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MCAS EL TORO  
SSIC # 5090.3



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

1995 JUL 20 PM 12:20

July 24, 1995

Joseph Joyce  
BRAC Environmental Coordinator  
Environment and Safety (Code 1AU)  
MCAS El Toro  
P.O. Box 95001  
Santa Ana, CA 92709-5001

Dear Mr. Joyce:

EPA has reviewed the "Draft Engineering Evaluation and Cost Analyses (EE/CA)s for Sites 4, 7, 11, 13, 14, 19, 20, received on 6/1/95 and 6/8/95. Please address the enclosed comments (Enclosures A and B) in the revised reports. Comments from regional counsel will be forwarded to you next week. If you have any questions, I can be reached at 415/744-2468.

Sincerely,

A handwritten signature in cursive script that reads "Bonnie Arthur".

Bonnie Arthur  
Remedial Project Manager  
Federal Facilities Cleanup Office

cc: Mr. Juan Jimenez, DTSC  
Mr. Larry Vitale, RWQCB  
Mr. Jason Ashman, SW DIV  
Mr. Dante Tedaldi, Bechtel

## ENCLOSURE A

### EPA COMMENTS ON ENGINEERING EVALUATION/COST ANALYSES (EE/CA) FOR SITES 4, 7, 11, 13, 14, 19, 20 MCAS EL TORO

#### COMMENTS REGARDING ALL EE/CA's:

- 1) The use of the term "presumptive remedy" is not appropriate for these EE/CA. EPA agrees that thermal desorption is a proven technology to treat soil with these types of contaminants. However, the term presumptive remedy can only be applied to technologies for which EPA has issued "presumptive remedy" Fact Sheets. These Fact Sheets then become part of the Administrative Record which justifies a streamlined FS. The EE/CA process allows a streamlined approach to evaluating alternatives without the use of the few published "presumptive remedies."
- 2) Include the EPA method number to the data table completed for each unit.
- 3) As discussed at recent meetings, please recalculate the risk at the individual sites using the EPA Region IX residential PRGs. These levels have also been agreed to by Cal/EPA. Once these calculations have been completed, the BCT should meet to review the risk levels and evaluate whether all seven removal actions are warranted.
- 4) Within the summary section, state whether or not the material to be excavated/treated is considered by the Navy to be a State or RCRA hazardous waste.
- 5) Please clarify whether cumulative risks have been considered in the risk analyses.
- 6) The term "observation method" should be changed. The use of the term "observation" implies that visual confirmation will be used to confirm that the excavation has removed the soil above risk levels. The EE/CA's actually propose sampling to determine completion of each removal.
- 7) Have laboratory treatability studies been completed for the thermal desorption system? For example, has Total Organic Carbon (TOC) data been collected? Evaluation of TOC data, as well as moisture content which is discussed in the EE/CAs, is vital to determining the success of the proposed thermal desorption system.
- 8) Clarify the following sentence which appears in the EE/CAs which propose treatment of PAHs: "However, most of the PAH data are inconclusive as to whether or not the actual concentrations in the samples exceeded the RBCs." As the next sentence explains, benzo(a)pyrene was detected above the RBC, which indicates that PAHs are found at the sites. Is the intent of the first sentence to point out the difficulties of achieving low detection levels for PAHs (Site 7, page 2-12; Site 13, page 2-9; Site 20, page 2-9)?

9) It may be more appropriate to complete a "No action" Record of Decision (ROD) rather than a NFRAP for these sites after each removal action is completed and confirmation data indicates that the contaminants have been removed.

10) Sites which address soil containing low levels of polychlorinated biphenyls (PCBs) should probably not evaluate bioremediation as one of the three treatment/disposal options. Bioremediation is not an effective treatment method for PCBs.

## **SPECIFIC SITE COMMENTS**

### **Site 4**

1) Page 4-2; Provide the rationale for using the Cal/EPA Preliminary Endangerment Assessment (PEA) soil cleanup level for lead in soil at depths of 0-2 feet bgs. Depth of 0 to 10 feet bgs should be used as the residential soil exposure depth.

