Department of Toxic Substances Control

Edwin F. Lowry, Director
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

Terry Tamminen
Agency Secretary
Cal/EPA

Arnold Schwarzenegger
Governor

December 31, 2003

Thomas Macchiarella
Department of Navy
Southwest Division
Naval Facilities Engineering Command
Attn: Code 06CA.xy
1220 Pacific Highway
San Diego, CA 92132-5190

DRAFT SOIL FEASIBILITY STUDY REPORT, OPERABLE UNIT 5, ALAMEDA POINT, ALAMEDA, CALIFORNIA

Dear Mr. Macchiarella:

Attached please find Part II of DTSC comments on the draft feasibility study (FS) report for Operable Unit 5 (OU-5) dated August 15, 2003. These comments are prepared by the Human and Ecological Risk Division (HERD). If you have any questions, please contact me at 510-540-3767.

Sincerely,

Marcia Y. Liao

Marcia Y. Liao, Ph.D., CHMM
Hazardous Substances Engineer
Office of Military Facilities

Enclosures

cc: see next page

cc: Darren Newton, SWDiv
Anna-Marie Cook, EPA
Judy Huang, RWQCB
Elizabeth Johnson, City of Alameda
Peter Russel, Northgate Environmental
Jean Sweeney, RAB Co-Chair
Lea Loizos, Arc Ecology

Terry Tamminen
Agency Secretary
Cal/EPA

Department of Toxic Substances Control

Edwin F. Lowry, Director
1011 N. Grandview Avenue
Glendale, California 91201

Arnold Schwarzenegger
Governor

TO: Marcia Liao, DTSC Project Manager
OMF Berkeley Office
700 Heinz Street, Second Floor
Berkeley, CA 94704

FROM: James M. Polisini, Ph.D.
Staff Toxicologist, HERD
1011 North Grandview Avenue
Glendale, CA 91201

DATE: December 23, 2003

SUBJECT: NAVAL AIR STATION ALAMEDA (ALAMEDA POINT) SOIL FEASIBILITY STUDY OPERARABLE (OU) UNIT NUMBER FIVE
[SITE 201209-18 PCA 18040 H:40]

BACKGROUND

HERD reviewed the document titled *Draft, Soil Feasibility Study Report Operable Unit 5, Alameda Point, Alameda, California*, dated 15 August, 2003, produced by CDM Federal Programs Corporation, of San Diego, California.

Alameda was an active naval facility from 1940 to 1997. Operations included aircraft, engine, gun and avionics maintenance; fueling activities; and metal plating, stripping and painting. An unconfined landfill exists on the margin of San Francisco Bay in the western bayside area of NAS Alameda. Todd shipyard is located immediately adjacent to Operable Unit 5 (OU5) on the Alameda Inner Harbor Channel. OU5, approximately 42 acres in size, was constructed in 1937 from fill material placed at NAS Alameda. All Navy activities ceased in 1997.

GENERAL COMMENTS

Numerous statements in the document indicate that the Future Land Use Development Plan for Naval Air Station (NAS) Alameda developed only five year ago does not accurately reflect the currently projected land use. Given this admission by the Navy, reliance on a deed restriction as the basis for Institution Controls (ICs) and a mechanism for severing exposure pathways for soils two (2) feet below ground surface (bgs) over the projected lease period of 50 years does not seem reasonable.

While I might currently purchase a lot on the Oakland Inner Harbor Channel for residential construction, after the proposed Navy Time Critical Removal Action (TCRA) of the upper 2 feet, I doubt that the Navy can guarantee the future land use plans and protection from contaminants deeper than 2 feet bgs will be maintained in perpetuity. A signed memorandum from the City of Alameda City Council outlining a City ordinance passed and delivered to DTSC is required for consideration of the proposed remedial alternative as part of the risk assessment process.

This document makes multiple references to non-cancer 'risk management values'of 1 (e.g., Section 1.6.5, page 1-20), de minimus cancer levels (e.g., Section 6, page 6-1), and supposedly agreed upon BaP equivalent concentrations of 1.0 mg/kg and 1.8 mg/kg (e.g., Section 1.5.2, page 1-17 and Section 1.6.6, Table 1-7, footnote b) for TCRAs. In each of these references to a specific risk, hazard or soil concentration, please reference the target risk and/or target hazard, the source and agreement date of these risk management decisions where they are site-specific to NAS Alameda. Use of a DTSC risk management incremental cancer risk decision point of $2x10^{-5}$, rather than $1x10^{-6}$ could substantially alter HERD comments regarding this document.

