should also recognize that some release of contaminants could have been associated with past management practices associated with hazardous material handling.	The comment is correct that the source of contaminants could be through mechanisms other than through spills and leaks. Management practices associated with hazardous material handling were evaluated to determine the SWMUs, AOCs, and other undesignated areas to be evaluated in the RFI/RI as documented in the <i>Revised Final RCRA Facility Investigation and Remedial Investigation Report, Volume 1 (Site Background and History)</i> , dated August 2007.
Department of Toxic Substances Control	DTSC-10	Page 2-4, Section 2.2.2	This section suggests that copper and zinc are found above background concentrations. However, background concentrations for COPCs have yet to be determined.	The comment is correct that final background levels in soil have not been completely defined. However, there have been several studies of background concentrations at the Topock Compressor Station and there are published values of background concentrations in soil in the region that provide a relative indication of the background concentrations.
U.S. Department of the Interior	DOI-16	Sec. 2.2.3, Page 2-4	Routes of Contaminant Migration in Soils – An additional route of soil contamination migration is wind transport of contaminated soil particles.	The comment is correct that the routes of migration identified in Section 2.2.3 are not the only potential migration routes. Details about the exposure routes for receptors will be included in the forthcoming risk assessments.
Metropolitan Water District of	MWD-6	Section 2.2.3	In Section 2.2.3 possible migration of soil contaminants should also consider transport in air as	The comment is correct that the routes of migration identified in Section 2.2.3 are not the only potential

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Southern California			dust and vapors.	migration routes. Details about the exposure routes for receptors will be included in the forthcoming risk assessments.
Department of Toxic Substances Control	DTSC-11	Page 2-4, Section 2.2.3	This section discusses two primary routes of soil contaminant migration that will be considered in the CMS/FS. Additional route; however, consisting of transport of contaminants through soil via infiltration (but not to groundwater), and possible air dispersion due to blowing wind should also be included in this section.	The comment is correct that the routes of migration identified in Section 2.2.3 are not the only potential migration routes. Details about the exposure routes for receptors will be included in the forthcoming risk assessments.
U.S. Department of the Interior	DOI-17	Sec. 2.2.4, Page 2-4	What are the exposure routes for the receptors? Dermal contact, ingestion, uptakes, inhalation, etc? Please add the exposure routes for the receptors.	Details about the exposure routes for receptors will be included in the forthcoming risk assessments.
San Diego Water Authority	SDWA-3	Page 2-4, Section 2.2.4	Page 2-4, Section 2.2.4: The paragraph indicates "different cleanup standards may be evaluated...depending on location and intended future use." Future use is likely only as far as related land use documents have planned, which could change. The cleanup standard should be a consistent level so that no further remediation would be necessary in the future at an additional cost and planning effort.	Because there are AOCs and SWMUs in different areas with multiple landowners and multiple current and possible future uses, there is the possibility that there may be different cleanup standards for different AOCs and SWMUs.
U.S. Department of the Interior	DOI-18	Page 2-5	The risk assessment should also determine protective levels of the chemicals of concern (COCs).	The comment is correct that the risk assessment will be one method of identifying acceptable levels of COCs.
U.S. Department of the Interior	DOI-19	Sec. 2.3, Page 2-5, 1 st Para.	In general the COPCs are identified during the site characterization phase of the effort. The risk assessment is used to evaluate the potential risk to human health and the environment, and the result is the identification of the COCs. The COCs are evaluated in the selection of the remedial alternative. We suggest changing the term COPC to COC throughout the document.	It should be clarified that COPCs are defined and evaluated in the RFI/RI and risk assessments, while COCs are defined in the remedial action objectives, considering the conclusions of the risk assessments and ARARs evaluations. The CMS/FS evaluates technologies to address the COCs not the COPCs.
Department of Toxic Substances	DTSC-12	Page 2-5,	PG&E used the term "points of compliance" in a couple of sections in this work plan, but failed to	As discussed in Section 3.2, points of compliance and cleanup levels for soil and groundwater will be

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Control		Section 2.3	properly define its meaning or its use. DTSC notes that this is a similar comment in our May 15, 2007 letter.	<p>developed based on the results of the site-specific risk assessments and/or ARARs, with consideration of natural background concentrations, as appropriate. The points of compliance for the Topock site have not yet been determined but will be identified in the CMS/FS.</p> <p>The term “point of compliance” is typically a RCRA term applied to the location at which water quality standards must be met. Under CERCLA, ARARs, pertaining both to contaminant levels and to performance or design standards should generally be attained at all points of exposure or at the point specified in the ARAR itself. USEPA guidance indicates that while points of compliance for attaining media cleanup goals are established on a site-specific basis, there are some general USEPA policies as follows:</p> <ul style="list-style-type: none"> • In groundwater, cleanup goals should generally be attached throughout the contaminant plume or at the edge of the waste management area when waste is left in place. • In surface water, cleanup goals should generally be attached at the point or points where the release enters the surface water. • In air, cleanup goals should generally be achieved at the maximum exposed individual, considering the reasonably expected uses of the site and surrounding area. • For soils, cleanup goals should generally be attained wherever direct contact might reasonably occur (CERCLA Compliance with Other Laws Manual; Interim Final. EPA/540/G-89-006; Final National Contingency Plan, March 8, 1990).

