

Department of Toxic Substances Control

Deborah O. Raphael, Director 5796 Corporate Avenue Cypress, California 90630



Edmund G. Brown Jr. Governor

VIA ELECTRONIC MAIL

August 19, 2011

Ms. Yvonne Meeks Portfolio Manager – Site Remediation Pacific Gas and Electric Company 4325 South Higuera Street San Luis Obispo, California 93401

PACIFIC GAS AND ELECTRIC (PG&E) COMPANY TOPOCK COMPRESSOR STATION DRAFT SOIL RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION WORK PLAN, NEEDLES, CALIFORNIA

Dear Ms. Meeks:

The Department of Toxic Substances Control (DTSC) reviewed the draft "*PG&E Topock Compressor Station Soil RCRA Facility Investigation/Remedial Investigation Work Plan*", dated May 2011 and prepared by CH2MHill. Attached to this letter are DTSC's comments in table format. DTSC looks forward to working with PG&E in addressing and resolving these comments so that the soil investigation can continue to move forward.

If you have any questions please feel free to contact me at (714) 484-5423 or Jose Marcos at (714) 484-5492.

Sincerely,

Karen Baker, CHG, CEG Performance Manager Office of Geology

Attachment: DTSC Comments Table

cc: PG&E Topock Consultative Workgroup Members – Via e-mail PG&E Topock Technical Workgroup Members – Via e-mail Native American Tribal Contacts for the PG&E Topock Project – Via e-mail

| DTSC Comments on the May 2011 Draft RFI/RI Work Plan, Pacific Gas and Electric Company Topock Compressor Station | | |
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| Comment Number | Section / Page | DTSC Comments |
| 1. | 1.1 History of the Soil Investigation Program Page 1-2, Paragraph 2 | Modify the cited sentence as indicated for accuracy, "Similarly, UA-2, the Former 300B Pipeline Liquids Tank, was also previously closed by the county, and" |
| 2. | 1.1 History of the Soil Investigation Program Page 1-2, Paragraph 3 | Modify the highlighted number in the following sentence, "An addendum to the Revised Final RFI/FI Volume 1 will be prepared to document the new units (SWMU 11 and AOCs 21 through 26) that" so that the number of additional AOCs are accurately accounted for (see comments below regarding additional AOCs). |
| 3. | 1.1 History of the Soil Investigation Program Page 1-2, Paragraph 4 | Modify the cited sentence as indicated for accuracy as no soils data have been collected at some AOCs, "The objective of Phase 1 is to collect <u>new or</u> supplemental soil data," |
| 4. | 1.1.1 Soil Part A Investigation History Page 1-3, Paragraph 3 | Revise the following sentence for accuracy: "A meeting was held on December 7, 2010 between DOI, DTSC, and Tribes to discuss UA-1/UA-1 Alternate, combining the soil investigation into one document, and sampling at the mouth of Bat Cave Wash." |
| 5. | 1.1.1 Soil Part A Investigation History Page 1-3, Paragraph 4 | The paragraph states, "Based on the Part A data gaps evaluation, no further investigations are needed at two areas (AOC 12, Fill Areas and UA-2 – Former 300B Pipeline Liquids Tank). The rationale for no additional investigation should be summarized in this document. |
| 6. | 1.1.1 Soil Part A Investigation History Page 1-4, Paragraph 1 | The MW-24 Bench should be identified as a separate area of concern with a unique AOC number. |
| 7. | 1.1.1 Soil Part A Investigation History | DTSC previously requested that the soils around drip legs be sampled. The additional drip legs within the project boundary need to be identified and assigned a unique AOC number. |

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| | Page 1-4, Paragraph 1 | |
| 8. | 1.1.1 Soil Part A Investigation History Page 1-4, Paragraph 1 | PG&E needs to add the IM-3 Treatment Plant and MW-20 Bench as AOCs due to the potential for spills and leaks of contaminated materials at these areas. This issue has been previously requested by DTSC. |
| 9. | 1.1.2 Soil Part B Investigation History Page 1-4, Paragraph 3 | Revise the following sentence for accuracy: "DTSC and DOI provided clarification and direction on March 10, 2010 (DTSC and DOI, 2010b) after a hiatus related to PG&E's request to defer the Part B investigation (PG&E, August 14, 2008)." |
| 10. | 1.1.2 Soil Part B Investigation History Page 1-4, Paragraphs 5 and 6 | The paragraphs need to be revised to accurately account for additional AOCs. Please include the following AOCs: Tank Farm and Waste Oil Sump; Burn Area adjacent to AOC 17; and the Teapot Dome Oil Pit. Please list all the new AOCs identified in this comment table and assign them unique AOC identification numbers. |
| 11. | 1.1.4 Perimeter Area Investigation, Page 1-8 | The section should indicate that the site perimeter walk in 2007 focused on then current site features (e.g., offsite drainage). Additional investigation and evaluation is also needed to locate monitoring points at areas of historic concern (e.g., former drainages, releases). |
| 12. | 2.2.2 X-Ray Fluorescence Field Screening and SOP- B16 Field-portable X- Ray Fluorescence Soil Sampling | XRF screening should also be used on non-soil materials such as debris, concrete, etc., to assist in evaluating areas for further investigation. Include a description of the capabilities of the XRF for non-soil materials and describe the XRF SOPs for such materials. |
| 13. | 2.2.7 Waste Management and | Please provide a list of state authorized permitted facilities that PG&E intends to utilize in the |

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| | Decontamination, and SOP-B6 Disposal of Waste Fluids and Solids | proper disposal of contaminated materials. |
| 14. | Figures 1-2 and 1-3 | The "Other Areas" label identified in the legend should be deleted. The orange areas on the figures are part of AOCs and, therefore, should be colored green. |
| | | The section of Bat Cave wash north of the railroad, including the mouth of the wash, should be indicated as part of AOC1. Environmental investigations have previously been conducted along this section and additional sampling is also proposed for the Phase 2 investigation. |
| | | The Work Plan should explicitly state that the existing AOCs/SWMUs boundaries (e.g., green shaded areas) are approximate only and that soil data will ultimately dictate the extent of environmental impact. |
| 15. | Appendix A Part A Data Gaps Investigation Program | Inconsistencies are present throughout the Part A data gaps investigation program with regards to information between the DOI-DTSC joint-letter dated February 25, 2011, the "crosswalk" table provided to the agencies via email from PG&E on June 1, 2011, and the draft soil RFI/RI Work Plan. For example, the list of analytes in the Work Plan does not contain all the previously identified analytes as indicated in the DOI-DTSC letter. Such as AOC11c-3 where PAHs are not proposed in the Work Plan but is identified in the crosswalk table and; AOC11-2 and AOC11-3 where PCBs are not listed in the Work Plan but are identified in the DOI-DTSC letter and crosswalk table. DTSC recommends that PG&E carefully review the information proposed in the Work Plan to ensure that they accurately reflect all agency directions and previously agreed upon items. Any deviations should be presented and discussed with the agencies. |
| 16. | Appendix A Part A Data Gaps Investigation | PG&E should keep in mind components of the groundwater remedy (infiltration galley) during the collection of RFI/RI soil data at AOC 1/SWMU 1. The collection of data that may be useful for both the soil and groundwater portions of the project during the RFI/RI sampling will result in less |

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| | Program AOC 1 / SWMU 1 | intrusion into the environment. |
| 17. | Appendix A Part A Data Gaps Investigation Program | East Ravine - There is currently no sediment or pore water sampling in the area of discharge from East Ravine. DTSC believes that characterization of sediment and pore water at the river interface is necessary to confirm that unacceptable risk from COCs does not occur. |
| | | This issue has been brought up in past meetings with the agencies, PG&E, tribes and stakeholders. DTSC requests further discussion to determine the path forward for inclusion of this sampling effort in the revised Work Plan. |
| 18. | Appendix B Part B Data Gaps Investigation Program Section 2.4.1 Inputs to Decision 4, Page 2- 12 | Text should be revised to acknowledge that soil that may be prone to erosion (near surface soils) should also be evaluated as part of the offsite migration evaluation. It may not always be appropriate to limit offsite migration analysis exclusively to surface soils. This change should occur throughout Section 2.4. |
| 19. | Appendix B Part B Data Gaps Investigation Program, Potential Transport Mechanisms and Pathways, Page 2-13 | The text only discusses surface water transport for the offsite migration evaluation. It should also mention that wind transport is a viable mechanism to transport contaminated media offsite. Text should mention that the evaluation of potential off site migrations routes is a current site conditions evaluation. As the site changes in the future, new pathways could occur and old pathways may be eliminated. |
| 20. | Appendix B Part B Data Gaps Investigation Program Section 3.0 | Photographs of the SWMUs/AOCs are appreciated (Appendix B25), but may not adequately illustrate access limitations. DTSC requests to attend a field evaluation of each unit with PG&E to understand and confirm access restraints. Findings resulting from the field visit will need to be incorporated into the revised Work Plan. |