It is unclear throughout the document whether the Time Critical Removal Actions (TCRAs) for OU5 have (Section 6.2.2.1, page 6-12), or have not (e.g., Section 6, page 6-1), been performed. Please be more specific whether these are planned or completed TCRAs.

SPECIFIC COMMENTS

1. Please identify the regulatory agency which was the source of the 'EPA target incremental cancer risk of $3x10^{-5}$, for benzo(a)pyrene (BaP) equivalents of 1.8 mg/kg BaP equivalents (Executive Summary, Time Critical Removal Actions, page xiii).

2. HERD does not agree that the residential use scenario need only consider the upper soil contaminants from six inches to 2 feet (Executive Summary, Second paragraph of Results Summary, page xiv). HERD typically considers soil contamination from surface to 10 feet as an appropriate soil volume for development of the Exposure Point Concentration (EPC) unless the soils are extremely heterogeneous in concentration or some other mechanism makes those soils not a likely exposure source. Please follow HERD guidance in developing the EPC for the Human Health Risk Assessment (HHRA).

3. BaP Equivalency Factors (BaP EFs) (Table 1-1, page 1-11) were checked and found to agree with those currently proposed by the California Office of Environmental Health Hazard Assessment (OEHHA).

4. All inorganic elements were apparently included in the Human Health Risk Assessment (HHRA) assessment of risk and/or hazard without screening based on proposed ambient concentrations (Section 1.4.4, page 1-14).

5. Please explain why the subsequent text (Section 1.6.5, page 1-19) indicates that arsenic was compared to 'ambient' concentrations of arsenic, for the 'clean fill' in determining whether arsenic would be a Contaminant of Potential Concern (COPC) (Table 1-4, page 1-20).

6. Insufficient data were available for Parcel 183 (Table 1-2, footnote a, page 1-15). Soil concentrations for Parcel 182, which surrounds Parcel 183 was used to assess the HHRA for Parcel 183. This a potential data gap for Parcel 183. This comment is for the DTSC Project Manager and no response is required from the Navy or Navy contractors.

7. Please provide a cogent rationale for performing a removal action to 4 feet bgs for the play area (Section 1.5.1, page 1-17) when the current proposed remedial alternative (Number 2), and/or Time Critical Removal Action (TCRA) only addresses soil depths to 2 feet bgs. This is a particularly troubling exclusion of soils for which the estimated incremental cancer risk is $4x10^{-3}$ and the Hazard Index (HI) is 10 for soils between 2 feet bgs and 8 feet bgs in Parcels 181/182 (Section 1.6.5, page 1-20).

8. DTSC and HERD do not evaluate residential exposure for the upper six inches to 2 feet of soil as indicated (Section 1.6.6, page 1-22). HERD evaluates residential soil exposure in the surface to 10 foot depth. Please include the analytical results from this volume of soil in the Human Health Risk Assessment (HHRA) unless a restriction signed by the City of Alameda is forwarded to DTSC/HERD.

9. Todd Shipyard, a site currently under investigation by DTSC, appears adjacent to OU5 (Figure 1-3). The proximity may complicate the HHRA depending on the major routes of exposure to OU5 soils (e.g., inhalation of particulates). This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.

10. Please explain the location of the 'Seaplane Lagoon' sediments apparently placed in OU5 (Figure 1-19, footnote 1).

11. Please explain why the Federal Endangered Species Act (ESA) and the California ESA are not Applicable and or Relevant and Appropriate Requirement (ARARs) values for OU5 (Section 2.3, page 2-3).

12. Please provide a table summarizing the comparison of OU5 soils to soils at NAS Alameda and throughout the San Francisco Bay Area (Section 3.1.2, page 3-2) in support of the conclusion that OU5 soils do not exceed relevant 'ambient' concentrations of inorganic elements.

13. Please indicate the regulatory agency which agreed to a 1 mg/kg BaP equivalent soil concentration as the Remedial Action Objective (RAO) for OU5 (Section 3.3, page 3-3).