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<p>Hargis + Associates, Inc. (on behalf of the Fort Mojave Indian Tribe)</p>	<p>H+A-3</p>	<p>Site Conceptual Model</p>	<p>Proper development and understanding of the site conceptual model (SCM) is arguably the most important step in the process as erroneous concepts can lead to serious problems in the final decision. This section defines the SCM as "... a graphical and narrative summary of site conditions based on currently available data that describes the probable sources of contamination and the potential pathways by which human or environmental exposures could occur." This definition is incomplete because the importance of data interpretation is not acknowledged. Indeed, the data assemblage is important and the basis for site assessment, but it is more than a mapping of data points. As data are generated, it must continually be examined and re-examined within the context of accepted scientific concepts. Each new set of data has the potential for consistency or conflict with elements of the currently-accepted SCM and should be viewed as such. As this process evolves, the uncertainty associated with the SCM should decrease. Likewise, with confidence in the SCM, the need for collection of new data is reduced.</p> <p>The reason for emphasizing the interrelationship between data acquisition and the SCM relates to a theme that the Tribe has previously emphasized ... specifically a minimalist approach that involves only the most necessary disturbances to the earth and its resources. A recent example is the proposed drilling on the Arizona shore at the Site 1 location. Among other reasons, it was argued data at this location would be needed to define the lateral extent of the hexavalent chromium plume in groundwater. At the same time, it was asserted that monitoring data from a well at this location was fully expected to produce negative results. This is a clear indication that the application of conceptual reasoning is a useful tool in developing the SCM.</p>	<p>As described in the CMS/FS work plan and previous comment responses, the development, refinement, and completion of the site conceptual model is a foundation step for the CMS/FS process. PG&E agrees that data interpretation, including testing of the site conceptual model with respect to new data is an important aspect of development and refinement of the site conceptual model.</p>

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			<p>The likely reason for expecting negative results at that location was based on generally accepted concepts of regional groundwater flow, which would be inconsistent with groundwater underflow beneath a major river system such as the Colorado River, without some anthropogenic stress factor overriding natural gradients. Another useful exercise with regard to development of the SCM is to consider alternative interpretations of the data set with the intent of determining whether further data acquisition would be useful in discriminating between the alternatives, and moreover, whether such discrimination would actually be important to a pending remedial decision.</p> <p>It is quite an important observation that "Nearly all of the Cr(VI) present in groundwater at the site is believed to have been released during the 13-year period [1951-1964] when untreated wastewater was discharged into Bat Cave Wash." Likewise it is worth noting that there have not been detections of Cr(VI) in the Colorado River along the Topock reach to date. Together, these observations seem to support (1) limited plume "strength;" (2) slow groundwater velocities; and/or (3) the effect of the geochemical barrier associated with the Colorado River fluvium.</p>	
Section 3				
U.S. Department of the Interior	DOI-21	Sec 3.0	Please revise the fourth sentence of the first paragraph by deleting "including existing restrictions on land uses and/or agreements made by authorities regarding limitations on land use."	The purpose of the clause in the fourth sentence is to provide additional information about how land uses are considered while developing remedial action objectives.
U.S. Department of the Interior	DOI-22	Sec 3.1, Page 3-2	Typically the RAOs are derived during the risk assessment and are the levels or concentration of specific chemical or compounds that will not present an unacceptable risk to human health or the environment. Please make this section more specific in regards to the RAOs by specifying, in	The comment is correct that the National Contingency Plan requires that remedial goals are established to reduce risk to an acceptable level and attain ARARs. The remedial objectives in Section 3.1 are intended to meet the National Contingency Plan requirement in a manner specific to the site based on

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			particular, that remediation of groundwater will be to eliminate unacceptable risks to humans and ecological receptors and attain ARARs.	the investigation findings to date and knowledge of site-specific characteristics.
Department of Toxic Substances Control	DTSC-13	Page 3-2, Section 3.1.1, Groundwater site objectives	Remedial action objectives for the groundwater should also include consideration for elimination or control of contaminated groundwater migration in the region, not just to river.	The remedial objectives in Section 3.1 are based on the investigation findings to date and knowledge of site-specific characteristics. The remedial objectives in the CMS/FS will be based on the final conceptual site model and ARARs that may indicate additional pathways and receptors to be addressed by the remedial action.
Metropolitan Water District of Southern California	MWD-7	Section 3.1.1	<p>Section 3.1.1 states an objective for groundwater to be “Preventing elevated concentration of Cr(VI) in groundwater ...from discharging to the Colorado River”. The term “elevated” is not defined.</p> <p>The objective should be to prevent the contaminated groundwater from discharging to the river. The objective should be similar to that of IM3—to maintain a hydraulic gradient away from the river and prevent the groundwater chromium VI plume from entering the river.</p> <p>The second objective states “Remediating groundwater to reduce Cr(VI) concentrations”. This objective should be to reduce concentrations to a background level. Studies are being conducted to determine the background levels and these studies should be utilized to establish the cleanup objective.</p>	<p>The term “elevated,” as used in this work plan, is intended to mean above a risk threshold and/or above an ARAR level. Only those COPCs identified as “elevated” will be carried forward as COCs in the CMS/FS. The CMS/FS will clearly establish the chemicals of concern and media cleanup goals (see Section 3.2).</p> <p>Reversal of gradient is one of several methods for preventing elevated concentrations of Cr(VI) in groundwater from the Topock site from discharging to the Colorado River. The site objective is as stated in Section 3.1.1. Various methods will be considered and evaluated through the CMS/FS to attain the objective, including reversal of gradient.</p> <p>As discussed in Section 3.2, media cleanup standards have not yet been developed and will consider risk-based cleanup goals, ARARs, and ambient (background) conditions and concentrations.</p>
U.S. Department of the Interior	DOI-23	Sec.3.1.2, Page 3-2	<p>There is no discussion of the RAOs for the biota.</p> <p>Please discuss the RAOs for biota.</p>	The first and second bullets in Section 3.1.2 that discuss unacceptable risks are intended to address both human and ecological receptors.