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| | Accessibility Evaluation for Areas within the Fence Line, Page 3-1, Paragraph 1. | |
| 21. | Appendix B Part B Data Gaps Investigation Program Section 3.1 Access and | The last paragraph on this page arbitrarily limits surface sampling to 1 foot bgs without any supporting rationale. The Work Plan should be revised to indicate that hand tools, such as augers or shovels, can be used to greater depths limited only by refusal. Additionally, different drilling techniques should also be acknowledged/listed that can be utilized at the station. These subsurface sampling techniques should be discussed in more detail. |
| | Sampling Feasibility Assessment, Page 3- 1, Last Paragraph. | DTSC notes a 2010 PG&E response to one of DTSC comments on the Part B Work Plan, "Further, all boring locations will be hand-excavated to at least 3 feet bgs for safety reasons, regardless of the results of a utility survey (see response to General Comment 11, above)." PG&E is inconsistent with regards to safety measures for soil sampling. |
| 22. | Appendix B Part B Data Gaps Investigation Program Section 3.2 Initial Assessment of Subsurface Utilities | This section calls out numerous utility lines (e.g., electric, gas, water) at the station, but does not accurately locate them or address whether the lines are active or inactive within AOCs/SWMUS. Therefore, utility impact on sample selection is not known at this stage. This critical part of utility evaluation will need to be completed for each AOC/SWMU in conjunction with DTSC oversight and input. DTSC is perplexed as to why such a basic assessment is being deferred by PG&E especially since PG&E was alerted to this concern during development of the previous Part A and Part B Work Plans. |
| 23. | Appendix B Part B Data Gaps Investigation Program Section 3.3 Safety Assessment for Sampling within the Compressor | DTSC has witnessed PG&E conduct operational and maintenance work on the station that included highly intrusive soil excavations, including excavations below areas with thick concrete, within tight confines of operating infrastructure, and surrounded by/underneath numerous utilities (see 2008 photos below and in succeeding comments). Former soils excavations and sampling by PG&E have also been successful (see Closures Reports, Part B soil sampling). For soil sampling to be successful, DTSC requests that PG&E disclose in the Work Plan its process/method for excavating onsite (e.g., include utility clearance protocols mentioned in Figure |

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| | Station Fence Line, Page 3-2 | <image/> |

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| 24. | Appendix B Part B Data Gaps Investigation Program Figure B-1 | The orange areas on the figures are AOCs and should be colored green. |
| 25. | Appendix B Part B Data Gaps Investigation Program Figure B-2 Compressor Station Accessibility Map, | The map does not clearly determine if an area is accessible for soil sampling. For example, just because an area is covered (orange color) it should not be automatically eliminated from further investigation during this phase of work. Based on the unclear safety assessment presented in the Work Plan, DTSC is requiring field visits to each AOC/SWMU to evaluate access restrictions. The Work Plan should be revised after DTSC input from these field visits. |
| | | Footnote 2: Comments arbitrarily limiting sampling to 1 foot bgs should be removed. Obviously, deeper samples have been collected onsite in the past and will need to be collected at depth in the future. |
| | | Footnote 3: DTSC disagrees with the conjecture contained in this footnote and requests that it be deleted. Operating and closed facilities under DTSC oversight, routinely sample through asphalt and concrete. Any increased risk due to sampling should be de minimis as PG&E is required to ensure workers are not exposed to COCs during soil characterization activities. Sites, in general, would never be cleaned up if the postulated concern identified in the footnote was given any priority. |
| | | Characterization efforts are requested by DTSC to ensure protection of human health. Based on DTSC's 2008 observations of PG&E conducting deep soil excavations at the station (see photos below and in preceding comments), DTSC believes that soil contamination could have been encountered without maintenance worker knowledge. Site maintenance workers seemed to rely on visual clues of contamination. This visual method of "site characterization" seems to be the realistic risk to workers rather than any conventional soil sampling. |
| | | It appears that a soils management plan (SMP) needs to prepared by PG&E for DTSC approval to ensure site workers will not inappropriately or inadvertently encounter, move, or manage contaminated soils at or around the station. Additionally, the SMP should ensure that contaminated soils on the station are not placed offsite as the same soils could pose an |

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| | | unacceptable risk offsite (residential screening), but not onsite (commercial risk screening). |
| | | Reference to "Table X" needs to be corrected. |
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| 26. | Appendix B Part B Data Gaps | Metals should be added to SWMUs 5 through 9 as indicated in the individual chapters for these SWMUs. |
| | Investigation Program Table B-12 | This table should be double-checked to ensure it is consistent with tables for individual AOCs/SWMUs. |
| 27. | Appendix B Part B Data Gaps Investigation Program, Appendix B2 Section 3.1 SMWU 5 Access Constraints, Page 2- 3 | DTSC does not believe there is a significant access limitation for this unit based on the information provided in the Work Plan. Please see comments on Section 3 of the Work Plan. DTSC first notes that the Work Plan documents historic sampling in the exact area to three feet bgs and in the general area to 19 feet bgs. Secondly, PG&E conducted demolition activities for the former unit including destruction of the entire subgrade, 8-inch thick reinforced concrete sludge beds and 30-inch thick concrete footings. The concrete was broken in place with heavy equipment (i.e., 1,200 pound hydraulic breaker – see 1990 Closure Report figure below) and would have had to have been removed with heavy equipment. Deeper sampling (to approximately 10 feet) must be proposed by PG&E in the revised Work Plan to appropriately characterize the unit. PG&E originally proposed drilling to 10 feet in the 2007 Part B Work Plan, sampling at 1, 3, 6, and 10 feet bgs. It simply does not make sense that drill rigs for groundwater well extending hundreds of feet deep, earth moving bulldozers, and concrete shattering backhoes can operate in the area, yet less intrusive soil sampling equipment cannot. Do note that the Closure Report indicates the area as very rocky so contingent sampling methods must be included in the Work Plan (e.g., sonic drilling or backhoe). Contingent drilling methods should occur for all AOCs and SWMUs. |

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| | | May 1990 1042IV 1042IV Sweeping Sludge from the West Drying Bed | |
| | | MITELHAUSER Corporation Pake Topock compressor Station Pases 1 & 2, HWMF Closure Pases 1 & 2, HWMF Closure | the set the se |

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| 28. | Appendix B Part B Data Gaps Investigation Program, Appendix B2 Section 3.2 SMWU 5 Proposed Sampling, Page B2- 4, Paragraph 2 | The two samples proposed are not assessing releases from SWMU 5. The shallow depth proposed would evaluate the composition of the backfill used during closure of the unit. Additional sampling at depths to approximately 10ft bgs is needed to evaluate potential releases from below the bottoms of the former sludge beds (bottom approximately 3 feet bgs). As the units were approximately 50 feet long, DTSC proposes that two boring be completed in each of the two former beds. Additionally, four more locations are requested around the units (north, east, south, and west) to assess for surface spillage outside the boundaries of the unit (See 2008 DTSC Specific Comment 7). Please note that metals analyses are included for all samples (See Table B2-3). |
| 29. | Appendix B Part B Data Gaps Investigation Program, Appendix B2 Figure B2-1 and B2-2 | AOC 21 (surface impoundment with white material) is not plotted accurately on both figures as it is located too close to SWMU 5 (former sludge beds). It is imperative that the former units be accurately located so that soil samples can be properly placed. 1955 oblique aerial photographs indicate that the AOC 21 impoundment is 30 to 50 feet south of the sludge beds. The Work Plan must be revised and associated sampling points shifted. |
| 30. | Appendix B Part B Data Gaps Investigation Program, Appendix B3 Section 1.0 Introduction and Background SWMU 6, Page B3-1, Paragraph 2. | PG&E should confirm the depth of the pit in which the chromate reduction tank sat. A six foot depth is cited in the Work Plan, while the 1990 closure report indicates a 4 foot depth, but that the tank sat upon 2 foot tall concrete footings. The assigned depth of the analytical data should also be double checked as it is referenced in the Closure Report to the base of the pit after one foot of soils was already removed. Based on the Closure Report, DTSC would assume that the confirmation soil samples were collected from 5.5, 6, and 6.5 feet bgs, not 7.5, 8 and 8.5 feet bgs as reported in the Work Plan. |