2) Does the text state that lead cannot be treated in the thermal desorption unit? Will confirmation sampling for lead be completed after thermal desorption is completed? What back up provisions are there if the waste cannot be segregated completely and lead contaminated soil is processed through the thermal desorption unit?

### **Site 7**

1) Page 2-12; Provide the rationale for using the PEA lead value for soil at depths of 0-2 feet bgs.

2) Page 2-13; Should there be a J value notation attached to surface samples collected at Borings 07\_STDB and 07\_DBMW70?

3) Page 4-7; Clarify which "air pollution control equipment will be used to minimize the release of air pollutants."

### **Site 11**

1) As mentioned above, PRGs for PCBs should be used for the risk analysis. The boundaries of the proposed removal should be reassessed given the risk estimates calculated on data collected thus far. EPA agrees that a removal action may be warranted in the area near Borings 11\_DD1, 11\_DD2 and 11\_GN1; vertical definition must be completed in these locations.

2) Page 3-2; Please clarify which PCB-1260 screening analyses will be utilized.

### **Site 13**

1) Page 2-9; Include description of "J" values.

2) Pages 2-13, 2-17; No rationale is provided for using the PEA level for soil from 0 to 2

feet bgs.

- 3) Page 2-14; Typographical error at bottom of page? Page 2-16 missing?
- 4) Page 3-6; Provide description for methods to control fugitive dust emissions.
- 5) Pages 3-6, 4-7; What is rationale for setting treatment endpoint at 90% reduction?
- 6) Page 4-2, 3rd paragraph; Description of estimated soil amounts are not clear. First sentence gives volume of 1,050 cubic yards. Same paragraph states 75 cubic yards are lead contaminated and 500 cubic yards from "observed stained areas." 1,050 cubic yards is cited in the Executive Summary.
- 7) Page 4-3; Provide basis for 10 foot depth.
- 8) Page 4-3; Regulators should be involved with the selection of 10% confirmation samples. 10% may not enough because 100% of analytes will not be field screened..
- 9) Page 4-4; Locations where air will be monitored? Description of instruments?
- 10) Page 4-8; Provide a minimum number of samples from excavations to be analyzed at offsite laboratories.

#### Site 14

- 1) Page 3-2; Please add that TRPH will only be used as a preliminary indicator of PAH levels.
- 2) Page 3-7; Provide rationale for setting treatment endpoint at 90% reduction.
- 3) Page 4-3; Regulators should be involved with selection of 10% confirmation samples. 10% may not be enough because 100% of analytes will not be field screened.

#### Site 19

- 1) Page 2-9; Clarify distinction between Units 2 and 3; these appear to overlap.
- 2) Page 2-10; Add table with data for each sample collected in this unit.
- 3) Page 2-15; The reference to completing a STLC test does not seem accurate. Please revise.

#### Site 20

- 1) Page i, first paragraph: Typographical error. Change Site 7 to Site 20. Also, switch page order.

- 2) Page 2-8; Need to mention "informal removal" which took place when MCAS completed construction and replaced Oil Water Separator.
- 3) Pages 2-9, 2-17; Rationale should be provided for using the PEA level for lead in soil at depths of 0 to 2 feet bgs.
- 4) Page 2-13; DD6 contains benzo(a)pyrene at 4 feet. This should be shown on the figure because the depth of excavation will be determined by this level (figure currently shows "approximate extent of surface/shallow subsurface soil that has TRPH concentrations greater or equal to 1000 mg/kg").

#### APPENDIX A, ARARs (All Sites)

- 1) Page A2-1; The narrative for "Water quality criteria" under Clean Water Act does not agree with the "ARAR Determination."
- 2) Page A2-4; Under SDWA, 42 USC 300 does it have to be more clearly stated why surface waters are not designated for municipal use?
- 3) Page A2-13, A2-9; This classification system is not used by EPA. The guidance cited, "Guidelines for Groundwater Classification under the EPA Groundwater Protection Strategy" was not finalized by EPA.
- 4) Page A3-1; Many of these ARARs don't apply to Site 7.
- 5) Pages A3-2, A3-3, A3-7; Please change "Base Closure Plan" to "BRAC Cleanup Plan."
- 6) Page A3-6, A3-8; Please revise text. An ecological risk assessment has not been completed yet. EPA provided comments on a "draft Ecological Risk Assessment Workplan" on January 24, 1995.