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Metropolitan Water District of Southern California	MWD-8	Section 3.1.2	Section 3.1.2 states an objective for soil as “Preventing unacceptable risks resulting from chemicals of concern in soils migrating to groundwater or surface water”. The term unacceptable risk is not defined. The objective should be defined by studies that determine the migration potential of the COPCs from the soil remediation to the groundwater or surface water.	The term “unacceptable risk” is defined by RCRA and CERCLA guidance for conducting baseline risk assessments. RFI/RI Volume 3 and the risk assessment for soil will address the potential migration pathway of COPCs in soil to groundwater, the results of which will be considered in the definition of remedial action objectives in the CMS/FS.
Metropolitan Water District of Southern California	MWD-9	Section 3.2.1	Section 3.2.1 mentions that the human health risk assessment and screening ecological risk assessment have not been completed. The risk assessments are cited throughout the CMS/FS work plan. How will the risk assessments be conducted? What criteria will be used for the risk assessments? When will the risk assessments be completed? How will the results of the risk assessment be incorporated into the CMS/FS?	<p>PG&E is preparing risk assessment work plans that will outline the methodologies and schedules for completion of the risk assessments at the Topock site. It is anticipated that the risk assessment work plans will be completed in 2008 for submittal to DTSC and DOI.</p> <p>As discussed in Section 2.0 of the CMS/FS work plan, the site conceptual model refinements including receptors and relevant exposure pathways will be presented in the risk assessment. The risk assessments will determine whether the SWMUs, AOCs, and other undesignated areas at the Topock site present an unacceptable risk for certain COCs, which is the basis for determining what is included in the CMS/FS. It is anticipated that risk assessments may also be used for establishing media cleanup goals and objectives for reducing the risk to acceptable levels.</p>
Department of Toxic Substances Control	DTSC-14	Page 3-3, Section 3.2.2	The write up should also consider “action specific” ARARs which are completely absent from this section.	Action-specific ARARs are not typically used to develop remedial action objectives. Action-specific ARARs, however, are identified as part of the CMS/FS, and compliance with ARARs (including action-specific) is an evaluation criterion for the remedial alternatives (see Section 5.0 of the work plan).
San Diego Water Authority	SDWA-4	Page 3-3, Section 3.2.2, Notes to Table 3-1	Page 3-3, Section 3.2.2, Notes to Table 3-1: CaCO ₃ should be included in the Acronyms on page vii or noted in this section. It is not apparent that this was introduced in any prior section.	PG&E does not object to including CaCO ₃ in the acronyms list.

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Metropolitan Water District of Southern California	MWD-10	Section 3.2.2	Section 3.2.2 discusses the solicitation and evaluation of Applicable or Relevant and Appropriate Requirements (ARARs) for the Topock site. There appears to be a typo in section 3.2.2 line 4. The word “medial” should be either “media” or “remedial”. Also, Table 3-1 lists several chemical specific ARARs. There should be consideration of background levels in relation to any other criteria. Table 3-1 shows Cr (III) criteria for surface water, which is higher than background. Any cleanup criteria chosen cannot be appreciably higher than background.	The word in the second sentence in Section 3.2.2 is intended to be “media.” Table 3-1 lists published numerical criteria, but other goals will be considered when the complete list of ARARs is developed. As discussed in Section 3.2.3, background concentrations will be considered in the development of media cleanup goals and standards. Cleanup criteria can be higher than background, depending on the designated chemical-specific ARARs and results of the site-specific risk characterization.
Department of Toxic Substances Control	DTSC-15	Page 3-3, Section 3.2.3	Please clarify that the groundwater background study report is still under evaluation despite the completion of the field study. This section misleads readers to think that there is a conclusion on the background study results.	The comment is correct that the background study report cited in Section 3.2.3 is under review by DTSC.
Metropolitan Water District of Southern California	MWD-11	Section 3.2.3	Section 3.2.3 cites a study conducted between 2005 and 2006 in which calculated background concentrations for chromium (T), chromium VI, and other metals were determined. The background concentrations should be listed in this work plan. These levels should be tied into the objectives for the final remedy.	The results of the background study cited in Section 3.2.3 are contained in the <i>Groundwater Background Study, Steps 3 and 4 Results, PG&E Topock Compressor Station</i> , dated January 2007, which is currently under review by DTSC. The CMS/FS work plan is intended to lay out a conceptual framework for completion of the CMS/FS and is not intended to contain all the detail that is and will be included in other studies and reports. The background study results will also be reported in the forthcoming <i>RCRA Facility Investigation/Remedial Investigation Report, Volume 2</i> (Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigations) to be published in 2008.
U.S. Department of the Interior	DOI-24	Page 3-3, Table 3-1	Anticipated Chemical-specific ARARs for Cr (VI), CR (III), and Cr (T) in Groundwater and Surface Water Corrective Measures Study Work Plan, Topock Compressor Station, footnote a – Metal toxicity to aquatic life is influenced by water hardness. The footnote should say “assuming water hardness = 142 parts per million [CaCO ₃ ”	PG&E does not object to the clarifying language in the table footnote.

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Hargis + Associates, Inc. (on behalf of the Fort Mojave Indian Tribe)	H+A-6	Remedial Action Objectives	<p>equivalents]”.</p> <p>With regard to the groundwater remedial action objectives (RAOs), the goal of “Preventing elevated concentrations of Cr(VI) in groundwater at the Topock Site from discharging to the Colorado River” is vague, potentially unquantifiable, and potentially unachievable to some degree. The RAO of implementing remedial actions “... in a manner that is respectful of and causes minimal disturbance to cultural resources ...” overlooks the possibility of avoiding such disturbances altogether. The RAO should be to avoid such impacts. This comment also applies to the soil RAOs.</p> <p>Table 3-1 identifies only chemical-specific applicable or relevant and appropriate requirements (ARARs). As discussed in the June 20, 2007, Consultative Work Group (CWG) meeting, it is likely that there are also action- and location-specific ARARs that need to be addressed.</p> <p>Appropriate ARARs for Cr(t) and Cr(VI) in groundwater are the MCLs and the California Public Health Goals (PHGs). It should be noted in the text that these values are in the process of being re-evaluated for Cr(VI), due to the availability of newly published long-term animal studies. For example, focusing the groundwater cleanup on the California Cr(VI) MCL of 50 micrograms per liter may not be appropriate if the MCL is significantly lowered. Accordingly, the flexibility of the remedial alternatives in achieving even lower cleanup goals should be assessed in the CMS/FS.</p>	<p>The goal of preventing elevated concentrations of Cr(VI) in groundwater at the Topock Site from discharging to the Colorado River will be further quantified in the CMS/FS by defining media cleanup goals and standards as discuss in Section 3.2.</p> <p>PG&E agrees that remedial actions should avoid disturbance to cultural resources if appropriate, and should be conducted in a respectful manner that minimizes disturbances to cultural resources.</p> <p>Location-specific ARARs are often used in the development of remedial action objectives, but these ARARs do not provide concentration levels such as the chemical-specific ARARs listed in Table 3-1. Action-specific ARARs are not typically used to develop remedial action objectives; however, action-specific ARARs are identified as part of the CMS/FS, and compliance with ARARs (including action-specific) is an evaluation criterion for the remedial alternatives (see Section 5.0 of the work plan).</p> <p>As discussed in Section 3.2.2, the DOI is leading a solicitation and evaluation of ARARs for the Topock site, which is not yet complete. The purpose of Table 3-1 is only to provide a sampling of anticipated ARARs for select constituents in select media. The listing of chemical-specific ARARs that will be used to develop media cleanup goals will be provided in the CMS/FS. Maximum Contaminant Levels are legally binding and therefore considered ARARs under CERCLA, while Public Health Goals are not.</p>