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| 31. | Appendix B Part B Data Gaps Investigation Program, Appendix B3 Section 1.0 Introduction and Background SWMU 6, Page B3-1, Last sentence. | Please delete the following sentence, "No indications of any releases were observed during a facility inspection performed as part of the Resource Conservation and Recovery Act facility assessment (Kearny, 1987). DTSC is perplexed as to why PG&E would perpetuate the false notion that the chromium reduction tank area is not impacted when the 1990 Closure Report suggests otherwise (note that PG&E has been previously informed by DTSC regarding this specific oversight). The section should add findings of the Closure Report (e.g., "bathtub ring" in the bottom on the unlined soil floor on which the tank sat; disposal of soil as hazardous waste from the floor because it might have been contaminated). Even if one ignores the oil staining observed within the trench below the tank area during closure, existing soil analytical data also suggests the tank area soil had been impacted. |
| 32. | Appendix B Part B Data Gaps Investigation Program, Appendix B3 Section 3.1 SMWU 6 Access Constraints, Page B3-3 | As with SWMU 5 (see above), DTSC does not believe there is a significant access limitation for this unit based on the information provided in the Work Plan and 1990 Closure Report. Please see comments on Section 3 of the Work Plan. Historic sampling has occurred within the tank pit area to approximately 7 to 8 feet bgs from a trench dug with a backhoe (see Closure Report). Demolition activities and pit backfilling also occurred at the unit. PG&E originally proposed drilling to 10 feet in the 2007 Part B Work Plan, sampling at 1, 3, 6, and 10 feet bgs. Do note that the Closure Report indicates the area as very rocky so contingent sampling methods must be included in the Work Plan (e.g., sonic drilling or backhoe). |
| 33. | Appendix B Part B Data Gaps Investigation Program, Appendix B3 Section 3.2 SMWU 6 Proposed Sampling, Page B3- 4, Paragraph 2 | One sample location proposed is acceptable provided that it can be located precisely in relation to the former unit. If it cannot be precisely located, then additional locations are warranted (up to two more locations). The Work Plan should be revised to specify that the location should target the oil staining left in place during closure. The shallow depth proposed in the Work Plan is problematic as it would only evaluate the composition of the backfill used during closure of the unit. Additional sampling depth is needed to approximately 10ft bgs to evaluate potential releases from below the base of the pit (base approximately 5 feet bgs). |
| | | A conceptual site figure, in the form of an up close cross-section, should be prepared for this SWMU. |

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| 34. | Appendix B Part B Data Gaps Investigation Program, Appendix B3 Table B3-1 | Duplicate data for CRT-4 should be included on the table as originally done in the 2007 Part B Work Plan. |
| 35. | Appendix B Part B Data Gaps Investigation Program, Appendix B4 Section 1.0 Introduction and Background SWMU 8, Page B4-1, Paragraph 2, Last sentence. | Please delete the following sentence from the Work Plan, <i>"No indication of a release was observed during a facility inspection performed as part of the Resource Conservation and Recovery Act facility assessment (Kearny, 1987)"</i> as the more definitive 1990 Closure Report and this Work Plan both clearly indicate that a release from the former unit did occur. |
| 36. | Appendix B Part B Data Gaps Investigation Program, Appendix B4 Section 1.0 Introduction and Background SWMU 8, Page B4-2, Paragraph 2, | The following sentence needs to be revised, <i>"Following removal of the tank, concrete foundation, and subsoils, and approximately 1.5 feet of contaminated soil, a trench was dug and samples were collected from the wall of the trench at 2 feet and 3 feet below the bottom of the excavation (which corresponds to approximately 4 and 5 feet below ground surface [bgs])."</i> Page 6-8 of the 1990 Closure Report indicates that the 2 and 3 foot bgs samples obtained from the trench were based on measurements from "beneath the former Process Pump Tank foundation" not the bottom of the excavation. This may require changes to the 4 and 5 foot reference throughout the entire chapter. |
| 37. | Appendix B Part B Data Gaps Investigation Program, Appendix | As with SWMU 5 and SWMU 6, DTSC does not believe there is a significant access limitation for this unit based on the information provided in the Work Plan and 1990 Closure Report (excavation and trenching with a backhoe, concrete demolition with heavy equipment). |

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| | B4 Section 3.1 SMWU 8 Access Constraints, Page B4-3 | |
| 38. | Appendix B Part B Data Gaps Investigation Program, Appendix B4 Section 3.2 SMWU 8 Proposed Sampling, Page B4- 3, Paragraph 2 | Sampling to only 0.5 feet bgs or even 3 feet bgs will result in inadequate site characterization and require another characterization effort in the area. DTSC believes obtaining as much necessary site characterization data during one effort is fundamental to the project. Therefore, samples from greater depths are required. PG&E originally proposed sampling to 10 feet at this unit in the 2007 Part B Work Plan, sample depths at 1, 3, 6, and 10 feet bgs at three locations. This sampling interval should be followed. The shallow bedrock called out in the Closure Report is probably in error based on information collected during recent groundwater well installations on the station. Mention of bedrock in this chapter should be revised based on this new data. DTSC recommends that two locations be sampled to ten feet. One location from directly below the former pad and one location adjacent to the pad to assess for leaks and overflow from the unit directly to the unpaved soil. |
| 39. | Appendix B Part B Data Gaps Investigation Program, Appendix B5 Section 3.1 SMWU 9 Access | As with SWMUs 5, 6, and 8 DTSC does not believe there is a significant access limitation for this unit based on the information provided in the Work Plan and 1990 Closure Report (deep excavation to approximately 20 feet bgs and concrete demolition with heavy equipment). |
| | Constraints, Page B5-2 | |

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| 40. | Appendix B Part B Data Gaps Investigation Program, Appendix B5 Section 3.2 SMWU 9 Proposed Sampling, Page B5- 3, Paragraph 2 | Sampling to only 0.5 feet bgs or even 3 feet bgs will result in inadequate site characterization and require another characterization effort in the area. The shallow depth proposed in the Work Plan is problematic as it would only evaluate the composition of the backfill used during closure of the unit. DTSC believes obtaining as much necessary site characterization data during one effort is fundamental to the project. Therefore, samples from greater depths are required. PG&E originally proposed sampling to 25 feet at this unit in the 2007 Part B Work Plan. This depth and the sampling interval contained in PG&E's 2007 Work Plan should be followed. One sample location proposed is acceptable provided that it can be located precisely in relation to the former unit. If it cannot be precisely located, then additional locations are warranted (up to two more locations). |
| 41. | Appendix B Part B Data Gaps Investigation Program, Appendix B6 Section 1.1 Background SWMU 11, Paragraph 2, Last Sentence | Change "contaminated" to "containment" in the following sentence, "These tanks were located within the original epoxy-coated concrete contaminated structures." |
| 42. | Appendix B Part B Data Gaps Investigation Program, Appendix B6 Section 1.1 Background SWMU | A detailed map/figure (scale of approximately 1" = 5') of the former sulfuric acid tank and containment area is requested. It should illustrate the current and former tanks, any sumps/low spots, etc. A site visit to these units is requested. Additional history for SWMU 11 appears necessary. A 2006 DTSC photograph (see photo below) indicates that an old 2,600 gallon tank was still in place by Cooling Tower B in 2006 even though it is reported out of service in 1984. When were the 2,600 gallon tanks installed? How old is the |

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| | 11 | containment structure? The 2006 photo does not illustrate the location of the newer acid tanks within the containment structure. The revised Work Plan should indicate other locations where the acid would have been stored during historical operations. 1955 aerial photos do not show the 2,600 gallon tanks. Where were acids stored during this era? A complete history of SWMU 11 is requested. Additional sampling should be proposed in the revised Work Plan if additional storage locations are identified. |
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| 43. | Appendix B Part B Data Gaps Investigation Program, Appendix B6 Section 3.1 SMWU 11 Data Gaps, Decision 2 | As no data has been intentionally collected for this unit, Decision 2 should not be identified as having sufficient data for supporting exposure point concentrations. Revision is requested. |
| 44. | Appendix B Part B Data Gaps Investigation Program, Appendix B6 Section 3.2 SMWU 11 Access Constraints | Based on the information provided in the Work Plan, DTSC is uncertain if any significant access limitations truly exist for this unit. DTSC is requiring field visits for this SWMU to evaluate access restrictions. The Work Plan should be revised after DTSC input from these field visits. |
| 45. | Appendix B Part B Data Gaps Investigation Program, Appendix B6 Section 3.3 SMWU 11 Proposed Sampling | Sampling to only 0.5 feet bgs or even 3 feet bgs will result in inadequate site characterization and require another characterization effort in the area. DTSC believes obtaining as much necessary site characterization data during one effort is fundamental to the project. Therefore, samples from greater depths are required. PG&E originally proposed sampling to 15 feet at the nearby cooling towers in the 2007 Part B Work Plan. This depth and the sampling interval contained in PG&E's 2007 Work Plan should be followed. The feasibility of locating samples within the containment area of the former tank should be discussed in the revised Work Plan and implemented if possible. If feasible, DTSC would be willing to reduce the number of sample locations. Otherwise, DTSC requests that angle borings be directed under the units. PG&E should recall that DTSC's Acting Deputy Director was in favor of angle or horizontal soil borings to gain proper access at the station. |
| 46. | Appendix B Part B Data Gaps Investigation | The following sentence must be modified as indicated as it does not properly define the AOC, "Area of concern (AOC) 5 consists of the area <u>below and</u> surrounding original Cooling Tower A, as shown in Figure B7-1". Same issue for AOC 6. |

