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MCAS EL TORO
SSIC # 5090.3

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

DRAFT

January 31, 1995

Mr. Wayne Lee, Assistant Chief of Staff
Environment and Safety
MCAS El Toro
P.O. Box 95001
Santa Ana, CA 92709

Dear Mr. Lee:

EPA has reviewed the "Draft Engineering Evaluation/Cost Analysis, Site 13," prepared for Marine Corps Air Station, El Toro, California, both dated December 1994. Please address the enclosed comments (Enclosure A and B). If you have any questions, I can be reached at (415) 744-2389.

Sincerely,

Bonnie Arthur
Remedial Project Manager
Federal Facilities Cleanup Office

Enclosures

cc: Mr. Juan Jimenez, DTSC
Mr. Larry Vitale, RWQCB
Mr. Joseph Joyce, SW DIV
Mr. Andy Piszkin, SW DIV
Mr. Dante Tedaldi, Bechtel

Dave (14)
Cowsen
From: Jason

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ENCLOSURE A

EPA COMMENTS ON MCAS EL TORO
DRAFT ENGINEERING EVALUATION/COST ANALYSIS (EE/CA) REPORT

1) Table 2-1; Please clarify that the detection limits for benzo(a)pyrene will be reduced with the confirmation samples.

2) Page 2-12; The use of CLEAN I Risk Based Criteria (RBC) is unacceptable. The rationale for these numbers must be included. Additionally, please clarify the discussion regarding gasoline. The site contaminant should be stated to be a waste oil first and then other rationale can be given as to why the source for the TRPH is difficult to identify.

3) Page 3-2; It is unacceptable to state that "selected samples will be submitted to an off-site laboratory." EPA requires that a minimum of 10% of the samples are submitted to an off-site laboratory.

4) Pages 3-4, 3-5, 4-9; The indicator chemical selection for selecting the extent of excavation should be based on toxicity. TRPH is not the most toxic of the contaminants present. Please clarify the intent of the following statement: "If the relationship among chemical concentrations is fixed in the soil, as is the case with PAHs and petroleum hydrocarbons, then the concentrations of all these chemicals would be reduced as the concentrations of the indicator chemical are reduced."

5) Page 4-3; Please discuss if a permit will be obtained from the South Coast Air Quality Management District (SCAQMD).

6) Page 4-5; Are there provisions for storage if the treated soil will be used as cover material for one of the landfill?

7) Page 4-6; It is not acceptable to discuss the reduction of risk in terms of "far less."

8) Page 4-6; Please include a figure with possible locations for the "stockpile area and the thermal desorption unit."

9) Page 4-7; The regulatory agencies would require submittal of a transportation plan for Alternative 2.

10) Page 4-13, Section 4.3.1; Discussion regarding the effectiveness of the bioremediation should be site specific. It is stated that there is a potential for interference from

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other compounds, however, this should be discussed in context with site data.

APPENDIX A

The ARARs can be reduced if the chemicals present at a site are known. For example, the ARARs pertaining to PCBs and pesticides can be omitted if prior analyses have been non-detect for these compounds.

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

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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: JANUARY 24, 1995

SUBJECT: "ENGINEERING EVALUATION/COST ANALYSIS, SITE 13, EL TORO, CALIFORNIA"

BACKGROUND

The Southwest Division Naval Facilities Engineering Command (SWDIV) has contracted with Bechtel National Inc. to prepare an Engineering Evaluation/Cost Analysis (EE/CA) for the former Oil Change Area (Site 13) at Marine Corps Air Station El Toro, in accordance with USEPA and Navy guidance documents for non-time critical removal action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The current memorandum contains USEPA Region IX's comments on the Human Health Risk Assessment sections of the EE/CA.