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Section 4				
U.S. Department of the Interior	DOI-25	Sec 4.0, Page 4-1	<p>There is no mention of effectiveness or compliance monitoring as being part of the remedial technologies.</p> <p>Please add effectiveness or compliance monitoring to the remedial technologies, or explain the rationale used to not include them.</p>	<p>The comment is correct that remedial alternatives typically include a verification component to evaluate whether the remedial action goals are being attained. This often includes confirmation sampling, inspections, and other operational monitoring.</p> <p>The intent of Section 4.0 is to identify the likely groundwater and soil remediation technologies that may be applicable for the COPCs identified at the Topock site that will be evaluated in the CMS/FS. Details on the components of the remedial alternatives, such as effectiveness monitoring, will be included in the CMS/FS.</p>
U.S. Department of the Interior	DOI-26	Sec. 4.0	<p>This section presents a list of alternative technologies that are being considered for this project. These technologies are discussed very conceptually and do not provide adequate information to assess the impacts they may impose on the environment or to listed species. Further detail is required if that is the intent of the Report.</p> <p>This section also states that "If appropriate, bench- or pilot-scale treatability tests may be performed to better evaluate specific technologies (page 4-2)." Many of the technologies presented are not discussed within the current <i>Programmatic Biological Assessment (2007)</i> and may require individual biological assessments for each project. Please insert language requiring that DOI wildlife biologists be contacted early in the project, so as to determine and coordinate the development of any biological assessments that may be needed.</p>	<p>The intent of the CMS/FS work plan is to provide a brief discussion of the various technologies that would be evaluated in the CMS/FS and to describe the process that would be used for developing and evaluating remedial alternatives. It is intended that the CMS/FS document will provide sufficient detail to allow assessment of the impacts to the environment or listed species.</p> <p>The paragraph referred to in the comment describes this step in the CMS/FS in a general manner. Bench-scale and pilot testing to evaluate remedial alternatives at the Topock site are discussed in Section 4.3, some of which are covered by the Programmatic Biological Assessment (e.g., <i>in-situ</i> pilot testing), and some of which pre-date the Programmatic Biological Assessment (e.g., geotechnical studies).</p> <p>It is noted that the Programmatic Biological Assessment is intended to cover field activities up to the final remedy (essentially the RFI and RI data collection, IM operation, and pilot studies), and does not cover implementation of the final remedy. PG&E fully anticipates, however, that the FESA will be</p>

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				identified as an ARAR that will be considered in the evaluation of alternatives in the CMS/FS.
U.S. Department of the Interior	DOI-27	Sec. 4.0	Are the technologies presented the preferred ones or just examples of potential alternatives that are available? Please clarify.	<p>CMS/FS work plan is intended to present the full range of remedial technologies that are considered applicable to the Topock site, based on the currently understood conceptual site model. As discussed in Section 4.1 and Section 4.2, the CMS/FS may include additional technologies if additional COPCs are identified during completion of the site investigations and risk characterization. Also, as discussed in Section 4.0, these technologies can be refined, modified, or supplemented to accommodate further site understanding.</p> <p>Based on a telephone call between DTSC, DOI, and PG&E, PG&E is aware that DTSC would like the technology descriptions in Sections 4.1 and 4.2 to be expanded to cover all possible COPCs identified in Table 4-1.</p>
Hargis + Associates, Inc. (on behalf of the Fort Mojave Indian Tribe)	H+A-7	Corrective Measure/ Remedial Action	In selecting, developing, and evaluating the corrective measure/remedial action (CM/RA) alternatives for this site, it will be necessary to examine the alternatives in a perhaps atypical manner due to the potential for impacts on unique cultural resources. Preference needs to be given in developing alternatives in such a way as to minimize, if not eliminate, land disturbances and avoid disturbances to cultural resources.	PG&E agrees that remedial actions should avoid disturbance to cultural resources if appropriate, and should always be conducted in a respectful manner that minimizes disturbances to cultural resources. Specifically, an expected remedial action objective is “implementing remedial actions in a manner that is respectful of and causes minimal disturbance to cultural resources including, in particular, resources that are of special significance to tribes in the area.” In the CMS/FS, each of the remedial alternatives will be evaluated to assess attainment of the remedial action goals.
Metropolitan Water District of Southern California	MWD-12	Section 4.0	Section 4.0 discusses the screening of technologies for developing the remedial alternatives. It states that the screening will be based on expected effectiveness in meeting objectives, ability to be implemented, and cost-effectiveness. How will each of these evaluations	Development and screening of remedial alternatives involves several steps, including identifying and screening technologies and combining technologies to form alternatives. Each step involves evaluation and screening against the CERCLA- and RCRA-prescribed criteria. Evaluations use standard