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| | Program, Appendix B7 Section 1.1 Background AOC 5, Page B7-1 | The Work Plan should indicate if grading occurred or fill soil has been placed at AOC 5 (potentially covering contaminated soil), especially after the cooling towers were replaced. Areas that were historically uncovered soils, but are now paved or under concrete should be identified as it can affect sampling locations and understanding of the site. |
| 47. | Appendix B Part B Data Gaps Investigation Program, Appendix B7 Section 1.1 Background AOC 5, Page B7-2 | The Work Plan states, "Chemical Storage Tanks: There are three aboveground storage tanks at the southern end of the cooling tower that are used for the storage of the currently used cooling water treatment products". The Work Plan should state what chemicals are stored in these tanks and propose additional analytical methods if necessary. |
| 48. | Appendix B Part B Data Gaps Investigation Program, Appendix B7 Section 2.0 Summary of Past Soil Characterization AOC 5, Page B7-3 | The last sentence on the page, "In all cases, the lowest concentrations of detected constituents were found in the shallow soil sample", should be deleted as it is erroneous for sample PS-13 and does not apply at the other three surface sample locations. |
| 49. | Appendix B Part B Data Gaps Investigation Program, Appendix B7 Section 3.0 AOC 5 Nature and | All sections summarizing data (3.1 to 3.4 and 4.0) indicate that the lateral extent of contamination is not identified to the east, north, and west. The Work Plan should be revised to indicate that it is also not identified to the south. Table B7-2: The industrial screening level for chromium changed from 450 mg/kg in the 2007 Work Plan to 1,400 in the current Work Plan. Please clarify this change. |

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| | Extent Data Gaps, Page B7-3 | |
| 50. | Appendix B Part B Data Gaps Investigation Program, Appendix B7 Section 4.1 AOC 5 Access Constraints | Based on the information provided in the Work Plan, DTSC is uncertain if there is a significant access limitation for this unit including sampling below the unit. PG&E should obtain samples from beneath the old Cooling Tower basins as contaminated liquids constantly resided within the basins of the towers. DTSC previously commented on this issue (see DTSC's 2008 comments). Ignoring this critical pathway would be akin to not sampling under a surface impoundment that contained contaminated liquids. PG&E should recall that DTSC's Acting Deputy Director was in favor of angle or horizontal soil borings to gain proper access at the station. A DTSC field visit to this AOC is required to evaluate access restrictions. The Work Plan should be revised after DTSC input from field visits. |
| | | depth and the sampling interval contained in PG&E's 2007 Work Plan should be followed as a default. |
| 51. | Appendix B Part B Data Gaps Investigation Program, Appendix B7 Section 4.2 AOC 5 Proposed Sampling | The proposed sampling is inadequate to characterize the site or select any potential remedial measures. DTSC and CRIT had requested that additional samples be proposed for this unit. Instead, PG&E has removed two AOC 5 samples from PG&E's original proposal contained in the 2007 Part B Work Plan. Additionally, FMIT's 2008 proposal to utilize XRF in the field has not been incorporated into the site assessment process for this unit. |
| | | The Work Plan should include better rationale for each sample locations at this AOC. DTSC is uncertain why the exact sample locations have been proposed. For example, are certain locations specifically located in a low spot or an area where discharges were likely to occur (i.e., AOC5-3 to assess former chemical storage shed)? Sampling should be based on where contaminants likely traveled. Other than under the Cooling Tower Basin and former chemical storage shed, the Work Plan does not mention potential problem areas. |

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| | | DTSC requests that the Work Plan be revised to allow XRF screening first be conducted to assist in guiding drilling and quickly defining surficial hot spots. Based on the XRF, conventional soil sample locations could be added, moved, or dropped if needed. DTSC recommends that 10 soil sample locations be initially proposed for this AOC based on information presented in the Work Plan. This number could be modified based on the DTSC field visit. |
| | | It is not clear if organics would have been associated with the cooling towers. The conceptual site model briefly touches on organics. If it is uncertain if organics were used at the cooling towers, then it is recommend that organics be added to the analyte list. However, as organics were possibly sprayed onto soils as part of old station maintenance (see 1955 oblique aerial photograph), analyses for organics is requested. |
| 52. | Appendix B Part B Data Gaps Investigation Program, Appendix B8 AOC 6 | Comments on AOC 5 (Cooling Tower A) above also apply to AOC 6 (Cooling Tower B). |
| 53. | Appendix B Part B Data Gaps Investigation Program, Appendix B9 Section 1.1 Background AOC 7, Page B9-1 | The section should indicate that the Carpenter Shop used to be a chemical storage building. |
| 54. | Appendix B Part B Data Gaps Investigation | The paragraph states, "The concrete foundations in this area are quite thick, and it is unlikely that any materials migrated through the concrete". Revision to the conceptual model/paragraph is suggested as DTSC has noted migration of contaminants through concrete on this and other sites. |

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| | Program, Appendix B9 Section 1.2 Conceptual Site Model AOC 7, Page B9-2,Paragraph 2 | |
| 55. | Appendix B Part B Data Gaps Investigation Program, Appendix B9 Section 3.2 AOC 7 Access Constraints | Based on the information provided in the Work Plan, DTSC is uncertain if there is a significant access limitation for this unit including sampling inside buildings. A DTSC field visit to this AOC is required to evaluate access restrictions. The Work Plan should be revised after DTSC input from field visits. PG&E originally proposed sampling to six feet at this unit in the 2007 Part B Work Plan. In review of the 2007 Plan, DTSC commented on this depth and requested 10 feet. The 10-foot depth and the sampling interval contained in PG&E's 2007 Work Plan should be followed as a default. |
| 56. | Appendix B Part B Data Gaps Investigation Program, Appendix B9 Section 3.3 AOC 7 Proposed Sampling | DTSC requests at least four additional sample locations. Some on the west side of the building north of the Carpenters Shop/Chemical Storage Building as the 1955 aerial illustrates that drums appear to have been stored in this area and a couple more for the Carpenters Shop/Chemical Storage Building. Sampling inside the buildings should also be considered as they were used for chemical storage and PG&E had originally planned on sampling inside as indicated in the 2007 Part B Work Plan. XRF screening for this area should be considered as should soil gas sampling, especially if access constraints truly exist. Soil gas sampling should also be considered for all applicable AOCs/SWMUs. |
| 57. | Appendix B Part B Data Gaps Investigation Program, Appendix | The age of the storage locker should be stated in the Work Plan. Comments on AOC 7 apply to AOC 8, however, no additional sample locations are requested and XRF screening does not seem applicable due to pavement. |

