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

February 25, 2002

Glenna Clark
BRAC Operations, Code 06CA.GC/0718
Department of the Navy, Southwest Division
Naval Facilities Engineering Command
1230 Columbia Street, Suite 1100
San Diego, CA 92101

RE: Draft Water Tower and Antennae Sites Lead Removal Action Engineering Evaluation and Cost Analysis, Alameda Point

Dear Ms. Clark:

EPA has reviewed the above referenced document prepared by Tetra Tech EMI and submitted by the Navy on December 21, 2001. EPA has reviewed the plans in detail because the Navy is expecting that this removal action will be the final action for removal and remediation of lead based paint contaminated soil at this area. It is important that the removal action and the confirmation sampling are performed and documented in a manner that will support a no further action decision.

If you have any questions, please call me at (415) 972-3029

Sincerely,

Anna-Marie Cook

Anna-Marie Cook
Project Manager

enclosure

cc list next page

cc: Michael McClelland, SWDiv
Andrew Dick, SWDiv
Marcia Liao, DTSC
Dennis Mishek, RWQCB
Elizabeth Johnson, City of Alameda
Suzette Leith, EPA
Karla Brasaemle, TechLaw Inc
Michael John Torrey, RAB Co-Chair
Lea Loizos, Arc Ecology

EPA Review of the Draft Water Tower and Antenna Sites Lead Removal Action Engineering Evaluation and Cost Analysis Alameda Point

GENERAL COMMENTS

1. The Draft Water Tower and Antenna Sites Lead Removal Action Engineering Evaluation and Cost Analysis (the EE/CA) for Alameda Point should address the location and date of installation of the surrounding asphalt and concrete around the towers. Since no samples were taken through the asphalted and concreted areas, this poses a potential data gap. Depending on when the concrete and asphalt was placed in the area, institutional controls regarding removal and repair of these covered areas may be necessary.

2. In the EE/CA the soil removal areas are defined with boundaries drawn within five to ten feet of sample points where lead is detected at elevated concentrations. The removal areas were defined so as to minimize the volume of soil removed; however, the resulting removal areas bear little relationship to potential depositional pattern of lead due to blasting or paint falling from the towers. There is no discussion of prevailing wind direction and the impact that could have had on lead distribution. The EE/CA does not define the boundaries of the areas impacted by lead from the towers. In some cases samples furthest from the source, and at the boundaries of the removal areas, are among the highest lead concentrations (Samples SS-36B-NW50 and SS-36B-W75 at Parcel 98 for example). Since the lead concentration in soil at a given point depends upon the size of paint chips or the amount of lead paint deposited through gravity or blasting, it appears that concentrations above the Removal Action Objective (RAO) of 199 mg/kg will be very randomly distributed within the areas impacted by the towers. An attempt should be made to define the boundaries of the areas impacted by lead from the towers (e.g., by evaluating potential depositional patterns, wind directions, soil samples indicative of background concentrations, etc.). The entire areas affected by the towers should be included in the confirmation sampling if not in the removal action.

SPECIFIC COMMENTS

1. Executive Summary, Page ES-2:

The last paragraph on this page lists the specific Removal Action Objectives RAOs: (1) remove or control lead based paint at the three current towers, and (2) remove soils that exceed concentrations of 199 mg/kg in the vicinities of the three current and two former tower sites. However, these RAOs are not listed elsewhere in the text and are not included in Section 3.5 Removal Action Objectives. Section 3.5 includes only the general RAOs: (1) minimize potential exposure to human and ecological receptors form

releases of LBP from towers, and (2) minimize actual or potential exposure to human and ecological receptors from lead-contaminated soil. For clarity and completeness, please revise the Executive Summary to be consistent with Section 3.5 or include the specific RAOs in Section 3.5.

2. **Section 2.0, Site Characterization, Page 2-1:** The information presented in this section should include: the site location (the street address and crossroads for the site, USGS topographic map quadrangle, latitude longitude), regulatory history, a description of the site topography (including land cover, drainage channels, boundary descriptions, etc.), and a discussion of surrounding land use and populations including possible pathways of exposure. Since this information is necessary to (1) understand the orientation of the site, (2) evaluate potential contaminant migration pathways (e.g., via surface water flow), and (3) evaluate potential impacts of removal actions on surrounding populations; please revise the EE/CA to include as much of the above-listed information as possible.