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			<p>be conducted? Will it be a paper study, bench/pilot study, or other? What are the criteria for selection? A description on the methodologies used to determine effectiveness, ability to implement and cost-effectiveness should be included.</p>	<p>engineering and scientific methods to the extent possible and typically rely on:</p> <ul style="list-style-type: none"> • Existing studies and data in literature to indicate whether a technology or alternative will be effective. • Bench-scale or pilot-scale studies to evaluate technologies under site-specific conditions. • Professional judgment. • Site-specific data on soil, geology, hydrogeology, sensitive habitat, historic and culture resources, and other physical conditions that could influence the degree to which technologies may be implementable and effective.
<p>Department of Toxic Substances Control</p>	<p>DTSC-16</p>	<p>Page 4-2, Section 4.0</p>	<p><i>In-situ</i> remediation is not used consistently in Table 4-1. For example, with TPH, no specific <i>in-situ</i> remediation technologies are listed for soil or groundwater. For volatile organic compounds (VOCs), along with <i>in-situ</i> remediation, soil vapor extraction, which is a specific <i>in-situ</i> remediation technology, is also listed. The same holds true for Cr(VI) where specific <i>in-situ</i> remediation technologies are listed. Instead of just stating <i>in-situ</i> remediation as a technology, the specific potential <i>in-situ</i> remediation technologies applicable to the site should be mentioned.</p> <p>This table also has MNA (monitored natural attenuation) which should be defined when initially introduced in the table, and this abbreviation also is not included in the Acronyms and Glossary. Similarly,</p> <p>Table 4.1 should include technologies for <i>ex-situ</i> treatment of excavated soil.</p> <p>DTSC also notes that additional potential remedial</p>	<p>It is acknowledged that additional details could be added to Table 4-1 to describe specific remedial technologies for specific COPCs. Because the specific COPCs are not yet known, the listing of technologies in the table was meant to be general and inclusive. PG&E considers soil vapor extraction to be an extractive rather than an <i>in-situ</i> remediation technology. The applicability of phytoremediation for groundwater remediation at the site is considered to be limited due to the large depth to groundwater and relatively high salinity of the groundwater that would make it not suitable for many of the plants typically used for phytoremediation. Trucking and offsite disposal could be considered in the CMS/FS, although it is likely not practical at the flow rate that would be needed for full-scale groundwater remediation.</p> <p>MNA is defined in a footnote to Table 4-1. PG&E does not object to including MNA in the acronyms list.</p>

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			<p>technologies for groundwater should also be listed including phytoremediation for VOC, Cr(VI) and other metals. Extraction and trucking should also be considered and evaluated for groundwater and soil. Also, potential of using soil washing for TPH and PAH in soil should also be considered.</p>	
<p>Metropolitan Water District of Southern California</p>	<p>MWD-13</p>	<p>Section 4.1</p>	<p>Section 4.1 states that the groundwater COPCs have not yet been determined. The groundwater monitoring over the past 10-years has been extensive. The COPCs and the zones where they occur should already be known. The CMS/FS work plan should be based on those COPCs known to date. Any additional COPCs discovered from more recent monitoring can be added later.</p> <p>Also, the bulleted paragraph on reactive treatment zones states that chromium VI will be removed. Chromium VI will be reduced to chromium III, which will then precipitate as a solid. This sentence should be changed to better reflect the result of the in-situ process.</p>	<p>It is acknowledged that the CMS/FS work plan has been prepared prior to the completion of the site investigation and risk characterization. Based on the investigation findings to date, the principal contaminant in groundwater at the site is hexavalent chromium. As such, Section 4.1 of the work plan focuses on technologies to address Cr(VI). We agree that if additional COPCs are found, they can be added later.</p> <p>The comment is correct that the reactive treatment zones create <i>in-situ</i> geochemical conditions that reduce Cr(VI) to Cr(III).</p>
<p>Hargis + Associates, Inc. (on behalf of the Fort Mojave Indian Tribe)</p>	<p>H+A-8</p>	<p>p. 4-4</p>	<p>With regard to waste disposal options available for groundwater pump-and-treat alternatives (p. 4-4), offsite transportation to a treatment and disposal facility should be listed. This technology was implemented successfully at the site in the past and should be at least listed and considered in the CMS/FS.</p>	<p>The comment is correct that trucking and offsite disposal of contaminated groundwater was previously used as an interim remedy at the site. Although it is likely not practical at the flow rates that would be needed for a final remedy, PG&E agrees that it is a potential groundwater remedial technology that should be evaluated in the CMS/FS.</p>
<p>Metropolitan Water District of Southern California</p>	<p>MWD-14</p>	<p>Section 4.1.2</p>	<p>Section 4.1.2 lists discharge to the Colorado River as a potential disposal option for the pump-and-treat remediation. This would require an evaluation to determine whether discharge would cause any degradation in water quality of the river. The discharge to the river would also have to be approved by the Regional Water Quality Control Board.</p>	<p>The comment is correct. Clean Water Action regulations are anticipated to be action-specific ARARs. As discussed in Section 5.2, compliance with ARARs is a criterion for remedial alternative evaluation.</p>