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| | B10 AOC 8 | |
| 58. | Appendix B Part B Data Gaps Investigation Program, Appendix B11 Section 4.2 AOC 13 Access | While access constraints exist for portions of AOC 13, this section is of no value documenting what the true constraints are for each sample proposed. It is assumed that there are no/minimal access constraints for many locations. This is assumed since intrusive activities periodically/routinely conducted at the compressor station (e.g., trenching/excavations/sampling) have been successfully undertaken by PG&E in the past. |
| | Constraints | The following sentence contained in this section (and some other AOC sections) will need to be revised for clarity, "Sample locations and depths identified for AOC 13 reflect the identified access constraints and will be modified." The Work Plan will need to be revised to indicate that sample locations and depths will not be modified without DTSC approval. The Work Plan needs to be revised to reflect that borings are to be completed to 6 to 10 feet bgs as originally proposed by PG&E in their 2007 Part B Work Plan (see Table 5-12 of that plan). |
| 59. | Appendix B Part B Data Gaps Investigation Program, Appendix B11 AOC 13 Figure B11-3 | Additional borings are requested within close proximity to the following sample locations due to historic elevated contaminant detections: PGE-LT8, BGCS-5, BGCS-6 (possibly BGCS-3). Analyze for the full suite of AOC 13 analytes. Please also add a boring based on soil discoloration depicted in the 1955 oblique aerial photograph (Figure 3-14 of RFI Volume 1). This area is located on the slope between the compressor engine building and the lower yard where the paved, descending, access road bends. |
| 60. | Appendix B Part B Data Gaps Investigation Program, Appendix B11 AOC 13 Figure B11-4 | Additional borings are requested based on the numerous detections of elevated TPH illustrated on this figure. PG&E needs to revise the Work Plan to include appropriate characterization of these previously screened areas. Figure B11-2 and data tables should be utilized to assist in selecting additional locations. Additional samples are also needed where Figure 3-15 of the RFI Volume 1 (1955 oblique aerial photograph) illustrates soil discoloration around the jacket water coolers and auxiliary jacket water coolers. |

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| 61. | Appendix B Part B Data Gaps Investigation Program, Appendix B11 AOC 13 Figure B11-5 | Please modify this figure or create a new one to include only AOC 13 locations so that they may be appropriately viewed without distraction. |
| 62. | Appendix B Part B Data Gaps Investigation Program, Appendix B12 Section 1.1 Background AOC 15, Paragraph 2 | The cited sentence should be revised as indicated for accuracy, "Incidental leaks and spills have occurred and may have resulted in impacts to the soil beneath the pumps." PG&E must reinsert information removed from the 2007 Part B Work Plan regarding when then neighboring areas were unpaved (at least 1967). Provide the rationale for PG&E's removal of the information. As requested by DTSC in 2008, surface drainage and low points, etc., should be identified for this unit. PG&E should review DTSC's 2008 Specific Comment 24 again and address it in the revised Work Plan. Information regarding where contamination likely flowed from this unit is necessary, otherwise a larger, less focused, investigation is required. |
| 63. | Appendix B Part B Data Gaps Investigation Program, Appendix B12 Section 1.2 Conceptual Site Model AOC 15, Last Paragraph | The section states, "Because the entire AOC is covered with gravel or concrete pavement, runoff of contaminated surface soil in rainwater is not considered a potential migration pathway." The sentence should be revised as gravel would not stop soluble contaminants, such as hexavalent chromium, from migrating away from the unit. |
| 64. | Appendix B Part B Data Gaps Investigation | Interpretations regarding zinc concentrations above background are incorrect and the Work Plan will need to be revised. |

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| | Program, Appendix B12 Section 3.6 AOC 15 Zinc | |
| 65. | Appendix B Part B Data Gaps Investigation Program, Appendix B12 Section 4.0 AOC 15 Data Gaps | Decision 2: This bullet indicates that SVOCs/PAHs are being added to all soil samples collected within the fence line. Clarification is requested as the analytical summary tables do not reflect this. |
| 66. | Appendix B Part B Data Gaps Investigation Program, Appendix B12 Section 4.2 AOC 15 Access Constraints | While access issues certainly exist for AOC 15 based on surface structures alone, PG&E has successfully sampled to depth in the past at this unit beyond what is proposed in the Work Plan. PG&E originally proposed sampling to 15 feet at this unit in PG&E's 2007 Part B Work Plan. This depth and the sampling interval contained in PG&E's 2007 Work Plan should be followed as a default. PG&E should identify small drilling units that can be moved into the AOC15 area as several exist on the market. A site visit is warranted for this unit. |
| 67. | Appendix B Part B Data Gaps Investigation Program, Appendix B12 Section 4.3 AOC 15 Proposed Sampling | PCBs, SVOCs, and PAHs should be added to the analyte list due to the detections of PCBs elsewhere at the station and also due to the historical oiling of roads/soils at the station. The Work Plan must be revised to incorporate XRF screening to first be conducted to assist in guiding drilling and quickly defining surficial hot spots. The rationale for the proposed sampling is poor, especially since the original rationale for the older samples is essentially missing. Based on the information presented in the Work Plan, additional step out borings are needed for this AOC as impacted soils have been detected at all previous locations and there is no assurance that hot spots do not exist In the area. Seven additional locations are required for this AOC (five in the pump area and a couple south of location AOC15-6). Additional locations may also be needed based on potential historic releases (e.g., potential flow offsite). Hopefully, the XRF screening will |

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| | | help to reduce the number of conventional borings. |
| | | Decision 5: STLC and TCLP analyses should be considered for <u>all</u> SMWUs and AOCs (Part A and Part B) if high concentrations are detected (such as at this AOC). The revised Work Plan should address this data gap to evaluate issues associated with hazardous waste. |
| | | The need to conduct pilot tests for contaminated soils should be considered for the project and inclusion in the Work Plan. Some Tribes have shown interest in soil washing. Perhaps known contaminated soils removed from this AOC could be utilized in a pilot project(s), especially if excavation methods are used to obtain samples and clear utilities. |
| | | Best management practices/upgrades should be evaluated for this AOC to minimize the likelihood for future releases. Can lined sumps be installed to catch periodic spills associated with operations? |
| 68. | Appendix B Part B Data Gaps Investigation Program, Appendix B13 Section 1.1 Background AOC 16 | The section indicates that the unit was installed in the early 1990s. The section should be revised to indicate where sandblasting occurred prior to the installation of the shelter. |
| | | The second paragraph discusses sandblast grit waste visible at the surface surrounding this unit. The presence of the waste at the surface suggests that PG&E operations could be improved. PG&E should consider best management practices to contain the grit including, if necessary, cleaning it up from the surface once work is completed. |
| 69. | Appendix B Part B Data Gaps Investigation Program, Appendix B13 Section 2.0 Summary of Past Soil Characterization | This paragraph will need to be revised as it incorrectly states that all four constituents analyzed were only detected at concentrations at or below their respective background threshold values. |

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| | AOC 16, Paragraph 3 | |
| 70. | Appendix B Part B Data Gaps Investigation Program, Appendix B13 Section 4.1 AOC 16 Data Gaps, Paragraph 3 | Data Gap #1: The text should be revised to indicate that the extent of contamination has also not been assessed to the south. |
| 71. | Appendix B Part B Data Gaps Investigation Program, Appendix B13 Section 4.2 AOC 16 Access Constraints | Based on the information provided in the Work Plan and from previous site visits, access constraints for this unit seem minimal. A site walk would be beneficial to specifically observe any obvious constraints. The revised Work Plan should indicate that a drill rig can access this area. |
| 72. | Appendix B Part B Data Gaps Investigation Program, Appendix B13 Section 4.3 AOC 16 Proposed Sampling | PG&E originally proposed to drill all locations to a depth of 10 feet bgs in their 2007 Part B Work Plan. DTSC believes that drilling to 3 feet should be sufficient based on the nature of the unit (dry waste releases to the surface). Provided that liquids were not used, DTSC requests that samples be collected at 0, 1, and 3 feet bgs for each boring. PCBs, SVOCs, and PAHs should be added to the analyte list due to the detections of PCBs elsewhere at the station and also due to the historic oiling of roads/soils at the station. The Work Plan must be revised including updating Table B13-4. PG&E has indicated in RTCs (Appendix B26) that sandblast operations occurred in the area prior to construction of the shelter. Therefore, sampling beneath the concrete slab should be considered. |
| | | sampled AOCs/SWMUs) as it has not been previously sampled. These contingency locations |

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| | | should be identified in a different color on revised Work Plan figures. |
| | | The Work Plan must be revised to incorporate XRF screening to first be conducted to assist in guiding drilling and quickly defining surficial hot spots. |
| 73. | Appendix B Part B Data Gaps Investigation Program, Appendix B13 Figure B13-1 and B13-3 | The Figures B13-1 and B13-3 of the Work Plan should be revised for AOC 16. The scale of the existing figures is inappropriate as it does not focus on the AOC and includes several other unrelated AOCs. A scale of approximately 1" = 15' should be used. |
| 74. | Appendix B Part B Data Gaps Investigation Program, Appendix B14 Section 1.1 Background AOC 17 | The background section should mention when the septic system was installed. |
| 75. | Appendix B Part B Data Gaps Investigation Program, Appendix B14 Section 3.1 AOC 17 Data Gaps | Decision 2: As no data has been collected for this AOC, Decision 2 should not be identified as having sufficient data for supporting exposure point concentrations. Revision is requested. |
| 76. | Appendix B Part B Data Gaps Investigation Program, Appendix B14 Section 3.2 AOC | Based on the information provided in the Work Plan and PG&E's 2007 Part B Work Plan, the only known access constraint for the septic system is the system itself. However, after the geophysical survey described in Section 3.3 is conducted, a better understanding of the leachfield location should be known. Therefore, sampling depth intervals for this AOC should be those originally proposed by PG&E in their 2007 Part B Work Plan that includes drilling to 15 feet. The |