3. **Section 2.1.1, Site Location and Operations Conducted, Page 2-1:** This section states the parcels are located approximately 1,800 feet north of Seaplane Lagoon; however, Seaplane Lagoon is not labeled on any figure. This section also refers to Figure 2-1 for the location of water tanks 033, 061, and 088, and antenna towers 036A, and 036B; however, these structures are difficult to find on the figure and tower 036A does not appear to be shown. For clarity and completeness, please revise Figure 2-1 to include features described in this section and to clearly delineate the locations of the water tanks and antenna towers listed above.

4. **Section 2.1.2, Surrounding Land Use and Proposed Reuse, Page 2-1:** This section should describe the present and prior uses for all five parcels. In addition, the sentence on page 2-2 which states that no development plans have considered reuse of the area for residential housing is confusing. Please clarify and take into account that the City of Alameda has leased Parcel 98 to the Homeless Collaborative for residential housing for the next 50 years.

5. **Section 2.1.3, Site Geology and Hydrogeology, Page 2-2:** The second paragraph in this section states that groundwater is encountered in the sandy fill material approximately 6 feet below ground surface (bgs). It is not clear if the sandy fill material is 6 feet below ground surface or if groundwater is approximately 6 feet below ground surface. Please revise this section to clarify depth to groundwater including tidal and seasonal variations, if applicable.

6. **Section 2.2, Environmental Chemical Corporation**: Please note that the Pesticide Storage Shed Removal Action has established a RAO for lead cleanup of 209 mg/kg, also in Parcel 98. While the difference between the two RAOs for the removal actions is not great, the factors that resulted in different numbers does merit an explanation.

7. **Section 2.3, Source, Nature, and Extent of Contamination, Page 2-5:** This section describes samples collected from 0-6 inches bgs, but it is not clear if soil samples were collected from beneath asphalt or from an exposed area. Since the removal area defined for Parcel 79 is overlain by asphalt, it is not clear whether soil samples collected at Parcel 79 represent the soil under the asphalt or not. If not, it is not clear how it could be concluded that lead contamination occurs beneath the asphalt. Please revise this section to clarify how soil samples were collected at Parcel 79 and how it was concluded that soil beneath the asphalt may be contaminated with lead (i.e., discuss whether soil at Parcel 79 was exposed historically).

8. **Section 2.3, Page 2-6, second paragraph**: Table 2-9 summarizes data from Tower 88 and Table 2-10 summarizes data from Tower 61. Please correct.

9. **Section 2.3, Page 2-6, last paragraph**: For Water Tower 88 there are two samples that exhibit elevated concentrations of lead at 12"-18" bgs in this area. Both samples W-25 and SW-25 show lead concentrations exceeding the lead RAO. Soil should be excavated to 2 ft bgs in these areas.

10. **Figure 2-4:** This figure does not include the location of Water Tower 33. Please include the location of water tower 33 on Figure 2-4 or include a note that indicates the direction and distance to the water tower.

11. **Figure 2-5:** It is unclear why the removal area does not include location SS-33-NW50, where lead was found at 290 mg/kg. Based on the significant number of samples where lead was found above the remedial action objective (RAO) of 199 mg/kg, it appears that lead chips and sand blast materials are concentrated in the western part of this site, so it is important to excavate all of the southwestern, western, and northeastern areas of this site. Please revise the removal area to include location SS-33-NW50.

12. **Section 2.4.1, Streamlined Risk Evaluation, Page 2-7:** This section does not provide enough information to evaluate the selected preliminary remediation criteria (PRC) of 199 mg/kg for lead. Please revise this section to describe the exposure scenario and clarify the soil lead concentrations used and other input parameters. In addition, this section states that samples of East Bay Municipal Utilities District (EBMUD) Treatment Plant effluent were collected for the water lead concentration used in the model; however, significant lead concentrations may be contributed to drinking water from residential water pipes at the point of use. Using the EBMUD effluent sample results in the model may underestimate lead exposure via drinking water. Please explain why water samples were not collected at the point of use for the model input.