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Hargis + Associates, Inc. (on behalf of the Fort Mojave Indian Tribe)	H+A-9	p. 4-5	The Tribe also reiterates its opposition to all types of barrier technologies emplace within biologically or culturally sensitive areas as the Tribe believes that such systems would interfere with spiritual and biological pathways (p. 4-5).	PG&E understands that the Tribe is opposed to using barrier technologies within biologically or culturally sensitive areas. The intent of the CMS/FS work plan is to present the technologies that could potentially be effective in attaining remedial action goals and that will be evaluated in the CMS/FS. All of these technologies have advantages and disadvantages, which will be detailed in the CMS/FS.
San Diego Water Authority	SDWA-5	Page 4-5, Section 4.1.3, second paragraph	Page 4-5, Section 4.1.3, second paragraph: This section and paragraph include a listing of several vertical barriers typically used to control groundwater flow. Page 5-3, Section 5.1.2, states that the “intent is to define a wide range of alternatives.” Therefore, is there a reason that deep soil mixing has not been included?	Deep soil mixing involves emplacing a grout slurry through construction of a series of closely spaced auger holes. This method is not as reliable at cutting off the flow of contaminants as other methods of barrier wall emplacement because there is a potential that un-grouted spaces may be left between the boreholes. It also generates larger quantities of waste material than the other methods of barrier wall construction. For these reasons, this method was not included in the CMS/FS work plan.
Metropolitan Water District of Southern California	MWD-15	Section 4.1.3	Section 4.1.3 discusses the impermeable barrier wall. This section should include the statement from section 4.1.4: “As heavy equipment is needed for construction, vehicle access is a requirement”. It also states that impermeable barriers are typically placed at depths of up to 100 feet. Barrier walls are typically 2 to 3 feet wide and have been constructed to depths over 400 feet.	The comment is correct that vehicle access for construction of an impermeable barrier is similar to vehicle access for a permeable reactive barrier. The CMS will provide details about the type of equipment and footprint required for the construction of all the remedial alternatives. The statement in the CMS work plan indicating that typical depths for placement of barrier walls is up to 100 feet is considered to be accurate although we agree that greater depths are certainly achievable.
Department of Toxic Substances Control	DTSC-17	Page 4-6, Section 4.1.4	PG&E states that “heavy equipment is needed for construction” of a permeable reactive barrier. Please define “heavy.” DTSC notes that in some cases, such as for some zero-valent iron filing walls, installation can be completed with equipment similar to a drill rig. Since the intention of the CMS/FS is to present an unbiased evaluation of the available technologies based on specific alternative evaluation criteria, PG&E should be cautious of any discussion which may bias the	The purpose of the CMS/FS work plan is to provide a brief description of the technologies that will be presented and evaluated in the CMS/FS. The specific type of equipment required to construct a trenched PRB and a PRB emplaced through vertical borings will be provided in the CMS/FS, if a remedial alternative involving this technology is developed.

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			technology in this work plan.	
Metropolitan Water District of Southern California	MWD-16	Section 4.1.4	Section 4.1.4 discusses the permeable reactive barrier. This section should include a more complete statement on the composition of the barrier material (both reactive and inert materials). Does this barrier need to be keyed into the bedrock? What is the lifetime capacity estimate for the reactive barrier? It should be noted in this section that construction requirements are similar to those for impermeable barrier walls.	<p>The purpose of the CMS/FS work plan is to provide a brief description of the technologies that will be presented and evaluated in the CMS/FS. Information on the composition of the barrier material and construction methods for a permeable reactive barrier will be included in the CMS/FS, if a remedial alternative involving this technology is developed.</p> <p>The comment is correct that vehicle access for construction of an impermeable barrier is similar to vehicle access for a permeable reactive barrier.</p>
Department of Toxic Substances Control	DTSC-18	Page 4-7, Section 4.2	This section states that the soil COPCs to be addressed in the CMS/FS have not been determined yet; therefore, the CMS/FS Work Plan focuses on technologies to address Cr(VI), which is the primary COPC in groundwater and likely in soil. However, the 2005 Draft RFI/RI indicated that the COPCs Cr(T), polynuclear aromatic hydrocarbons (PAHs), and lead have been found at concentrations above the residential and, in some cases, industrial PRGs during investigations conducted at the site to date. Based on this information, it would be pertinent to include a discussion of soil remediation technologies for those additional COPCs in the Draft CMS/FS Work Plan.	The comment is correct that Section 4.2 states that the work plan focuses on technologies to address Cr(VI). However, the list of soil remediation technologies in Section 4.2 covers the potential remedial technologies for soil in Table 4-1 for the other COPCs with the exception of soil vapor extraction. Additional potential technologies for soil could include incineration, thermal desorption, and <i>in-situ</i> vitrification.
Metropolitan Water District of Southern California	MWD-17	Section 4.2	Section 4.2 discusses the technologies for soil remediation. The work plan should describe how each of these technologies will be evaluated. Paper studies may be utilized to evaluate and screen out some of the technologies. Pilot or bench studies may be necessary for some of the other technologies. In particular, migration of COPCs [e.g., chromium (T) and chromium VI] should be evaluated to determine the effect on the groundwater aquifer and the Colorado River. A description of the evaluation process should be	See the response to comment MWD-12 regarding the process for remedial alternative development and evaluation. It is recognized that the various technologies applied must all be compatible for the final remedy to be successful. If soil flushing is considered as a technology to be included in a final remedy, the potential effects of soil flushing on the groundwater remedial technology will be evaluated.

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			included in the work plan. The soil flushing technology described in Section 4.2 may affect the groundwater. It is important to evaluate this effect because it can create a greater burden on the groundwater remediation.	
U.S. Department of the Interior	DOI-28	Sec. 4.2.1	<p><i>“According to CERCLA’s statutory preference for treatment of contaminants, excavation, and offsite disposal is now less acceptable than in the past.”</i></p> <p>This is a conclusive statement and tends to bias the alternatives prior to any selection. If the statement is accurate, it should be referenced appropriately. In addition, the statement should be revised to acknowledge that offsite disposal and treatment are not mutually exclusive. Or. In the alternative, the statement should be deleted.</p>	<p>The intent of the statement is to provide some perspective on the use of this technology (Excavation and Offsite Disposal) prior to 1984 and following the enactment of CERCLA. There is no intent to bias a future evaluation since the CERCLA criteria will be applied in the CMS/FS.</p> <p>It is acknowledged that offsite disposal without treatment is considered a separate technology from offsite treatment (followed by disposal of treatment byproducts).</p>
Hargis + Associates, Inc. (on behalf of the Fort Mojave Indian Tribe)	H+A-10	p. 4-7, 4-8, 4-14	Under soil remediation technologies, the Tribe has expressed serious concerns with actions that would necessitate soil disruption, particularly with excavation and offsite disposal (p. 4-7). Accordingly, Page 4-8 should list impacts to cultural resources under Other Considerations. Also, because some tribes believe that capping in place may lead to the "suffocation" of tangible and intangible cultural resources, this should be listed under the other considerations for this technology (p. 4-14).	PG&E agrees that potential impacts to cultural resources and tribal beliefs associated with potential remediation technologies are important considerations in technology evaluation. As noted in Section 3.1, an expected remedial action objective is "implementing remedial actions in a manner that is respectful of and causes minimal disturbance to cultural resources including, in particular, resources that are of special significance to tribes in the area." In the CMS/FS, each of the remedial alternatives will be evaluated to assess attainment of the remedial action goals.
Department of Toxic Substances Control	DTSC-19	Page 4-10, Section 4.2.2.2	The soil screening box in Exhibit 4-7 should have the arrow directed to the oversized material box. The arrow from the dewatering step should be directed to the sludge box.	The comment is correct that the two arrows in the exhibit should be reversed (from soil screening to oversized materials, and from dewater to sludge).
Department of Toxic Substances Control	DTSC-20	Page 4-11, Section 4.2.3	Two primary requirements for soil flushing should be listed: (1) the flushing solution must be effectively transported so as to contact the impacted soil and remove the contaminant; this is not identified as a key requirement for this	The comment correctly identifies the primary requirements for successful soil flushing.