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| | 17 Access Constraints | Work Plan must be revised to reflect PG&E's original proposal. |
| 77. | Appendix B Part B Data Gaps Investigation Program, Appendix B14 Section 3.3 AOC 17 Proposed Sampling, Paragraph 1 | The section states, "A geophysical survey will be performed to attempt to locate the exact location of the leachfield to assist with sample location placement." Details regarding this survey should be included in this section including the suite of instruments that will be used. The Work Plan should also indicate that a better figure will be prepared for AOC 17 once the geophysical survey is completed. The scale (1" = 50') of the existing figure (Figure B14-1) is inappropriate as it includes several other unrelated AOCs. A scale of approximately 1" = 15' should be used. |
| 78. | Appendix B Part B Data Gaps Investigation Program, Appendix B14 Section 3.3 AOC 17 Proposed Sampling, Paragraphs 2 and 3 | PCBs should be added to the analyte list due to the detections of PCBs elsewhere at the station and also due to potential incorporation of PCBs into oil that had been used to oil roads in the past. Table B14-2 will need to be revised (also see comment above on AOC 17 access constraints). Step out (lateral and vertical) contingency borings should be considered at this unit (and other un- sampled AOCs/SWMUs) as it has not been previously sampled. These contingency locations should be identified in a different color on figures. |
| 79. | Appendix B Part B Data Gaps Investigation Program, Appendix B15 Section 3.0 AOC 18 Data Gaps and Propose Sampling | Revise the first stated data gap as follows: Data Gap #1 – Collect additional soil samples to analyze for organics <u>especially at areas where releases have been documented</u> . As a result of this clarification, PG&E will need to go back to the closure plan and confirm that proposed samples are properly located where contaminated materials were removed or pipeline leaks were identified. PG&E will need to provide this critical information/rationale in a revised Table B15-4 and text. The revised Work Plan should provide assurances that proposed locations (and depths) are |
| | | carefully located in relation to the former/current pipelines. Otherwise, additional sample locations |

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| | | will be needed or trenching/excavation should be employed. |
| 80. | Appendix B Part B Data Gaps Investigation Program, Appendix B15 Section 4.1 AOC 18 Access Constraints | Based on the nonspecific information provided in the Work Plan, DTSC is uncertain if there is a significant access limitation for these units. Previous intrusive closure activities (pipeline removal, contaminated soil excavations) were successful in the past and suggest that sample access is not a concern in most areas. |
| 81. | Appendix B Part B Data Gaps Investigation Program, Appendix B15 Section 4.2 AOC 18 Proposed Sampling | See comment above regarding Data Gap # 1 for AOC 18. Target depth should be 10 feet bgs as originally proposed by PG&E in their 2007 Part B Work Plan. Include PCBs in the analysis for these samples due to oily/organic association. Sample location AOC18-9 does not define the vertical and lateral extent of the PH-2 sample result. Additional samples are required. |
| 82. | Appendix B Part B Data Gaps Investigation Program, Appendix B16 Section 1.1 Background AOC 19 | Based on the description of the chemical additive shed and highly contaminated green chromium droplets at the surface of the unit by the emergency eyewash, PG&E must start focusing on remedial/interim measures for this area. The measures installed by PG&E (visqueen and wooden pad covering contaminated areas) are only temporary and may not be adequate. The revised Work Plan should indicate how PG&E plans on moving expeditiously to take care of this problem. |
| 83. | Appendix B Part B Data Gaps Investigation Program, Appendix B16 Section 1.2 Conceptual Site Model AOC 19, Last | The section states, "Because the entire AOC is covered with gravel or concrete pavement, runoff of contaminated surface soil in rainwater is not considered a potential migration pathway." The sentence should be revised as highly contaminated soluble chemicals (e.g., greenish chromium droplets) are readily transported away from the unit. PG&E should make this revision for other applicable units as well. |

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| | Paragraph | |
| 84. | Appendix B Part B Data Gaps Investigation Program, Appendix B16, 2.0 Summary of Past Soil Characterization | The section states, "Since the concrete debris and soil samples collected from the former hotwell have been removed and are not representative of current site conditions, these data are not presented on tables and figures in this sub-appendix, but are discussed in the following nature and extent discussion for context". Historic data should not be downplayed as it indicates what was found and is valuable as it should suggest what to anticipate in the future. Please note that not all concrete or soils were removed in the past. |
| 85. | Appendix B Part B Data Gaps Investigation Program, Appendix B16, Nature and Extent Conclusions AOC 19 | The short paragraph on Page B16-7 (Section 4.9) should also indicate that, while above background and below screening levels, the lateral and vertical extent of elevated cadmium, copper, and molybdenum have not been determined. Individual sections on the metals will have to be revised to reflect this (Note: Page B16-6 contains numerous typos where "copper" was inadvertently inserted for the metal of interest). More importantly, the individual sections and overall conclusion should not indicate that any constituent has been adequately defined. Please recall that very little data has been collected from the unit. The opportunistic samples are exactly that, samples collected from a trench in the vicinity of this AOC for an entirely different purpose (The Work Plan should be revised to remind the reader of this and unique sample designation should be utilized – e.g., use "OS" designation to sample identifier). The Work Plan should be revised to also indicate that the opportunistic samples currently lie beyond PG&E's inferred AOC boundary. |
| 86. | Appendix B Part B Data Gaps Investigation Program, Appendix B16 Section 5.2 AOC 15 Access | While access issues certainly exist for AOC 19 based on surface structures alone, PG&E had originally proposed to sample to a depth of 15 feet at this unit (see PG&E's 2007 Part B Work Plan). This depth and the sampling interval contained in PG&E's 2007 Work Plan should be followed as a default. PG&E should identify if any small, portable drilling units can be used at this AOC. A site visit is warranted for this unit. |

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| | Constraints | |
| 87. | Appendix B Part B Data Gaps Investigation Program, Appendix B16 Section 5.3 AOC 19 Proposed Sampling | PCBs, SVOCs, and PAHs should be added to the analyte list due to the detections of PCBs elsewhere at the station and also due to the historic oiling of roads/soils at the station. The 1955 aerial photograph suggests heavy discoloration in this area. The Work Plan must be revised to incorporate XRF screening to first be conducted to assist in guiding drilling and quickly defining surficial hot spots. The rationale for the proposed boring locations is not clear. Good rationale must be stated in the revised Work Plan. Additional borings are probably needed. This should become more apparent after a site walk. DTSC had requested drilling beneath and around the hot well and around leak areas (Appendix B26, Specific Comments 41) in 2008. Additional locations may also be needed based on potential historic releases (e.g., potential flow offsite). Hopefully, the XRF screening will help to reduce the number of conventional borings. Decision 5: STLC and TCLP analyses should be considered for <u>all</u> SMWUs and AOCs (Part A and Part B) if high concentrations are detected (such as at this AOC). The revised Work Plan should address this data gap to evaluate issues associated with hazardous waste. The need to conduct pilot tests for contaminated soils should be considered for the project and inclusion in the Work Plan. Some Tribes have shown interest in soil washing. Perhaps known contaminated soils removed from this AOC could be utilized in a pilot project(s), especially if excavation methods are used to obtain samples and clear utilities. PG&E has indicated potential to remove contaminated concrete from this area (Appendix B26, Specific Comments 43), yet no concrete sampling is proposed (DTSC requests that XRF be utilized for concrete surfaces as well). |
| | | Best management practices/upgrades should be evaluated for this AOC to minimize the likelihood |