    This section states that the number calculated to be protective is 221 mg/kg and that the Navy used more stringent input parameters for Lead Spread 7 to arrive at 199 mg/kg at the PRC; however, the more stringent parameters are not defined. In order to evaluate the

selected PRC, please revise this section to include the parameters actually used in the model, how they were developed and explain what they are more stringent than. Also explain where the number 221 mg/kg comes from and why it is was included.

13. **Section 2.4.1, Streamlined Risk Evaluation, Ecological Screening Level, Page 2-8:** This section states that an estimate of the exposure and daily dose of lead to the California ground squirrel and the red-tailed hawk was developed using life history, site contaminant concentration, and environmental fate data; however, this information is not provided in the EE/CA. The OU-1 RI is referenced both in this paragraph and the executive summary as providing the basis for the eco screening. However, the OU-1 RI did not address site-specific conditions for the parcels covered under this EE/CA and so it is not clear what information was taken from the RI and how it was used in this EE/CA. For clarity and completeness, please revise the EE/CA to include the data used in the ecological risk evaluation.

14. **Section 3.4.1, Applicable or Relevant and Appropriate Requirements Overview, Page 3-3:** The last sentence in this section states that the Navy is listing only potential federal ARARs in the following section; however, several State ARARs are listed. Please correct this discrepancy.

15. **Section 3.4.2, Applicable or Relevant and Appropriate Requirements Affecting Removal Action Objectives, Page 3-4:** The Navy lists the Cal EPA Preliminary Remediation Goal (PRG) of 130 mg/kg for lead as a "to-be-considered" (TBC) criteria; however, it is not clear how this TBC was evaluated. Please revise the EE/CA to described how the PRG of 130 mg/kg was evaluated for this removal action and why it was not selected as the RAO.

16. **Section 4.1, Alternatives Evaluated for Lead Based Paint on Towers, Page 4-3:** In this section there are several references to contaminated soil and soil excavation. Since the alternatives in this section address only the paint on the towers, please revise this section to remove any discussion of contaminated soil or soil excavation.

17. **Section 4.1.1.2, Effectiveness, Page 4-6:** Under the heading Adequacy and Reliability of Controls, the EE/CA states that "technical component replacement are required" under this alternative. It is not clear what is meant by this statement. Please revise this section to clarify the actions that are required for technical component replacement and discuss the purpose of this replacement.

18. **Section 4.1.1.3, Implementability, Page 4-7:** The EE/CA includes only two criteria to evaluate implementability: (1) technical feasibility and (2) commercial availability; however, the Guidance includes administrative feasibility in the list of criteria which should be evaluated. Please revise the EE/CA to address administrative feasibility for each alternative including compliance with statutory limits, need for permits and waivers,

and concerns of other regulatory agencies.

19. **Section 4.1.2.1, Description, Page 4-9:** In the section discussion blasting technologies, the text states "ice blasting uses dry ice propelled onto the metal surface...the ice pellets...change state to become water." Dry ice is composed of carbon dioxide, not water. Please clarify whether dry ice or water ice will be used. Also, if water ice will be used, please clarify if the tarps will be beamed so that water will not run off onto soil.

20. **Section 4.1.2.2, Effectiveness, Page 4-11:** In the section discussing protection of the community during removal actions, the text states "water mists would be used to control dust." The text in Section 4.1.2.1 implies that use of water mists would not be necessary. Please resolve this discrepancy.

21. **Section 4.1.2.2, Effectiveness, Page 4-12:** In the section discussing environmental impacts resulting from construction and implementation, the text does not discuss the potential need to control runoff from melting water ice. Please discuss how runoff will be controlled if water ice will be used.

22. **Section 4.1.3.2, Effectiveness, Page 4-17:** This section discusses protection of workers during excavation activities, which is not relevant to this alternative, but protection of workers during tower removal is not discussed. Please revise this section to describe the protection of workers during tower removal and delete references to excavation activities.