SCOPE OF REVIEW

We reviewed Section 2.5, "Streamlined Risk Evaluation," Section 3.4, "Applicable or Relevant and Appropriate Requirements," and Section 3.5, "Removal Action Objectives," and related data tables, as part of a comprehensive EE/CA for Site 13, dated December 20, 1994, and prepared by Bechtel National Inc. (BNI), 401 West A Street, Suite 1000, San Diego, California, 92101. These sections of the document were 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 data, QA/QC procedures, and assessment of contamination have been previously examined by appropriate USEPA Region IX and Cal/EPA personnel. The document was reviewed for scientific content only; minor grammatical or typographical errors that do not affect the interpretation were not noted. We request that future changes in the document made in response to these comments be clearly identified.

SUMMARY

We do not concur with the conclusion of the above-referenced report, that an acceptable standard for total recoverable petroleum hydrocarbons (TRPH) that can be left in place with minimal risk from exposure is a soil concentration of 1,000 mg/kg. Without speciation of the TRPH, there is no way of identifying the chemical constituents of the mixture, and assessing their toxicities. Without this information it is not possible to define the true extent of contamination, select appropriate cleanup levels, or characterize the degree of residual risk remaining following remediation.

The selected remedy by the Navy for Site 13, of conducting a removal action, where soil is removed until the proposed 1,000 mg/kg cleanup level is met, is therefore not sufficiently protective of human health and the environment, and further characterization of soil contaminants is required, as specified under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and the National Contingency Plan.

SPECIFIC COMMENTS

HEALTH EFFECTS ASSOCIATED WITH THE CHEMICALS OF POTENTIAL CONCERN AND THE POTENTIAL THREAT TO HUMAN POPULATIONS AND ECOLOGICAL RESOURCES, SECTION 2.5.2, P. 2-11: We agree that the toxicological properties for weathered TRPH are unknown and cannot be reliably predicted. This is precisely the reason that USEPA Region IX requires speciation of TRPH, in order to conduct an appropriate toxicity assessment. Although the TRPH detected at Site 13 has remained in the shallow soil, indicating the presence of heavier hydrocarbons such as diesel or waste oil, there have been well over 200 constituents of weathered TRPH identified in soil, including benzene, naphthalene, toluene, xylene, and many other volatiles, and semi-volatiles.

Without this information, we cannot adequately assess human health risk. If toxicities of TRPH constituents are high, cleaning up to a level of 1,000 ppm total TRPH in soil may leave unacceptably high residual risks to these contaminants in surface soils bordering the proposed remediation area. Conversely, if toxicities of TRPH constituents are low, the bounds of the proposed removal volume of soil may be unnecessarily large.

Speciation and identification of the chemical components of the TRPH permits an assessment of the relative toxicities of its constituents, and their mobility. With this information it is then possible to characterize the true extent of contamination, select among appropriate cleanup levels, and characterize the degree of residual risk remaining following remediation.

REMOVAL ACTION OBJECTIVES, SECTION 3.5, P. 3-4: We approve of the Risk-Based Concentration (RBC) of 0.42 mg/kg as the proposed cleanup goal for benzo(α)pyrene. This value is close to the USEPA Region IX PRG of 0.61 mg/kg, and translates to a human health risk less tha 10^{-6}. However, the reported benzo(α)pyrene concentrations as shown in Table 2-1 are only estimated values. Since detection limits were many times higher than the RBC

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for benzo(α)pyrene, it is not possible to predict how B(α)P concentrations will vary with removal of TRPH-contaminated soil, or whether they may be present in soils outside the boundary of the proposed removal volume as well. This is yet another reason for a more thorough analysis of soil contaminants at Site 13.