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| | | for future releases (e.g., from valves and pumps). |
| 88. | Appendix B Part B Data Gaps Investigation Program, Appendix B16, Figure B16-3 AOC 19 | Most of the lead values should also be bolded as they exceed industrial screening criteria. |
| 89. | Appendix B Part B Data Gaps Investigation Program, Appendix B17 Section 1.1 Background AOC 20 | Reference to piping segment I-1 in this section and Section 2.0 requires that it be adequately located on a figure. Revision to the Work Plan is requested. |
| 90. | Appendix B Part B Data Gaps Investigation Program, Appendix B17 Section 3.2 AOC 20 Access Constraints | The section indicates that sampling might occur underneath aboveground portions of the system, but no attempt will be made to locate and uncover underground piping. DTSC is quite concerned by this response especially in light of Specific Comment 46 (see Appendix B26). In 2008 DTSC requested clarification on the depth to the drains. In PG&E's 2010 response to this comment, they indicated that hand excavation would be conducted until the lines are physically encountered. PG&E's 2007 Part B Work Plan also proposed sampling to 10 feet bgs at all proposed locations. Having thought the issue clarified and resolved, DTSC did not find it necessary to respond in 2010. In 2011, Specific Comment 46 indicates that PG&E also did not have the need to respond to the matter. Yet after building upon three years of resolution, PG&E decided to go in another direction in 2011 which is opposite of the originally agreed-upon path. This change in direction has adverse impacts on the working relationship between DTSC and the facility as it may set precedence for future occurrences. |

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| 91. | Appendix B Part B Data Gaps Investigation Program, Appendix B17 Section 3.3 AOC 20 Proposed Sampling | The rationale for selection of sample locations should be included in the revised Work Plan (e.g., areas of known leaks). PG&E should perform leak testing to locate lines of concern. DTSC defaults to PG&E's 2007 sample locations and drilling depths in light of the shallow proposal contained in the Work Plan. Also see Specific Comment 47 contained in Appendix B26. Revision of the Work Plan is required. |
| 92. | Appendix B Part B Data Gaps Investigation Program, Appendix B18 Section 1.1 Background AOC 21 | The background section should mention when the septic system was installed. |
| 93. | Appendix B Part B Data Gaps Investigation Program, Appendix B18 Section 3.3 AOC 21 Proposed Sampling | See comments regarding AOC 21 captured in comments on SMWU 5 including access constraints and sampling depths. As with all new units, contingent sampling locations should be identified in the event preliminary borings identify contamination requiring step outs. PCBs, SVOCs, and PAHs should be added to the analyte list due to the detections of PCBs elsewhere at the station and also due to the historic oiling of roads/soils at the station. |
| 94. | Appendix B Part B Data Gaps Investigation Program, Appendix | Based on the information provided in the Work Plan, DTSC is uncertain if there is a significant access limitation for this unit. A DTSC field visit to this AOC is required to evaluate access restrictions. The Work Plan should be revised after DTSC input from field visits. |

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| | B19 Section 4.2 AOC 22 Access Constraints | |
| 95. | Appendix B Part B Data Gaps Investigation Program, Appendix B19 Section 4.3 AOC 22 Proposed Sampling | As with all new units, contingent sampling locations should be identified in the event preliminary borings identify contamination requiring step outs. Sampling to 10 to 15 feet bgs is requested (PG&E's Part B default sampling depth assumed to be based on risk). An additional primary location is requested approximately 10 to 20 feet southwest of AOC22-1 due to uncertainty in the exact location of the unit and process operations. |
| | | DTSC requests that the Work Plan be revised to allow XRF screening to first be conducted to assist in guiding drilling and quickly defining any surficial hot spots. Based on the XRF, primary soil sample locations could be moved. |
| 96. | Appendix B Part B Data Gaps Investigation Program, Appendix B20 Section 1.1 AOC 23 Background | The section should indicate that the majority of the building appears abandoned and portions of the floor have been backfilled indicating a basement formerly existed. Stained concrete inside and out at this building should also be mentioned as it prompted DTSC to include it as an AOC. |
| 97. | Appendix B Part B Data Gaps Investigation Program, Appendix B20 Section 3.3 AOC 23 Proposed Sampling | As with all new units, contingent sampling locations should be identified in the event preliminary borings identify contamination requiring step outs. Sampling to 10 to 15 feet bgs is requested (PG&E's Part B default sampling depth assumed to be based on risk). Additional primary locations are requested inside the building due to the abandoned nature of the building and associated staining. |

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| | | DTSC requests that the Work Plan be revised to allow XRF screening to first be conducted to assist in guiding drilling and quickly defining any surficial hot spots. Based on the XRF, primary soil sample locations could be cited. Screening should include concrete to assist in determining the nature of contamination at this AOC. Pending results, concrete sampling may be required. See DTSC access comment on AOC 22 above as it applies to this unit as well. |
| 98. | Appendix B Part B Data Gaps Investigation Program, Appendix B21 Section 1.1 AOC 24 Background | The section begins with the sentence, "Area of Concern (AOC) 24 is the stained area near the former structure found on the northern edge of the lower yard, and also includes the footprint of this former structure." This sentence is uninformative and should be revised to provide value (a better introductory sentence is needed). The section should include photos of the oil/water separator as many are available (see PG&E's August 22, 2007 letter re. photos of the station) as well as the large stained area from the 1955 aerial photograph. The approximate dimensions of the oil/water separator and large staining should be carefully plotted on Figure B21-2 (as well as B21-1) so that samples can be taken from these areas (Please include the buried scrubber header on the Figure B21-2 as the clarifier was located just north of it). |
| | | The section is misleading in stating that, "No staining is visible in either of these photos." The cited photos cut off the area where large staining was noted in 1955. As PG&E has several other photographs available to them, a more complete documentation of the information that can be observed from the photos should be included in the revised Work Plan. This shall include, at a minimum, the following: 1) that a single pipe discharges into the clarifier and that the clarifier is always noted to contain liquids.; 2) staining is noted on the sides of the clarifier; 3) at least two discharge pipes exit the clarifier on its north side, the lower, longer one appears to discharge to the surface and the other upper one is pictured discharging to a container at times, and 4) discolored soils and debris are noted in some photographs north of the clarifier. |
| 99. | Appendix B Part B Data Gaps | The CSM needs to be revised for clarification. The section states, "There is a potential for the discharge to have migrated past what was then the northern boundary of the lower yard; however, |

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| | Investigation Program, Appendix B21 Section 1.2 AOC 24 Conceptual Site Model | with the expansion of the compressor station, the affected area would now be covered by several feet of additional soil." This three dimensional concept should be included in a revised Figure B21-1. An additional conventional cross-section will better illustrate locations of former waste discharge. The old edge of the lower yard prior to expansion should be carefully located on all figures. |
| | | The CSM also states, "Because the entire AOC is covered with additional soil, runoff of contaminated surface soil in rainwater is not considered a potential migration pathway." It is not clear if this is a true statement. PG&E should indicate how it knows that additional soil was added to the <u>entire</u> AOC. If soil was added, was the clarifier buried? Based on the unknown history of this site, a geophysical survey should be conducted to look for remnants of the clarifier and identify waste/debris dumped in the vicinity of the waste unit. The survey would also identify any subsurface utilities in the area. |
| 100. | Appendix B Part B Data Gaps Investigation Program, Appendix B21 Section 3.1 AOC 24 Data Gaps | Modify data gap # 1 as follows: Data Gap #1 – Lateral and vertical extent of contamination near the <u>clarifier and</u> stained soil. |
| 101. | Appendix B Part B Data Gaps Investigation Program, Appendix B21 Section 3.2 AOC 24 Access Constraints | Based on the nonspecific information provided in the Work Plan, DTSC is uncertain if there is a significant access limitation for this unit. Obvious above grade structures do not appear to limit access. A DTSC field visit to this AOC is required to evaluate access restrictions. The Work Plan should be revised after DTSC input from field visits. |
| 102. | Appendix B Part B Data Gaps | As with all new units, contingent sampling locations should be identified in the event preliminary borings identify contamination requiring step outs. Sampling to 10 to 15 feet bgs is requested |

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| | Investigation Program, Appendix B21 Section 3.3 AOC 24 Proposed Sampling | (PG&E's Part B default sampling depth assumed to be based on risk). Additional primary locations are requested for this unit due to PG&E's current lack of knowledge regarding the location and history of this unit. No locations appear to target historic staining. Without additional information, DTSC requests that five additional primary samples be added to this AOC. Potholing/trenching is recommended for this unit due to potential burial of the unit and waste/debris. The number of potholes/trenches should be identified for planning purposes and should be ultimately located based on photographs and/or geophysics. |
| | | DTSC requests that the Work Plan be revised to allow XRF screening to first be conducted to potentially assist in guiding drilling and defining any surficial hot spots. Based on the XRF, primary soil sample locations might be moved. |
| 103. | Appendix B Part B Data Gaps Investigation Program, Appendix B22 AOC 25 Compressor and Generator Engines and Basements | Soil gas sampling is requested to monitor the basements peripherally for volatile organic compounds that would have been associated with the engines. A site visit may be beneficial. Provide a discussion of areas which cannot be characterized under normal operation, but where investigation might be undertaken if operations are offline for maintenance, etc. Please discuss sampling that can be conducted currently at Compressor Number 1. It is understood that this unit no longer operates and will remain offline as it has been used for parts. |
| 104. | Appendix B Part B Data Gaps Investigation Program, Appendix | Photographs of the former scrubber sump are requested to be included in the revised Work Plan. The former location of the sump should be carefully plotted on Figure B23-2 as should locations of known residual contamination. |