23. **Section 4.1.3.3, Implementability, Page 4-18:** This section discusses the commercial availability of contractors to remove the tower structures, but the availability of scrap yards that are equipped to handle structures with lead paint is not discussed. Please revise this section to discuss the availability of (and distance to) scrap yards that are equipped to handle steel contaminated with lead paint.

24. **Section 4.2.1.3, Implementability, Page 4-25:** This section states that difficulties may be encountered with excavation below the water table. It is not clear why excavation below the water table is discussed since the excavations extend to a maximum of two feet bgs and Section 2.1.3 describes groundwater as approximately 6 feet bgs. Please clarify.

25. **Section 5.1.1, Effectiveness of Alternatives, Page 5-3:** This section states that the mobility and volume of LBP are reduced through treatment under Alternative 2T; however, Alternative 2T involves removing and landfilling the LBP. Since no treatment is included in this alternative and the volume of lead would be unchanged, please delete this statement from this section.

26. **Section 5.1.3, Cost of Alternatives, Page 5-4:** This section states that future LBP abatement activities would be required at 10-15 year intervals under Alternative 1T with additional resulting costs. In order to compare the present worth cost of the three tower

alternatives, the cost of future abatement activities should be included in the cost evaluation. Please revise the estimated present worth of Alternative 1 to include the cost of future LBP abatement activities.

27. **Section 5.2.1, Effectiveness of Alternatives, Page 5-5:** This section states that Alternative 4S would be less protective of human health and the environment due to potential leaching of backfilled treated soil. However, it appears that soil solidified and stabilized under Alternative 4S would be less likely to leach than untreated hazardous soil. If the solidification/stabilization process renders the soil non-hazardous for disposal at the IR Site 1 landfill, it would appear that both Alternative 4S and 3S are equally protective of human health and the environment. Please revise this section to indicate that Alternatives 3S and 4S are equally protective of human health and the environment or provide additional rationale for the conclusion that 4S is less protective.

28. **Section 5.2.1, Effectiveness of Alternatives, Page 5-6:** The comparison of alternatives with respect to reduction in toxicity, mobility and volume through treatment discusses the effectiveness of all four soil alternatives in reducing mobility; however, only Alternative 4S involves treatment of contaminated soil. Please revise this section to clarify that only Alternative 4S meets the criteria of reduction in toxicity, mobility and volume through treatment. Disposing of contaminated soil at a landfill does not meet this criterion regardless of the containment systems in place.

29. **Section 5.2.1, Effectiveness of Alternatives, Page 5-6:** This section states that Alternatives 1S and 4S would have higher short term effectiveness because short term risks associated with trucking lead contaminated soil would be limited; however, this evaluation does not take into consideration the risks associated with long-term storage of soil on site prior to ultimate disposal at the IR Site 1 landfill (up to two years). Please revise this section to include the risks associated with long-term storage of the soil in the evaluation of short-term effectiveness.

30. **Section 5.2.2, Implementability of Alternatives, Page 5-7:** This section states that Class I and II off-site disposal facilities are located relatively close to Alameda Point; however, it appears that the nearest Class I facility is almost 300 miles away. Please revise this section to clarify that Class II facilities are relatively close to Alameda Point, but disposal at a Class I facility would involve round-trip trucking of approximately 560 miles.

31. **Appendix B, Evaluation of Applicable or Relevant and Appropriate Requirements, Page B-4:** The second full sentence on this page states that the Cal EPA PRG of 130 mg/kg was identified as a TBC for this project, but rejected based upon the Lead Spread 7 model. This explanation of the rejection of the Cal EPA PRG is not adequate. The EE/CA does not provide the exposure scenario or the input parameters used in the Lead Spread 7 model to arrive at the 199 mg/kg lead concentration. Please revise the EE/CA to include a comparison of the exposure scenarios and assumptions for the Cal EPA PRG

with those used in the Lead Spread model to demonstrate that 199 mg/kg lead concentration is adequately protective of human health. In addition, the last sentence in this paragraph states that the Cal-EPA PRG will be used as the RAO. Please correct this discrepancy.

