Department of Toxic Substances Control

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ALAMEDA POINT
SSIC NO. 5090.3

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

July 15, 2003

Ms. Glenna Clark
Department of Navy
Southwest Division
Naval Facilities Engineering Command
1230 Columbia Street, Suite 1100
San Diego, CA 92101

DRAFT WORKPLAN FOR ASSESSMENT OF PAH CONTAMINATION AT SELECTED CERCLA SITES AND EBS PARCELS, ALAMEDA POINT, ALAMEDA, CALIFORNIA

Dear Ms. Clark:

The Department of Toxic Substances Control (DTSC) has reviewed the above referenced document dated May 2003. Our comments are attached. Should you have any questions, please contact me at 510-540-3767.

Sincerely,

Marcia Y. Liao

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

enclosure

cc: Michael McClelland, SWDiv
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TO: Marcia Liao, DTSC Project Manager
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FROM: James M. Polisini, Ph.D.
Staff Toxicologist, HERD
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DATE: July 8, 2003

SUBJECT: DRAFT WORKPLAN FOR ASSESSMENT OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHS) AT NAVAL AIR STATION ALAMEDA
[SITE 201209-18 PCA 18040 H:16]

BACKGROUND

HERD has reviewed the document titled *Draft Work Plan for Assessment of PAH Contamination at Selected CERCLA Sites and EBS Parcels at Alameda Point, Alameda, California,* dated May 2003. This draft work plant was prepared by Bechtel Environmental, INC. of San Diego, California. This document has a tracking number of CTO-0059/0010.

Alameda Island began industrial development in the 1850s. The Alameda Peninsula was developed as an industrial and transit center in the mid-1850s. The Navy acquired the land and began building Naval Air Station (NAS) Alameda in 1936. Construction activities involved filling of natural tidelands, marshes and sloughs between the Oakland Inner Harbor and the western tip of Alameda Island. NAS 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.

This draft work plan currently addresses only the polycyclic aromatic hydrocarbon (PAH) contamination at Investigation Restoration (IR) sites 3 through 13, 16, 19, 21, 22, 23, 30, 31 and 32 as well as Environmental Baseline Study (EBS) Parcels 28, 51 and 205.

GENERAL COMMENTS

This draft work plan correctly presents the agreements made regarding sampling density among the Navy, Navy contractors, the U.S. EPA Region 9 and HERD during a March 19, 2003 meeting at NAS Alameda. However, HERD has several proposed changes and requests for clarification.

SPECIFIC COMMENTS

1. There appears to have been some miscommunication during the March 19, 2003 meeting. I requested that it be demonstrated that the soil concentration of each PAH corresponds, within reasonable limits, to the soil concentration of benzo(a)pyrene, as the entire study was designed around soil concentrations of benzo(a)pyrene. The Navy presented two tables outlining the statistics regarding the existing data for dibenz(a,h)anthracene (Minutes of March 19, 2003 meeting, Table 3) and the Visual Sampling Plan (VSP) output for the number of samples required based on the dibenz(a,h)anthracene soil concentration is not sufficient to address the relationship of all PAHs to benzo(a)pyrene (Minutes of the March 19, 2003 meeting, Table 4). If the Navy Conceptual Site Model (CSM) regarding placement of fill material used to construct NAS Alameda is accurate (Section 2.6, page 2-3 and Figure 2-4) there should be some correlation of benzo(a)pyrene concentrations with other PAHs at least within the parcels constructed during individual fill events (Figure 2-3). Please provide simple bi-coordinate graphs comparing the soil concentration of benzo(a)pyrene to the soil concentration of the other targeted PAHs (Attachment A, Table 5-1). This issue is central to the applicability of the data planned to be collected under this work plan to the assessment of incremental cancer risk associated with PAHs at NAS Alameda in a Human Health Risk Assessment (HHRA).

2. The soil Limit of Detection (LOD) for PAHs is listed as 5 µg/kg (Section 4.1, page 4-2). However, the Target Quantitation Limit (TQL) (Attachment A, Table 5-1) lists values from 0.005 mg/kg up to 0.05 mg/kg. Even benzo(a)pyrene, the main target of this investigation, is listed with a TQL of 0.01 mg/kg (i.e., 10 µg/kg) rather than the 5 µg/kg listed in the text. Previous NAS Alameda investigations of PAH soil concentrations have been extremely limited due to numerous elevated non-detect concentrations

reported by the laboratories. As long as the TQL, and the results reported, as less than the TQL are less than the Preliminary Remediation Goal (PRG), there should be no impact on the HHRA. However, please explain the discrepancy between the text and the cited table.

3. The number of samples outlined for each IR site and EBS Parcel (Section 4.7, page 4-7 and Table 4-1) agrees with the discussions of March 19, 2003. This comment is intended for the DTSC Project Manager and no response is required from the Navy.

4. This sampling plan outlines an enormous effort, in terms of the number of samples to be collected (n=3771) and analyzed (Section 5.2, page 5-2), and should address the data gaps for PAH soil concentration discovered during the previous EBS program for the IR sites and EBS Parcels included. However, now is the point at which the Navy and Navy contractors should determine whether data gaps also exist in the inorganic soil concentration data from previous investigations. It would be a logistically simple matter to perform Inductively Coupled Plasma (ICP) Atomic Absorption (AA) for between 7 and 13 inorganic elements once the samples are collected. HERD recommends that the existing NAS Alameda data for inorganic elements be evaluated to determine if the data TQLs are:

    1) sufficiently low to be used in a HHRA and/or an Ecological Risk Assessment (ERA) ; and,
    2) whether the existing data density of reported concentrations is sufficient to perform a HHRA or ERA prior to sampling and analysis under this work plan.

    An alternative might be to archive the samples and perform ICP AA subsequent to the PAH analysis.

5. There is a typographic error (Figure 3-6) listing the U.S. EPA Region 9 PRG for benzo(a)pyrene as 62 mg/kg rather than 62 µg/kg. All other figures list the PRG correctly. Please correct this typographic error.

CONCLUSIONS

HERD requires the submission of bi-coordinate graphs of the soil concentration of benzo(a)pyprene against the other targeted PAHs prior to approval of this work plan.

The Navy should assess any data gaps for inorganic elements in the area encompassed by this work plan. The large number of samples proposed could easily fill any data gaps for inorganic elements by performing ICP AA on the samples collected for PAH analysis.

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Staff Toxicologist, HERD

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