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| | B23 Section 1.1 AOC 26 Background | |
| 105. | Appendix B Part B Data Gaps Investigation Program, Appendix B23 Section 4.3 AOC 26 Proposed Sampling | Due to lost data, including sample locations, this unit should be treated as a new unit and contingent sampling locations should be identified in the event preliminary borings identify contamination requiring step outs. Sampling to 10 to 15 feet bgs is required for this unit due to historic detections at this horizon. PG&E should utilize safe methods to obtain samples from this general horizon just as they did when they excavated the entire area during sump closure in 1996. |
| | | Additional primary sample locations are requested for this unit if the location of the former unit is not known with certainty. |
| 106. | Appendix B Part B Data Gaps Investigation Program, Appendix B24 Section 3.1 Units 4.3,4.4, and 4.5 Access Constraints | Based on the nonspecific information provided in the Work Plan, DTSC is uncertain if there is a significant access limitation for these units. Previous intrusive closure activities (tank removal, concrete removal, contaminated soil excavations) were successful in the past and suggest that sample access is not a concern. Obvious above grade structures do not appear to limit access. |
| 107. | Appendix B Part B Data Gaps Investigation Program, Appendix B24 Section 3.2 Units 4.3,4.4, and 4.5 Proposed Sampling | Contingent sampling locations should be identified in the event preliminary borings identify contamination requiring step outs. Sampling to 10 feet bgs is required for this unit due to historic detections at depth (10 feet bgs was also proposed by PG&E in their 2007 Part B Work Plan). PG&E should utilize safe methods to obtain samples from these units just as they did when excavations and samples were collected during closure. Additional primary sample locations are requested for these units if the locations of the former units are not known with certainty. |

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| | | PCBs should be added to the analyte list due to the detections of PCBs elsewhere at the station and also due to the historical oiling of roads/soils at the station. |
| 108. | Appendix C Perimeter Area Investigation Program, 1.1 Perimeter Area Description and History, Paragraph 2 | The second paragraph indicates that some of the perimeter area that is currently bermed with soil is known to be or were likely to have been un-bermed in the past. Based on this information and looking at Figure C-1 it becomes apparent that samples are generally not being proposed along the orange berm areas depicted on the figure. DTSC requests that at a minimum, ten additional samples locations be added to the program along the berms. Adding a boring could be contingent upon a few items: Lack of general coverage along the perimeter; Relation to contamination discovered as a result of the on-site investigation (e.g., AOC-13); Screening of the berm area with XRF or other techniques; or Discovery of waste, discoloration, or former drainage during implementation of the plan. The same rationale could also be used for additional contingent borings elsewhere along the perimeter based on data to be collected during implementation of the Work Plan. |
| 109. | Appendix C Perimeter Area Investigation Program, 1.1 Perimeter Area Description and History, Paragraph 4 | The Tea Pot Dome waste pit should be handled as a separate unit due to unique features that should be associated with it. For example, geophysical surveys should be used to locate the buried pit with increased confidence prior to drilling. The Work Plan should be revised to incorporate these issues/requests. |
| 110. | Appendix C Perimeter Area Investigation Program, 1.3 Perimeter Area Data Proposed Sampling, Last Paragraph | XRF and possibly other screening techniques should be incorporated into the perimeter program to focus characterization on areas of impact and minimize step out borings. Also see Appendix C comments above. |

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| 111. | Appendix C Perimeter Area Investigation Program, 2.2 Evaluation of Perimeter Area Investigation Data, Number 3 | Assigning perimeter data to onsite or offsite areas based only on if an area is flat is not entirely logical in all cases (for instance, soils on the flat area could eventually flow or be blown offsite). The Work Plan should be revised regarding this item. The report states "Incorporate soil areas with COPC concentrations above Part A screening levels located in flat area adjacent to compressor station fence into the appropriate Part B AOC or AOC 13". AOC 13 was not clearly shown on the figures of the report. Based on the wording of the sentence DTSC assumes AOC 13 should be located interior of the perimeter fence in Area B. Since Part A (outside) the fence line has been designated as habitat the meaning of 'adjacent needs to be clarified. If the described flat area and should be included in a Part A AOC. The report needs to clarify the location of AOC 13, particularly in reference to its position relative to the perimeter fence. |
| 112. | Appendix D Storm Drain Investigation Program, 1.1 Storm Drain Description and History, Paragraph 3 | The paragraph quickly dismisses characterizing storm drains on site. PG&E should perform a more thorough evaluation of this matter and revise the Work Plan. There might be situations where potential contamination within the storm drain (at a break for example or adjacent to a catch basin) could act as a source to the drain. |
| 113. | Appendix D Storm Drain Investigation Program, 1.4.2 Storm Drain Alignment Investigation Process | Five step investigation process: PG&E indicates that the process will span several months. The basis for this time requirement is not clear. The Work Plan will need to be revised regarding this issue. Results of Steps 1 to 3 can be included in the revised Work Plan. PG&E should consider whether to run the video camera prior to flow testing to observe in situ conditions prior to the flow test. |
| 114. | Appendix D Storm Drain Investigation | DTSC has station HWBP maps (1999 with up to 2004 updates) that show storm drains. Catchment basins are identified that have not been included on Figure D-1 of the Work Plan. |

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| | Program, 1.4.2.1 Record Search | PG&E should utilize the information on these maps and revise the Work Plan accordingly. DTSC can provide copies of these maps if PG&E does not have them already. |
| 115. | Appendix D Storm Drain Investigation Program, 1.4.2.2 Visual Field Verification | DTSC suggests that most, if not all, catch basin sediments be analyzed for the TAL/TCL list due to the low number of samples involved. |
| 116. | Appendix D Storm Drain Investigation Program, 1.4.2.3 Geophysical Investigation | The Work Plan should be revised to indicate that terminating the geophysical survey or video camera survey early can only be done after obtaining DTSC approval. |
| 117. | Appendix D Storm Drain Investigation Program, 1.4.2.4 Flow Testing | DTSC recommends collecting all dye flow test discharge from outfalls. |
| 118. | Appendix D Storm Drain Investigation Program, 1.4.2.5 Video Camera Tracing | DTSC requests that drain lines along slopes also be investigated. Perhaps tethering the video camera will allow adequate camera operation. |
| 119. | Appendix D Storm Drain Investigation Program, 1.4.2.5 Video Camera Tracing, Page D-1-6, Paragraph 3 | The section states, "Information on identified defects will be retained by PG&E to assist with future maintenance and engineering activities as well as remediation to be conducted following closure of the compressor station." Depending on the outcome of the storm drain investigation, DTSC may request action by PG&E prior to closure of the site. The Work Plan should be revised to reflect this issue. |

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| 120. | Appendix D Storm Drain Investigation Program, 1.4.2.5 Video Camera Tracing | DTSC requests that unedited television inspection logs, photographs, and DVD recordings be included in the report or addendum to the report. |
| 121. | Appendix D Storm Drain Investigation Program, 2.1 Samples at Outfalls and Associated Lateral/Downslope Samples | The Work Plan indicates that sample data will be combined with data from the closest downslope AOC. The Work Plan should be revised as this action may be inappropriate (For example, two separate contaminant plumes may exist with two different types of remedial action). |
| 122. | Appendix D, page D- 1-7, Section 1.4.3, Storm Drain Soil Investigation | The report states that "Sampling below each storm drain outfall will consist of one sample location immediately below (downslope of) the outfall and lateral/downslope samples. The lateral/downslope sample locations are designed to evaluate soil conditions in the expected flow path from the storm drain to the bottom of the slope". Figure D-1, Proposed Storm Drain Soil Sample Locations, shows proposed sample locations for the storm drain sampling. It is difficult to determine from the figure which samples are associated with the storm drain outfalls. For example Storm Drain Line 1 has an associated terminus sample identified as SD-1. However identification of associated lateral samples cannot be assumed. The only sample that may be a lateral sample associated with SD-1 is AOC9-15, but the numbering does not suggest a correlation. The down slope sampling from the storm water outfalls need to be delineated on a figure relative to each of the outfalls. DTSC assumes that additional sample locations will be proposed if warranted based on the findings of the video/photograph survey and any other survey techniques used to identify storm drain pipes and breaks of those lines. |