



DEPARTMENT OF THE NAVY

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30 Apr 1997

From: Commanding Officer, Engineering Field Activity, West, Naval Facilities Engineering Command
To: Distribution

Subj: RESPONSE TO COMMENTS FOR THE DRAFT REVISED 02 OU 4 ECOLOGICAL
ASSESSMENT AND DRAFT OU 4 FOLLOW-ON ECOLOGICAL ASSESSMENT WORK
PLAN/FIELD SAMPLING PLAN

Encl: (1) Response To Comments For The Draft Revised 02 OU 4 Ecological Assessment And Draft
OU 4 Follow-On Ecological Assessment Work Plan/Field Sampling Plan

1. Enclosure (1) provides responses to comments on the Draft Ecological Assessment Work Plan/Field Sampling Plan and Draft Ecological Assessment, Revision 2. Several chapters of the work plan are attached with changes as indicated in the response document. Chapter 3 of the work plan is attached and contains added rationale for the sampling. Chapter 8 of the work plan is attached and has been amended to include the exposure assessment methodology that will be used in the predictive assessment portion of the ecological risk assessment. In addition, Chapter 10 of the ecological assessment was amended with a table that lists data gaps and how the data gaps will be addressed through data collection.

2. The paragraphs below discuss the Navy's plan to analyze recently collected data, including several changes being made to the sediment assessment approach that are not discussed explicitly in the response to comments.

Most of the data from the fall 1996 sampling are currently in data validation and the Navy's review of these data will begin shortly. All the data must then be entered into a GIS database. We plan to summarize the data and then schedule working sessions with the regulatory agencies to present and analyze the data. This will provide the agencies with an opportunity to review the data in advance of the remedial investigation report. At this time, any additional data needs will be discussed.

3. Because ecological risk assessment is a dynamic process, several changes will be made to the work plan that are not discussed in the responses to the agency's comments. The changes are described below and incorporate methods to (1) account for confounding effects of the physical characteristics of the sediments, (2) identify ubiquitous chemicals, (3) select an appropriate exposure point concentration for the risk analysis, and (4) determine when a feasibility study may be appropriate.

Physicochemical Characteristics of Sediments

Review of the sediment data collected in 1993 shows that the sediments with the highest contaminant concentrations also tend to have the highest organic carbon and fine particle content. This indicates that contaminants may be distributed in the sediments more as a function of their physical traits rather than as a function of their proximity to any potential source of contamination. This would make it very difficult, particularly in the Western Bayside and Oakland Inner Harbor, to discern meaningful spatial contaminant distribution patterns or to identify potential contaminant sources. Also, according to data collected under the Regional Monitoring Program (RMP), as discussed extensively at their annual meeting in February, one of the amphipod species (*Eohaustorius estuarius*) used in the whole sediment toxicity tests

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conducted for the Ecological Assessment is sensitive to sediments with high fines content. The Navy is concerned that for many of the aquatic areas surrounding NAS Alameda, it will be difficult if not infeasible to discern between (1) the effects of sediment contaminants and the confounding effects of fine sediment particles on *E. estuarius*, which was used in past sampling events, and (2) the effects of contaminants potentially released by the Navy and those released by other dischargers or by resuspension from dredging or other nonpoint sources.

Data from toxicity tests conducted on *Eohaustorius estuarius* will be evaluated with respect to both the chemical concentrations present in the sediment and the fine particle content of the sediments. Any future toxicity tests will be based on specific data quality objectives and appropriate test species and control sediments will be used. Test organisms will be selected taking into account the potential effects of fines and the tolerance that various test organisms have for chemicals that are ubiquitous in the bay.

Identification of Ubiquitous Chemicals

The Navy believes that contaminants released from non-Navy sources throughout the East Bay/Bay Area could detract attention from potential risk drivers and result in a protracted risk management process if they are not identified. The RWQCB has established preliminary ambient values in the Shearwater Order; however, the order contains single values for a limited number of chemicals. The Navy believes evaluation of additional chemicals may be needed to ensure that the ecological risk assessment is focused on incremental risk.

Comparison of sediment contaminant concentrations to ambient contaminant concentrations in bay sediments will be addressed more comprehensively than by using the single-datum ambient values in the Shearwater Order. Although these data may be useful for screening, additional identification of chemicals present at ambient levels will be conducted by comparing the data from aquatic areas adjacent to the base to data developed under the Regional Monitoring Program, data from dredging programs, NOAA data, and data provided in the report "Long-term Management Strategy For the Placement of Dredged Material in the San Francisco Bay Region." In addition, the ambient values to be published by the RWQCB this year may be used as well.

Selection of Exposure Point Concentration

The work plan did not specify what contaminant concentration would be used as an exposure point concentration in the ecological risk assessment. The exposure point concentration is compared to screening values such as the ER-Ls to identify potential risk drivers. However, limited areas with high sediment deposition rates and high sediment organic content may contain the highest chemical concentrations. Because decisions should not be based on only the highest concentrations detected in an area but rather a reasonable maximum exposure point concentration for each area, the Navy is considering using the 95 percent upper confidence limit (95 UCL) for each area (e.g. Western Bayside) when comparing to the screening criteria.

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Initiation of Feasibility Studies

The work plan identifies cases in which data screening results could lead directly to an FS, such as exceeding the ER-M. However, the RMP data show that nickel concentrations throughout the San Francisco Bay exceed the ER-M. In addition, most of the sediment data collected to date have been collected purposively, based on the presence of stormwater discharges or quiescent areas potentially directly affected by the Navy, such as the Breakwater Beach area. Therefore, individual detections above ambient and ER-M values will not immediately result in a feasibility study unless other evidence suggests substantial endangerment to the environment.

4. These changes are based on the Navy's continuing efforts to use good science and data quality objectives to drive risk assessments and data collection. If you have questions or comments regarding this matter, please call me at 415-244-2596, or FAX 415-244-2654.


THERESA BERNHARD
By direction

Copies to:

California Department of Toxic Substances Control (Attn: Tom Lanphar)
California Department of Toxic Substances Control (Attn: Jim Pollisini)
California Regional Water Quality Control Board (Attn: Lyn Suer)
California Regional Water Quality Control Board (Attn: Susan Gladstone)
California State Water Resources Control Board (Attn: Cary Anderson)
U.S. Environmental Protection Agency (Attn: Anna-Marie Cook)
U.S. Environmental Protection Agency (Attn: Ned Black)
National Oceanographic and Atmospheric Administration (Attn: Laurie Sullivan)
U.S. Fish and Wildlife Service (Attn: Jim Haas)
California Department of Fish and Game (Attn: Susan Ellis)
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ENCLOSURE

RESPONSE TO COMMENTS FOR THE
DRAFT REVISED 02 OPERABLE UNIT 4
ECOLOGICAL ASSESSMENT AND
DRAFT OPERABLE UNIT 4 FOLLOW-ON
ECOLOGICAL ASSESSMENT WORK PLAN/
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