CONCLUSION

In selecting among possible remedial options, we highly recommended that the Navy first conduct a more thorough analysis of the soil contaminants at Site 13, including speciation of the TRPH. With information concerning the relative toxicities of the TRPH constituents, and their mobility, it will then be possible to characterize the true extent of contamination, better define the bounds for the proposed soil removal volume, select among appropriate cleanup levels, and characterize the degree of residual risk remaining following remediation.

cc: Doug Steele, Section Chief
USEPA Region IX, Superfund Technical Support Section

jmp/eltoro3.mem

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

OPTIONAL FORM 99 (7-90)
FAX TRANSMITTAL

To Jason Ashman	# of pages ▶ 8
Dept./Agency	From Bonnie Arthur
Fax #	Phone #
NSN 7540-01-317-7368 5099-101	Fax #
	GENERAL SERVICES ADMINISTRATION

January 24, 1995

Mr. Wayne Lee
Assistant Chief of Staff
Environment and Safety
MCAS El Toro
P.O. Box 95001
Santa Ana, CA 92709

Dear Mr. Lee:

EPA has reviewed the "Draft Data Management Plan" and the "Draft Risk Assessment Workplan," prepared for Marine Corps Air Station, El Toro, California, both dated November 1994. Please address the enclosed comments (Enclosures A, B and C). EPA will not be issuing comments on the "Draft Health and Safety Plan." If you have any questions, I can be reached at (415) 744-2389.

Sincerely,

Bonnie Arthur
Remedial Project Manager
Federal Facilities Cleanup Office

Enclosures

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

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ENCLOSURE B

January 5, 1995

To: Bonnie Arthur

From: Roxy Barnett (TSS Regional Biologist)

Subject: EL Toro Ecological Risk Assessment (ERA) Workplan

GENERAL COMMENTS

I would recommend a technical meeting to address the following comments prior to finalization of the report.

(1) Throughout this document there is to a continued reference to the CHM2HIll screening ecological risk assessment document (Pages 5-4 5.5.1 , 5-12 5.5.1.4, 5.5.2, 5-18 5.6.3 and 5-15 5.5.4). This document has not been formally reviewed, therefore assumptions made by CHM2HIll may not concur with Region IX performance standards. The discussions regarding the receptor selection and COCs must be site specific. Please revise after discussions with Region IX Technical Support Staff.

(2) The methods used for the selection of receptors and COCs within the work plan are generic. The selection of receptors should be approved by USEPA Region IX prior to initiation of the ERA.

(3) The discussion of toxicity bioassay is very generic (page 5-22). The selection of bioassay should be site specific. The selection of bioassay methods should be approved prior to initiation of the studies.

SPECIFIC COMMENTS

Toxicity Data (Page 5-23)
The use of the LD50 is not appropriate for assessing site risk. Loss of 50 % of a population is not acceptable. This issue should be discussed with EPA and State representatives.

Ecological Data (Page 5-23)
The CNND data and WHR system must be used with care, as this data may not be site specific. An emphasis must be placed on the use of site specific data! This issue should be discussed with EPA and State representatives.

Risk Characterization (Page 5-25)
Quote page 5-25 "Ecological surveys can establish that adverse ecological effects have occurred" Clarify how surveys define ecological effect? What is meant by "ecological effect?"

Information Sources (Page 5-23)
The information sources discussed are for the most part human health or aquatic based data. Terrestrial receptors dominate the site, therefore, further resources must be developed for this facet of the assessment, such as the Wildlife Society Data Base.

ENCLOSURE C

EPA

U.S. 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: JANUARY 20, 1995

SUBJECT: REVIEW OF "RISK ASSESSMENT PLAN, MCAS EL TORO, EL TORO, CALIFORNIA"

BACKGROUND

The Southwest Division Naval Facilities Engineering Command (SWDIV) has contracted with Bechtel National Inc. to prepare a Risk Assessment Plan under the Comprehensive Long-Term Environmental Action Navy (CLEAN) II Program. The Plan describes the procedures that are to be used to assess potential risk to human and ecological health associated with chemicals released to the environment through the Navy's use of all sites grouped under operable units OU-2 and OU-3 at the Marine Corps Air Station (MCAS) El Toro. The current memorandum contains USEPA Region IX's comments on the Human Health Risk Assessment portion of the Risk Assessment Plan.

