



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

March 12, 2001

Glenna Clark, Code 5090  
Department of the Navy  
Southwest Division  
Naval Facilities Engineering Command  
1220 Pacific Highway  
San Diego, CA 92132-5190

**RE: Installation Restoration Sites 4 and 5 Dense Nonaqueous Phase Liquid and Dissolved Source Removal Action, Engineering Evaluation and Cost Analysis, Alameda Point, Alameda**

Dear Ms. Clark:

EPA has reviewed the above referenced document, prepared by Tetra Tech EM Inc and submitted by the Navy on January 5, 2001. A number of replacement pages for the EE/CA were sent out on February 22. Pages containing miscalculated risks for the sites were replaced, and the scope of the removal action was expanded from focusing solely on the presence of DNAPL to also include high concentration areas of solvents. The EE/CA with the replacement pages appears in general satisfactory. EPA is providing comments mostly concerning the ARARs section, and since this removal action will not be the final action for groundwater at Sites 4 and 5, we anticipate a comprehensive discussion of ARARs in the OU 2 B and OU 2 C Feasibility Studies.

We appreciate the opportunity to review and provide comments on this EE/CA. If you have any questions, please call me at (415) 744-2367.

Sincerely,

A handwritten signature in cursive script that reads "Anna-Marie Cook".

Anna-Marie Cook  
Remedial Project Manager

cc: Michael McClelland, SWDiv  
Andrew Dick, SWDiv  
Mary Rose Cassa, DTSC  
Brad Job, RWQCB  
Dina Tasini, City of Alameda  
Michael John Torrey, Alameda RAB Co-Chair

**EPA Comments on  
Installation Restoration Sites 4 and 5 Dense Nonaqueous Phase Liquid and Dissolved  
Source Removal Action, Engineering Evaluation and Cost Analysis**

**EPA Office of Regional Counsel comments:**

1. Sec. 3.4.1, ARARs Overview, p. 3-3, third paragraph regarding TBCs. Paragraph quotes NCP that TBCs “should not be required as cleanup standards.” Nevertheless, if the Navy decides to adopt specific TBCs as performance standards, that should be stated in the Action Memorandum.
2. Sec. 3.4.1, p. 3-3, fourth paragraph. Paragraph indicates that State ARARs are being solicited concurrently with issuance of the draft EE/CA to the regulatory agencies. EPA strongly recommends solicitation of State ARARs earlier in the process so that the draft EE/CA would include all ARARs and so that review of the draft EE/CA would be more meaningful.
3. Sec. 3.4.2.1, Chemical-Specific ARARs and TBCs, p. 3-4, and Table 3-1. The text on page 3-4 should identify the specific requirements that are considered TBC, and include some discussion of how they will be “considered.” In addition, EPA recommends that the Action Memorandum clearly state that MCLs will be ARARs for the final groundwater remedial action for Site 4.

The CWA surface water quality criteria should be considered ARARs rather than TBCs to the extent that contaminated groundwater may be generated during the removal and may be discharged to surface water. The Navy should also analyze whether there are other ARARs regarding disposal to surface water, e.g. portions of the Basin Plan, water quality standards including beneficial uses, Water Board orders, substantive NPDES requirements, etc. (Some of these may be chemical-specific and some may be action-specific.)

4. Sec. 3.4.2.1, page 3-5, second paragraph. Paragraph discusses when RCRA requirements are applicable. Paragraph should also discuss the possibility of RCRA requirements being relevant and appropriate. As written, the discussion implies that if, for example, a waste was disposed of prior to the effective date of the particular RCRA requirement, that RCRA requirement would not be ARAR. The better analysis is that such requirements may not be applicable, but they very well may be relevant and appropriate.
5. Sec. 3.4.2.1., page 3-5, next to last line. “State-approved” should be changed to “federally-approved.”