ENCLOSURE B



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION IX**  
**75 Hawthorne Street**  
**San Francisco, CA 94105-3901**

## **MEMORANDUM**

**To:** BONNIE ARTHUR  
REMEDIAL PROJECT MANAGER  
FEDERAL FACILITIES CLEANUP OFFICE

**FROM:** JEFFREY M. PAULL, MS HYG, MPH, CIH  
REGIONAL TOXICOLOGIST  
SUPERFUND TECHNICAL SUPPORT SECTION

**DATE:** JULY 20, 1995

**SUBJECT:** REVIEW OF "DRAFT ENGINEERING EVALUATION/COST ANALYSIS, SITE 11, MCAS EL TORO, CALIFORNIA"

### **Background**

An Engineering Evaluation/Cost Analysis (EE/CA) for Units 1 and 2 of Site 11, a former transformer storage area located at MCAS El Toro in Orange County, California has been prepared by Bechtel National Inc. on behalf of U.S. Department of the Navy, Southwest Division Naval Facilities Engineering Command (SWDIV), under the Comprehensive Long-Term Environmental Action Navy (CLEAN) II Program.

Under 40 CFR 300.415 of the NCP, the lead agency is required to conduct an EE/CA for a non-time-critical removal action. The removal action at Site 11 has been determined to be a non-time-critical removal, based on a streamlined risk evaluation, and site considerations. The current memorandum contains USEPA Region IX's comments on the human health risk-related issues covered by the EE/CA.

### **Scope of Review**

We reviewed the "Draft Engineering Evaluation/Cost Analysis, Site 11, MCAS El Toro, prepared by Bechtel National Inc., and dated May 24, 1995. The document was reviewed for scientific and technical accuracy, and for conformance with USEPA Region IX risk assessment guidelines, policies, and procedures.

We assume that sampling of environmental media, analytical chemistry procedures or data, QA/QC procedures, and the assessment of contamination described and summarized in the document, have been adequately reviewed by appropriate USEPA Region IX and Cal/EPA staff; however, if inadequacies in this regard, which may affect the health risk assessment were encountered, they are noted. We request that future changes in the document made in response to these comments be clearly identified.

**Specific Comments**

**Surrounding Land Use and Populations, §2.1.4, p. 2-7:** Site 11 is located in an industrial area in the southwest quadrant of the base, which houses maintenance, supply, and storage, and limited administrative services. The site is adjacent to Building 369, and in close proximity to one of the major runways. The Phase I RI reported that current and future workers, or residents, could be exposed to contaminants in soils. However, based on its location and planned future use, the residential exposure scenario for Site 11 seems unlikely.

**Source, Nature, and Extent of Contamination, §2.3, p. 2-8:** Although the risk-based concentration (RBC) calculated for PCBs is sufficiently protective of health, it is unnecessarily restrictive for use as a cleanup level. The RBC of 40 µg/kg (0.04mg/kg) calculated for PCB (Aroclor-1260) is less than USEPA Region IX's preremedial goal (PRG) for PCBs in residential soil (66 µg/kg) and 5 times lower than the PRG for industrial soil (340 µg/kg). From the description of the location of the PCB-contaminated soil at site 11, it appears that the industrial PRG would be the more applicable screening value.