14. The discussion of alternative 3 indicates that excavation or remediation of Decision Areas (DAs) 2 and 6 which exceed the BaP Equivalent concentration of 1 mg/kg would achieve a BaP equivalent incremental cancer risk of $2x10^{-5}$ (Section 5.1.3, page 5-3). The U.S. EPA Region 9 Preliminary Remediation Goal (PRG) for BaP is 62 µg/kg. A BaP equivalent concentration of 1000 µg/kg is equivalent to an incremental cancer risk of $1.613x10^{-5}$. Please explain this apparent discrepancy or state that it is rounding error.

15. Public Acceptance is not initially addressed as one of the balancing criteria (Section 5.1). Please clearly state in the text of this section that public acceptance must be considered in selection of a remedial alternative. The first mention of Public Acceptance appears to be later in the document (Section 6.1, page 6-2).

16. Please explain how far outside the discrete sampling locations soil will be remediated to whatever RAO is selected (Figure 5-2) for consideration by the risk managers.

17. Please notify the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Game (DFG), the National Oceanic and Atmospheric Administration (NOAA) and the San Francisco Regional Water Quality Control Board (SFRWQCB) in the event of a violation of on-station land-use restrictions at OU5 (Section 6.2.2, page 6-11).

18. The remedial alternative #2 cost of $90,283 (Section 6.2.2.1, page 6-13) for OU5, which is 42 acres in size, over the period of 66 years use (1937 though 2003) amounts to $36 per acre per year for the period during which the Navy had use of California State lands. The remedial alternative #3 cost of $854,530 (Section 6.2.3.2, Table 6-2, page 6-21) amounts to $308 per acre per year for the period during which the Navy had use of California State lands. Neither of these costs seem economically unreasonable given the period of use, This comment is intended for the DTSC Project Manager and no response is required from the Navy or Navy contractors.

19. Please explain the rationale for the 20 by 20 foot step out from the discrete sampling points (Section 6.2.3.1, page 6-15) as appropriate for remediation. Post remedial action monitoring must be performed to confirm the effectiveness of any remedial action.

SPECIFIC COMMENTS ATTACHMENT A

20. Please explain how the maximum detected soil concentration for evaluation of BaP equivalents can differ depending on whether the comparison is to the U.S. EPA

Region 9 PRG or the CalEPA recommended concentration (Table A.2). If this is due to the difference in Toxicity Equivalency Factors (TEFs) please indicate that in a footnote to the table.

21. U.S. EPA and CalEPA TEFs (Table A.1) were checked at random and found to be correct. This comment is intended for the DTSC Project Manager and no response is required from the Navy or Navy contractors.

22. Toxicity Reference Values, both Cancer Slope Factors (CSFs) and Reference Doses (RfDs) (Table A.2), were checked at random and found to be correct.

23. The Dermal Absorption Factors (DAFs) (Table a.5) should conform to those presented in the DTSC Preliminary Endangerment Assessment (PEA) manual where the DTSC DAFs are more protective than those proposed by the U.S. EPA.

CONCLUSIONS

The HHRA indicates incremental cancer risk and non-cancer hazard in excess of the usual *de minimus* level. Incremental risk for the residential scenario exceeds one in a million ($1x10^{-6}$) and a hazard index of 1 in multiple locations within OU5. However, in the final assessment, the decision regarding OU5 is completely a risk management decision.

HERD strongly recommends that a signed Alameda City Council Ruling be obtained, and transmitted to DTSC, to define the limitations on the property within OU5 in perpetuity, prior to DTSC acceptance of the referenced Draft HHRA for OU5.

HERD Internal Reviewer: Brian K. Davis, Ph.D.
Staff Toxicologist HERD

cc: Ned Black, Ph.D., BTAG Member
U.S. EPA Region IX (SFD-8-B)
75 Hawthorne Street
San Francisco, CA 94105

Ms. Beckye Stanton
U. S. Fish and Wildlife Service
2800 Cottage Way
Suite W-2605
Sacramento, CA 95825-1846

Charlie Huang, Ph.D., BTAG Member
California Department of Fish and Game
1700 K Street, Room 250
Sacramento, CA 94244-2090

Laurie Sullivan, M.S., BTAG Member
National Oceanic and Atmospheric Administration
c/o U. S. EPA Region 9 (H-1-2)
75 Hawthorne Street
San Francisco, CA 94105-3901

Judy Huang
San Francisco Regional Water Quality Control Board
155 Clay Street, #1400
Oakland, CA 94612

Voice 818-551-2853
Facsimile 818-551-2841
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