6. Sec. 3.4.2.3, Action-Specific ARARs and TBCs, p. 3-7. Text indicates that action-specific ARARs are discussed in the Section 4.0 rather than in Section 3. Especially because the suite of ARARs is fairly limited, it would not be burdensome, and would certainly be much clearer, to also discuss them in Section 3. At the very least, Table 3-3 should include all the action-specific ARARs.
7. Sec. 3.4.2.3, p. 3-7. Paragraph regarding off-site disposal should also indicate that actions must comply with the EPA Off-site Rule, 40 CFR 300.440.
8. Sec. 3.4.2.3, p. 3-8, first paragraph. This paragraph discusses discharges of pollutants to surface waters. Subsequent text indicates that under Alternative 3, there would likely be substantial quantities of contaminated groundwater generated (see p. 4-11), and also under Alternative 4. Thus, ARARs regarding discharges to surface water need to be identified, analyzed, and complied with. Text also needs to clarify what discharge options are considered to be on-site (in which case compliance with substantive CWA and State requirements would be required), or off-site (in which case a NPDES permit or compliance with indirect discharge standards, i.e. CWA pretreatment standards, would be necessary). This is confusing because the discussion on pages 4-11 to 4-12 suggests that discharge to EBMUD sanitary sewer is on-site; however, discharge to a POTW is generally considered to be an "indirect" off-site discharge. Also, pages 4-11 to 4-12 suggest that discharge to the Seaplane Lagoon would be off-site; however, the Seaplane Lagoon is part of the site and thus could be considered an on-site discharge. ARARs for all of the disposal options should be discussed.
9. Table 3-3, Action-Specific ARARs. EPA is unable to comment in a meaningful way on this analysis without the identification of State ARARs and without a more complete identification of action-specific federal ARARs. We expect that in the Action Memorandum the Navy will include a complete ARARs analysis; therefore, we have not at this time conducted a thorough review of what State and federal action-specific ARARs should be included. Following, however, are some requirements that the Navy should consider as potential action-specific ARARs:
  - (a) - Requirements under the CWA or State law regarding discharges to surface water should be ARARs. (See above under discussion of chemical-specific ARARs. Some of these water requirements may be considered chemical-specific; some may be action-specific.)
  - (b) - There may be BAAQMD dust requirements applicable to activities involving construction of injection and extraction wells. Also, are there any CAA or BAAQMD requirements regarding ozone (alt. 2) that should be included as ARARs?
  - (c) - The Navy should analyze whether there are any other RCRA requirements or CCR Title 22 or 27 requirements which would apply to any of the alternatives. Possible examples include incineration requirements, container requirements, or other requirements related to temporary storage of contaminated groundwater or soil prior to disposal.

10. Sec. 4.2 Alternative 2 (in situ chemical oxidation), p. 4-6, ARARs discussion.
  - (a) - Discussion on page 4-4 indicates there is potential for off-gassing to the environment of ozone. ARARs discussion should indicate whether there are any CAA or BAAQMD regulations regarding ozone emissions.
  - (b) - Discussion indicates there may be potentially-contaminated soil or groundwater generated in performance of this alternative, and that the groundwater would be disposed of off site. The Navy needs to clarify the options for disposal of contaminated groundwater, and the ARARs for each.
  
11. Sec. 4.3, Alternative 3 (Steam injection and SVE). P. 4-11 indicates there will be significant quantities of contaminated GW generated. The document needs to discuss ARARs for all the disposal options, as discussed above. It should not be assumed that “best professional judgment” is sufficient. Requirements including those from the Water Board Basin Plan, Water Board Orders, and Clean Water Act need to be identified and complied with. As indicated above, discussion of which disposal options are considered to be on-site activities and which are considered to be off-site activities is confusing and probably inaccurate.
  
12. Sec. 4.4, Alternative 4 (electrical heating with SVE).
  - (a.) - EPA has the same concerns as with alternative 3 regarding disposal of contaminated groundwater. Are the options for disposal of contaminated groundwater the same as presented for alternative 3 (p. 4-11)? Given that this is the preferred alternative, it is especially crucial that ARARs for the disposal options be fully analyzed and fully complied with.
  - (b) - The discussion of potential emissions is unclear. Would the potential emissions be VOCs, as with alternative 3? If so, that should be stated, and the specific emissions ARARs should be stated specifically.
  
13. Sec. 5.1, Effectiveness, p. 5-1 and Table 5-1, overall protection of human health and the environment. This is a threshold criterion. The document needs to clearly indicate whether each alternative meets, or does not meet, this requirement. The standard way of doing this is to indicate whether each alternative either satisfies or does not satisfy this requirement. If an alternative meets this threshold requirement but there are some concerns, that should be indicated under some of the other factors, e.g. short-term or long-term effectiveness.
  
14. Table 5-1, Compliance with ARARs. The rankings used in this comparison are very confusing. This criterion is also a threshold criterion and usually the analysis indicates simply whether each alternative meets, or does not meet, this requirement. In this document, the Navy seems to be analyzing how easy it is to meet ARARs for each alternative, although that may not be what is being done since the document says that alternative 4 complies with ARARs “most easily,” yet that alternative does not have the highest score. If the Navy determines that an alternative would comply with ARARs, but

that that would be complicated or costly, it is more appropriate to discuss those concerns under short-term effectiveness, technical implementability, or cost, rather than to give an alternative a low score for compliance with ARARs.

**General EPA Comment:**

1. Page 4-1, last paragraph: There is not very much data to determine the presence or absence of confining layers in the vicinity of Site 4 at this time. It is possible that lenses of lower permeability clay exist in the subsurface in this area, but it difficult to show that a “localized confining layer” exists at the 30 foot depth. Groundwater samples taken below the 30 foot level as part of the data gap sampling effort can confirm that a confining layer is probable if the samples show little to no contamination below 30 feet.