SCOPE OF REVIEW

We reviewed the "Risk Assessment Plan," and related data tables and Appendices, dated November 21, 1994, and prepared by Bechtel National Inc. (BNI), 401 West A Street, Suite 1000, San Diego, California, 92101. 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 data, QA/QC procedures, and assessment of contamination have been previously examined by appropriate USEPA Region IX and Cal/EPA personnel. The document was reviewed for scientific content only; minor grammatical or typographical errors that do not affect the interpretation were not noted. We request that future changes in the document made in response to these comments be clearly identified.

SUMMARY

The document is clearly written, and well-organized. The basic approach for assessing human health risk is fundamentally sound; however, there are several issues which need to be addressed or further clarified in the document before we can provide approval. They include information concerning risk-based concentrations, chemicals of potential concern, exposure scenarios, intake routes, receptors, calculation of dose, and determination of target cleanup levels.

GENERAL COMMENTS

Risk-Based Concentrations: Risk-Based Concentrations (RBCs) were developed as part of a Preliminary Health Risk Assessment (PHRA) performed at 22 sites that compose OU-2 and OU-3. The PHRA, developed by CH2MHill, was submitted to the USEPA Region IX and Cal/EPA in 1993, and comments on it were submitted to CH2MHill by the two agencies. At that time EPA Region IX made the recommendation to use the USEPA PRG Tables for the health risk screening criteria, rather than independently developing RBCs.

We reiterate that comment again here, for many of the same reasons that BNI has cited in the Risk Assessment Plan (p. 4-2) for not using the RBCs to calculate risk :

(1) Toxicity values, including cancer potency factors (CPFs), Reference Doses (RfDs), and Reference Concentrations (RfCs) have changed for many of the chemicals since the preliminary risk assessment was performed. The USEPA Region IX PRGs reflect these changes, as well as incorporating Cal-Modified PRGs for those substances for which Cal/EPA toxicity values are required to be used, for sites within the State of California.

(2) It is both more time-efficient and cost-effective to utilize USEPA PRGs. There would be no time and cost savings to base contaminant screening levels on the CLEAN I RBCs, particulary since they would have to be modified to reflect changes in toxicity values, and the presence of different Cal/EPA cancer potency factors. By utilizing the PRGs, which have already been approved by both USEPA Region IX, and Cal/EPA for the purpose of risk screening, further review of proposed risk-screening values may be avoided.

Where the contaminants/exposure pathways being assessed are not included in the USEPA PRG Tables, then site specific calculations may be performed, and included in the appropriate scenarios.

Exposure Scenarios and Intake Routes: The conceptual exposure model that was developed and used to establish human exposure scenarios and intake routes for soil, sediment, and surface water in the PHRA should be briefly summarized and described in the Risk Assessment Plan. If any changes or modifications to the exposure model are anticipated, they should be documented in this section.

Target Cleanup Levels: It is unclear how target cleanup levels for contaminants in various media are to be determined. The document states that RBCs may be used as cleanup goals for removal actions, but does not address the question of how target cleanup goals will be established for contaminants which are not the subject of removal actions. As stated in the first comment above, we strongly recommend the use of USEPA PRGs for preliminary risk screening criteria, and if applicable, to establish target cleanup goals.

Chemicals of Potential Concern: It would be very useful if a data table were presented summarizing the chemicals of potential concern for human health effects, much like the one presented in the Appendix for potential ecological concern. It would be even more useful if, instead of a checkmark indicating detect/non-detect, the *range* of detected values in each media were presented.

Site Conceptual Model: We recommend including a site conceptual model, much like the block diagram shown in Figure 5-2 for the Ecological Risk Assessment, for the Human Health Risk Assessment as well. With 22 sites identified as chemical release sources, and potential exposure to over 100 chemicals through multiple routes of exposure, a conceptual model, drawn as a diagram or illustration, would greatly clarify and enhance the description and interpretation of the potential exposure pathways, transport mechanisms, and receptors.