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			technology's success, and (2) groundwater can be captured, extracted, and treated (this is stated in the Work Plan).	
Department of Toxic Substances Control	DTSC-21	Page 4-13, Section 4.2.6	Change wording that "capping in place is a common form of soil remediation," rather than "the most common form."	PG&E does not object to the alternative language describing the common use of capping in place for soil remediation.
Metropolitan Water District of Southern California	MWD-18	Section 4.3	Section 4.3 lists treatability studies and other relevant studies. It would be helpful to define how these studies will be used to evaluate the treatment alternatives. In addition, there appears to be a typo on the second to the last bullet on page 4-15. The term "pump/inject" should be "pump/treat"	<p>The data and studies listed in Section 4.3 will be used to evaluate specific technologies. The data and studies provide information used to screen the technologies based on expected effectiveness in meeting remedial action objectives, ability to be implemented, and cost effectiveness.</p> <p>The term in the second to last bullet on page 4-15 is intended to be "pump/treat/inject."</p>

Section 5

Metropolitan Water District of Southern California	MWD-19	Section 5.0	Section 5.0 describes that the potential effective remedial alternatives will be screened to identify those that cannot be technically implemented at the site. How will the screening process be conducted? What are the criteria for this screening? This section is vague as to the process for developing and applying screening criteria.	<p>The following criteria are expected to be taken into consideration when evaluating implementability:</p> <ul style="list-style-type: none"> • Ability to construct and operate the technology • Reliability of the technology • Ease of undertaking additional remedial actions, if necessary • Ability to monitor the effectiveness of remedy • Ability to obtain approvals from other agencies • Availability of offsite treatment/storage/disposal services • Availability of necessary equipment and specialists • Availability of prospective technologies
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Department of Toxic Substances Control	DTSC-22	Page 5-1, Section 5.0, 1 st paragraph	CERCLA and RCRA does not “require” that technologies be combined... instead, it allows it to be combined. Please change the wording.	“Require” in this sentence refers to the regulatory requirement that a range of alternatives be developed, rather than the use of multiple technologies in alternatives.
U.S. Department of the Interior	DOI-29	Sec. 5.1.1	<p>Suggested Language</p> <p><u>Sensitive Habitats</u>: The study area encompasses a portion of the Havasu National Wildlife Refuge, the Beale Slough Area of Critical Concern, and the Colorado Floodplain. These lands are administered by the U.S. Fish and Wildlife Service, the U.S. Bureau of Land Management and the U.S. Bureau of Reclamation. Any actions taken will be in accordance with applicable laws, regulations and agency policies and procedures for managing public lands.</p> <p><u>Threatened and Endangered Species</u>: Federally listed threatened and endangered species that may be found in or near the study area include the Southwest Willow Flycatcher, the Yuma Clapper Rail, the Mohave Desert Tortoise, the Razorback Sucker and the Bonytail Chub. The States of California and Arizona also maintain lists of additional threatened and endangered species that can be found in or near the study site. All actions will be required to be in compliance with the Federal Endangered Species Act of 1973, as well as those requirements set by the States, and must avoid and/or mitigate any adverse impacts to any listed species and their critical habitat.</p> <p>Please also add the overall application of the original document <i>Mitigation Measures, Lake Havasu Field Office</i> are to be adhered to so as to generally minimize and/or avoid impacts to the natural environment.</p>	This section is intended to describe Topock features that need to be considered while developing and evaluating remedial alternatives. Each of these features will have regulatory requirements and site-specific considerations that will be reflected in the ARARs identification. As noted in the CMS/FS work plan, DOI is leading a solicitation and evaluation of ARARs for the Topock site, and compliance with ARARs is an evaluation criterion to be applied to each of the remedial alternatives. This CMS/FS work plan is not intended to provide all the detail that will be included in the ARARs identification.
U.S. Department of the Interior	DOI-30	Sec. 5.1, Page 5-3	For clarification, please add “tribal” to sovereign nations to read “sovereign tribal nations”.	PG&E does not object to the clarifying language.