32. **Appendix C, Cost Estimate:** It is not clear if the landfill disposal fees are actual current fees at the nearest Class I and Class II landfills. Please clarify the source of the disposal fees and provide the date that the fees were current.

33. **Appendix C, Cost Estimate:** It is not clear why roll-off bins are necessary for long-term storage of soil prior to disposal at the IR Site 1 landfill. Since the cost for the roll-off bins is a significant portion of the cost of Alternatives 1S and 4S (approximately 30%), the EE/CA should include a discussion of soil storage alternatives. If an alternative soil storage approach is feasible, Alternatives 1S and 4S may be much more cost-effective and the comparative evaluation of alternatives may change. Also, it is not clear if the cost of roll-off bins is for rental or purchase. Please revise the EE/CA to include a thorough discussion of soil storage options and, if roll-off bins are necessary, a discussion of the relative implementability of rental versus purchase.

MINOR COMMENTS

1. **Executive Summary, Page ES-2:** The second paragraph on this page states that lead-contaminated soil is likely the result of LBP chips falling off of the water and antenna towers; however, on Page 2-4 "blasting residue" is listed as a likely source of lead-contaminated soil. For consistency, please include "blasting residue" in the description of sources of lead-contaminated soil in the Executive Summary.

2. **Executive Summary, Page ES-3: First paragraph, second and third sentence**: Clarify in these two sentences that the BCT discussed removing LBP **from the towers** and from the soil and that the three technologies referred to in the third sentence deal with removing or controlling LBP **on the towers and footings**.

3. **Figure 1-1:** Parcels 79, 98, 105, 106, and 107 are labeled using the same font size and appearance as the other parcels on this Figure. Since the numbers are small, it is difficult to identify the locations of the five parcels.

4. **Figure 2-3:** Two samples locations are labeled SS-36B-S25-A on this figure. Please correct the discrepancy.

5. **Section 4.2.1.1, Description, Page 4-20:** This section states that about 1,035 cubic yards of lead-contaminated soil would be excavated; however, 1,097 cubic yards is used in the cost estimates in Appendix C. Please correct this discrepancy.

EPA Office of Regional Counsel Comments

1. **P. ES-2 and 2-9** eco level of 5,480 mg/kg. Please provide the information used to arrive at this number.

2. **P. 3-3 third paragraph, and p. B-2**. It is incorrect to state that a State ARAR must be "a state law." A State regulation or other requirement can also be an ARAR if it is a "promulgated standard, requirement, criteria, or limitation under a State environmental or facilitating siting law."

3. **P. 3-3 third paragraph**. Document indicates that State ARARs will be solicited concurrently with the EE/CA, and that the EE/CA will list only federal ARARs. EPA strongly recommends solicitation of State ARARs earlier in the process so that the EE/CA would include all ARARs and so that review of the EE/CA would be more meaningful. See EPA's "Guidance on the Consideration of ARARs during Removal Actions," EPA/540/P-91/011 (Sept. 1991), p. 6-7 (ARARs should be considered during EE/CA analysis); p. 13 (State should be notified and asked for State ARARs as soon as lead agency begins to consider taking a removal action).

4. **P. 3-4 and B-4**. It is not necessary to include the TSCA lead numbers as ARARs when the Navy has made a decision to use lower risk-based cleanup numbers.

5. **P. 3-4**. In paragraph beginning "while 40 CFR...," "ROA" should be "RAO"

6. **P. 3-4 location-specific ARARs**. Please state explicitly that a determination has been made that none of these structures are cultural resources under the NHPA.

7. **Page 4-4, Sec. 4.1.1.1, discussion of Alternative1T (spot LBP abatement and repainting).** The discussion on page 4-4 indicates that the newly painted surfaces would be expected to have a life span of 10-15 years, that triennial inspections would be recommended to ensure that LBP is contained, and that future spot abatements may be required to maintain the towers. Given those circumstances, institutional controls are necessary as a component of this remedy to ensure that the tower is maintained.