**Chemicals of Potential Concern, Table 2-1, §2.4.1, p. 2-11:** As shown in the table below, the RBC values calculated for all of the chemicals of potential concern (COPCs) listed in Table 2-1 of the document, correspond very closely with USEPA Region IX PRGs for residential soil. However, as noted in the comment above, the PRGs for industrial soil appear to be the more appropriate risk screening values for use at Site 11.

| Comparison of RBCs with USEPA Region IX Residential and Industrial PRGs |             |                         |                        |
|---|-------------|-------------------------|------------------------|
| COPC  | RBC (mg/kg) | Residential PRG (mg/kg) | Industrial PRG (mg/kg) |
| 4,4'-DDD  | 1.3         | 1.9                     | 7.9                    |
| 4,4'-DDE  | 0.9         | 1.3                     | 5.6                    |
| 4,4'-DDT  | 0.9         | 1.3                     | 5.6                    |
| Endosulfan  | 3.3         | 3.3                     | 34                     |
| Endrin  | 39          | 20                      | 200                    |
| PCBs  | 0.04        | 0.066                   | 0.34                   |

**Previous Risk Assessments, §2.5.1, p. 2-14:** We agree with the statement on p. 2-14 that the RBCs developed during the Phase I RI differ slightly from USEPA Region IX PRGs. It appears that the 10-20% difference between certain exposure parameters used in the dose equations to derive the RBC values may explain the minor differences between the RBC and PRG values. However, as shown in the table above, the RBC values differ *significantly* from the PRGs for industrial soil, which in our view are the more appropriate risk screening criteria for use at Site 11.

**Level of Risk Presented by Chemicals with Concentrations Exceeding their Respective Risk-Based Concentrations, §2.5.2, Table 2-3, p. 2-15:** PCBs were detected in 4 of 17 samples at Site 11, the highest measured concentration being 4.96 mg/kg. This value is 1.5 times greater than the USEPA PRG of 3.4 mg/kg for industrial soil, and corresponds to a cancer risk of approximately  $1.5 \times 10^{-6}$ . Based on a residential, rather than an industrial exposure scenario, Table 2-3 of the EE/CA presents the calculated risk at  $1.2 \times 10^{-4}$ .

Given the residential scenario and exposure pathways described in the EE/CA, and the maximum concentration of PCBs detected in soil, we estimate a maximum risk reduction of from  $7.5 \times 10^{-5}$  to  $6.7 \times 10^{-7}$  for the post-remediation PCB-in-soil concentration at the proposed cleanup level of 0.04 mg/kg. For the industrial scenario, which appears to be more applicable to Site 11, we estimate a maximum risk reduction of from  $1.5 \times 10^{-6}$  to  $1.2 \times 10^{-8}$ . Clearly, even for the residential exposure scenario, this represents a *deminimis* reduction in risk, and does not justify the \$48,000-\$60,000 cost for Remedial Alternatives 1-4.

**Removal Action Objectives, §3.5, p. 3-6:** This section of the EE/CA states that, "the removal action will control human exposures to soils that present a risk," and that "this will be accomplished by excavating soil containing COPCs at concentrations exceeding RBCs." However, it should be emphasized that both RBCs and PRGs are risk *screening* values, and are not intended for use as *cleanup* levels, without further evaluation of their applicability and suitability for this purpose. Transforming risk-screening values, such as RBCs, directly into a cleanup levels, without consideration of such factors as technological feasibility, and analytical detection limits, is not acceptable, and often leads to the selection of inappropriate removal action alternatives.

## Conclusions

Due to the assumption of a residential exposure scenario, and the adoption of a calculated risk-screening value as a final cleanup standard, an overly-restrictive soil removal goal for PCBs of 0.04 mg/kg was developed. This cleanup level is *25 times lower* than the soil remediation number of 1 mg/kg for PCBs employed at other Navy bases, even where the residential exposure scenario is justified, and appears to have resulted in the selection of inappropriate removal action alternatives for Site 11.

Based upon our analysis, it does not appear that the costs of remediation (between \$48,000 and \$60,000 for Remedial Alternatives 1-4) are justified by the de minimis level of risk reduction to be achieved, and that the no action alternative should be considered for Site 11. We therefore cannot approve the recommendations and conclusions concerning removal action alternatives contained in the EE/CA document.

cc: Doug Steele, USEPA Region IX  
Julie Anderson, USEPA Region IX  
Jane Diamond, USEPA Region IX  
John Christopher, CAL-EPA/DTSC

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