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Metropolitan Water District of Southern California	MWD-20	Section 5.1.1	Section 5.1.1 describes key site characteristics. The bulleted paragraph on geochemical conditions in the floodplain states "...reducing conditions naturally convert Cr(VI) into the relatively innocuous Cr(III)...". Chromium III, although less toxic and less soluble, is still of concern. The maximum contaminant level is based on total chromium. This statement should be rephrased to read "These reducing conditions naturally convert Cr(VI) into Cr(III), which is removed from groundwater by chemical precipitation".	PG&E does not object to the alternative language describing the reducing conditions in the floodplain.
Hargis + Associates, Inc. (on behalf of the Fort Mojave Indian Tribe)	H+A-11	Section 5.1.1, page 5-2	Section 5.1.1. (Page 5-2), while the Tribe appreciates the listing of Cultural Resources as a "Key Site Characteristic," the Tribe's strong view that this area is a cultural landscape should be noted here. Also, it should be listed that the Bureau of Land Management (BLM), through its recently adopted Resource Management Plan, has designated this area as the "Topock-Needles Special Cultural Resource Management Area." Finally, under Sensitive Habitats, the word "proposed" should be struck because the Resource Management Plan (RMP) that designated the Beale Slough Area of Critical Environmental Concern (ACEC) has been adopted by BLM. It should further be noted that a Management Plan for the ACEC will be adopted.	This section is intended to describe Topock features that need to be considered while developing and evaluating remedial alternatives. Each of these features will have regulatory requirements and site-specific considerations that will be reflected in the ARARs identification. As noted in the CMS/FS work plan, DOI is leading a solicitation and evaluation of ARARs for the Topock site, and compliance with ARARs is an evaluation criterion to be applied to each of the remedial alternatives. This CMS/FS work plan is not intended to provide all the detail that will be included in the ARARs identification.
U.S. Department of the Interior	DOI-31	Sec 5.2	All of the alternatives will affect the biological resources in or near the project area in some form or another, but it appears that the constraints will be evaluated with the use of a matrix to compare/contrast alternatives. While a sample matrix may be appropriate for providing an example of some of the criteria that may be used to weight the alternatives, please also reference the <i>Programmatic Biological Assessment (2007)</i> .	It is noted that the Programmatic Biological Assessment is intended to cover field activities up to the final remedy (essentially the RFI and RI data collection, IM operation, and pilot studies) and does not cover implementation of the final remedy. PG&E fully anticipates, however, that the FESA will be identified as an ARAR that will be considered in the evaluation of alternatives in the CMS/FS.
U.S. Department	DOI-32	Sec. 5.2, Page	Please explain whether, and how, the proposal discussed in the second and third paragraphs to	As noted in Section 5.2 of the work plan, the RCRA and CERCLA evaluation criteria will be used to

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of the Interior		5-4	<p>use “a number of approaches” to develop cost/benefit comparisons of remedial alternatives will be consistent with the application of the CERCLA remedy selection criteria. CERCLA and the NCP do not use a cost/benefit analysis in selecting a remedy. Does the proposal in this section contradict that?</p> <p>There is a typo in last sentence – remedial alternative should be remedial “alternative”.</p>	<p>evaluate the defined remedial alternatives. The alternative approaches do not modify the evaluation criteria.</p> <p>CERCLA requires that remedial actions should be cost effective. The determination of cost effectiveness is made by balancing cost against the evaluating criteria of long-term effectiveness; short-term effectiveness; reduction of toxicity, mobility, and volume through treatment; and implementability.</p> <p>This balancing exercise typically involves qualitative and quantitative evaluations, which are discussed in this section of the work plan.</p> <p>Yes, the word “alterative” should be “alternative” in the last sentence in Section 5.2.</p>
Section 6				
U.S. Department of the Interior	DOI-33	Sec. 6.0	<p>There is no mention here of the ARARs.</p> <p>This should be added to the outline.</p>	ARARs are presented in the outline under Description of Current Conditions, Background Information (summary of RFI/RI report, risk assessment, ARARs).
Section 7				
Department of Toxic Substances Control	DTSC-23	Figure 7-1	<p>Since the submission of the CMS/FS Work Plan, a revised base line for the project schedule has been proposed. DTSC requests PG&E to revise the included schedule to follow the new base line schedule. Also, some of the key activities are unclear in the CMS Work Plan schedule. For example, what is meant by “Additional Soil Investigation?” Why did it start before Q1 2007?</p>	<p>It is acknowledged that the baseline schedule has changed since submission of the CMS/FS work plan.</p> <p>The additional soil investigations are to supplement the existing soil data sets for completion of the RFI/RI. Preparation of work plans for the additional soil investigation began in the spring of 2006.</p>
Hargis + Associates, Inc. (on behalf of the Fort Mojave Indian Tribe)	H+A-12	Project Schedule	<p>Based on the June 20, 2007, meeting of the project’s CWG, the Tribe understands that separate CMS/FS documents are being prepared for the soils and the groundwater operating units (OUs). This is also reflected on Figure 7-1. According to this schedule, this work plan will be completed during the third quarter (Q3) of this year</p>	<p>It is acknowledged that the baseline schedule has changed since submission of the CMS/FS work plan.</p> <p>PG&E is aware of the potential relationships between the two operable units and is committed to thoroughly addressing such aspects of the project. It should be clarified that the separation is not strictly between</p>

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			<p>(2007). Work on the soils CMS/FS will be performed beginning in Q4 2009 and ending during Q1 2011, whereas the groundwater CMS/FS work will begin during Q1 2009 and end during Q4 2009.</p> <p>The Tribe understands that at this time, this division appears to be an appropriate strategy in the interest of schedule efficiency. At the same time, there needs to be some level of awareness with regard to potential relationships between the two OUs. For example, in the soils workplan the issue of continuing sources of groundwater contamination was raised. If indeed this condition were present, would it be dealt with in the context of the groundwater remedy or the soil remedy or both? The screening of various remedial technologies would then need to account for such potential media interactions. Perhaps another example would be that various groundwater remedies may have surface facilities (e.g., wells, pipelines, etc.). The siting of such facilities might need to account for the location soil contamination areas.</p> <p>Basically, the Tribe would generally support the decoupling of the CMS/FS documents for the two OUs, but cautions that PG&E should remain aware of the potential need to address interactions between the two media.</p>	<p>groundwater and soil.</p> <ul style="list-style-type: none"> • RFI/RI Volume 2 is intended to focus on the characterization of groundwater, surface water, and pore water from PG&E’s historic operational practice of wastewater discharge to Bat Cave Wash and PGE-8. The resulting “Groundwater” CMS/FS will address those COCs, media, and pathways identified through the conclusions of RFI/RI Volume 2 and associated risk assessment as requiring remedial alternative evaluation in a CMS/FS. It is expected that the dominant media for alternative evaluation in this CMS/FS will be groundwater. • RFI/RI Volume 3 is intended to focus on the remaining historical Topock Compressor Station operations—as well as other media associated with Bat Cave Wash—and will largely focus on soil but will also include groundwater data from wells within and immediately surrounding the Topock Compressor Station. The resulting “Soil” CMS/FS will address those COCs, media, and pathways identified through the conclusions of the RF/RI Volume 3 and associated risk assessment as requiring remedial alternative evaluation in a CMS/FS. It is expected that the dominant media for alternative evaluation in this CMS/FS will be soil.