Future Land Use: Selection of appropriate receptors for a risk assessment is dependent on future land use, a description of which should be added to the document. If it has been previously described in the PHRA, it should be referenced, and summarized in the document.

SPECIFIC COMMENTS

Objective of the Human Health Risk Assessment, Sec. 4.1, p. 4-1: The last paragraph states: "The exposure scenarios and routes as well as the default values used in the preliminary assessment will be adopted in the *baseline and streamlined* risk assessments. RBCs will also be used *where applicable*, particularly in the streamlined risk assessments" [*emphasis added*].

Please explain the procedures or criteria that are to be used for determining which sites/contaminants are candidates for streamlined versus baseline risk assessments, and what criteria will be employed in the determination of applicable cleanup standards. As stated above, we discourage the use of RBCs for the streamlined risk assessments, and recommend the use of PRGs instead. If, as stated in Section 4.4.1, streamlined risk assessments are performed for only those sites/contaminants for which removal actions are to be performed, then please explain the procedures or criteria that are to be used for determining which contaminants/sites are candidates for removal actions.

Toxicity Assessment, Sec. 4.3.2, p. 4-5: It is stated here, and in at least one other place in the document (p. 4-13) that, "Although the Department of the Navy has agreed to display the Cal/EPA Cancer potency factors (CPFs) it clearly and expressly reserves the right to reject their use at a later date if the CPFs are not *adequately supported*" [*emphasis added*]. Please explain the procedures or criteria that are to be used for making the scientific determination as to whether the Cal/EPA CPFs are adequately supported.

Calculation of Dose, Sec. 4.3.3.4, Values Assigned to Dose Equation Parameters, Table 4-2, p. 4-11: We have the following questions/comments regarding several values in the table:

Intake rate, water: Please explain why water intake is only a factor for the resident receptor, and not the adult worker or recreational adult or child. This assumption does not appear realistic for the playing child, with an assumed whole-body exposure to water (through recreational swimming activities).

Intake rate, air: 0.83 m^3/hr seems too high for the resident child, and too low for the adult worker. We recommend values of 0.42 m^3/hr and 1.2 m^3/hr for the child (0-6 years) and adult worker (light activity), respectively.

Exposure time: There is no exposure time given for the adult worker.

Exposure duration, cancer effects: Why is the exposure duration not applicable to the resident child, age 0-6 years?

Exposed skin area, water: Why is the whole-body exposure of the playing child, age 9-16 years (5,600 cm^2) less than that of the resident child, age 0-6 years (7,195 cm^2)?

Exposed skin area, soil/sediment: The exposed skin area for the adult worker should include the arms as well as the head and hands.

Body weight: The average body weight for the resident child is between 10-16 kg, not 70 kg.

Calculation of Dose, Sec. 4.3.3.4, p. 4-12: Please provide an explanation for the assumption that the playing child is exposed to surface water and sediment, but not soil.

CONCLUSION

The draft Risk Assessment Plan is clearly and concisely written, but does require modification, and the addition of supplemental information, as indicated in the comments outlined above, before we can provide approval. We anticipate that these comments can be readily addressed in the final draft of the Risk Assessment Plan.

cc: Doug Steele, Section Chief
USEPA Region IX Superfund Office of Technical Support

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ENCLOSURE A

EPA COMMENTS ON MCAS EL TORO DRAFT DATA MANAGEMENT PLAN

SPECIFIC

1) Page 2-1; Please include brief summaries of the Program Procedures.

2) Figure 2-1; Figure should be specific for El Toro.

3) Page 3-1; Please elaborate on the timing of the data transfer between CLEAN I AND CLEAN II. This is an essential element of an efficient and timely transition.

4) Page 3-4; Provide frequencies of the collection of field analyses data.

5) Page 3-5; Please provide a sample data entry form.