8. **P. 4-20, Sec. 4.2.1.1, discussion of Alternative 1S (excavation and on-site disposal).** Discussion at top of page 4-20 states that collected run-off from the excavation area would be discharged to the local publicly owned treatment works (POTW). Because discharge to a POTW is considered to be an off-site activity, requirements for such discharge are not considered ARARs. However, the EE/CA and Action Memorandum should document the relevant requirements for discharge to a POTW (e.g., 40 CFR 403.5 and any local POTW requirements) and that they will be complied with.

9. **Page 4-22.** At several places in the document, e.g. p. 4-22, 4-23, 4-34, and 4-36, the

Navy indicates that the protectiveness of the on-site disposal alternatives "would depend on the engineering controls implemented for containment at the IR Site 1 landfill." This language implies that the landfill may not be protective. This implication is unacceptable. Under CERCLA, the Navy will be obliged to select a protective engineering design for the landfill which complies with all ARARs for landfill design, including ARARs for the landfill cap, leachate collection, water quality monitoring, etc. EPA recommends amending the language in the EE/CA to reflect that the Navy will ensure that the landfill design will be protective and will comply with ARARs.

10. **P. 4-34 under "on-site disposal."** Reference to Sec. 4.4.1 should be 4.2.1.1.

11. **P. 4-35, 4-27 and B-7**. The document indicates that if soil is stockpiled within the area of contamination, the waste requirements of Title 22 don't apply. This is an overstatement. If material remains in an AOC, that is not considered "placement," and LDRs do not apply. However, other RCRA requirements may very well be ARARs.

12. **Page 5-2 analysis of overall protectiveness**. The first two criterion, protectiveness and compliance with ARARs, are threshold criteria which must be met. The Navy needs to state clearly whether each alternative meets or does not meet these criteria. It is unclear whether the Navy considers that any of the alternatives (and especially alternative 1T) meets the protectiveness criterion.

13. **Page 5-3 analysis of long-term effectiveness**. The Navy indicates that Alternative 1T provides long-term effectiveness. Please clarify how long-term effectiveness is achieved when additional remedial action needs to be taken every 10 - 15 years.

14. **Page 5-3 reduction in toxicity, etc.** This paragraph indicates that Alternative 3T will reduce volume by removing lead during the thermal recycling process. To avoid confusion, EPA recommends that the Navy clarify that this will occur at an offsite scrap yard.

15. **Page 5-4 soil alternatives**. It is misleading to say that alternative 1S (on-site disposal) is less protective because the engineering controls for the Site 1 landfill have not yet been designed. As discussed above, the Navy is responsible for the landfill and must design a landfill which is protective and complies with all necessary ARARs. As also discussed above, the Navy needs to indicate whether each alternative satisfies the protectiveness criterion. It is unclear whether the Navy considers Alternatives S1 and S4 to be protective.

16. **Page 5-6 long-term effectiveness**. The Navy's statement that Alternatives 1S and 4S would have lower long-term effectiveness suggests that the landfill will not be protective. This should be clarified.

17. **Page 5-6 Reduction in toxicity**. Again, the statement, "Alternative 1S utilizes a facility

that does not have strong existing controls" implies that the on-base landfill will not be designed to be protective. As discussed above, the Navy needs to ensure that the on-base landfill will be protective of human health and the environment and will comply with all ARARs.

18. **Page 6-1 recommended alternatives**. The Navy should indicate which alternative (which we assume is Alternative 3S) will be selected as a backup to 2S in case the soil needs to go to a Class 1 landfill.

19. **Page B-4, first paragraph**. The eco level for lead (5480 mg/kg) should not be identified as a TBC. Rather, it is a risk-derived number.

20. **Appendix B.** EPA is concerned that the Navy has not included all the necessary ARARs, although it is not possible to thoroughly review the ARARs prior to having received State ARARs. Given that the on-site disposal alternatives would include a period of storage prior to disposal in the on-base landfill, the Navy should consider including for those alternatives RCRA storage ARARs.

21. **Tables B-1 and B-3:** It is not necessary to list the RCRA definition/classification requirements as both action-specific and chemical-specific ARARs.