STATE OF CALIFORNIA — ENVIRONMENTAL PROTECTION AGENCY

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2
700 HEINZ AVE., SUITE 200
BERKELEY, CA 94710-2737

(510) 540-3724

December 1, 1994

Commanding Officer
Western Division
Attn: Mr. Ernesto Galang, Code 1813
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, California 94066-0720

Dear Mr. Galang:

NAVAL STATION TREASURE ISLAND ECOLOGICAL RISK ASSESSMENT MEETING, WEDNESDAY, OCTOBER 26, 1994

The enclosed comments are furnished in response to proposals made by the U. S. Navy and its contractors for a second phase of sampling and analysis in support of the ecological risk assessment at Treasure Island and Yerba Buena Island. The proposals were discussed at a meeting at Treasure Island on Wednesday, October 26, 1994. These comments have been reviewed by U.S. EPA Region IX staff who are in agreement with the statements made regarding the ecological risk assessment.

The agreements reached on evaluation of the threat to terrestrial receptors should provide sufficient information to screen out those terrestrial sites which require no further investigation from those requiring further characterization.

The Department of Toxic Substances Control and U.S. EPA are skeptical of the ability to predict the outcome of an aquatic toxicity test based on bulk sediment chemical or physical parameters with sufficient precision and accuracy that estimates will be acceptable to regulatory agencies. If the Navy and its contractors wish to pursue this investigation, it should be attempted at a single Navy site prior to consideration at other Navy sites. It should also be made clear that testing performed on sediment samples from ten locations chosen at random may not be sufficient to evaluate the potential threat to aquatic receptors posed from contaminants associated with Treasure Island or Yerba Buena Island.

If you have any questions regarding this letter, please contact me at (510) 540-3818.

Sincerely,

Mary Rose Cassa

Mary Rose Cassa
Engineering Geologist
Office of Military Facilities

Enclosure

cc: Mr. Michael Bessette
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

Ms. Rachel Simons [H-9-2]
U. S. EPA, Region 9
75 Hawthorne Street
San Francisco, California 94105-3901

Admin Record (3 copies)

Jim Sullivan (BRC)

DEPARTMENT OF TOXIC SUBSTANCES CONTROL/U.S. EPA COMMENTS: NAVAL STATION TREASURE ISLAND ECOLOGICAL RISK ASSESSMENT MEETING, WEDNESDAY, OCTOBER 26, 1994

General Comment

1. A proposal was made to sample off-shore sediments at approximately 50 locations, perform bulk chemical sediment analyses and physical sediment characterization at all locations, and then perform an amphipod bioassay on sediment collected at approximately 10 randomly selected locations out of the 50 total samples. The purpose of this exercise is to determine whether it is possible to 'predict' the outcome of an aquatic toxicity test based on bulk sediment chemical or physical parameters with sufficient precision and accuracy that estimates of predicted sediment toxicity acceptable to the regulatory agencies could be submitted in place of actual toxicity testing

   Numerous attempts have been made to predict the response of aquatic organisms in sediment tests based on various sediment characteristics. We are not aware of any such attempt which has been successful in predicting biological response in sediment aquatic toxicity tests. A similar proposal for Hunters Point Annex sediments is currently being reviewed by regulatory agencies. As this approach is extremely speculative and may yield only a small amount of information useful for evaluating the threat to ecological receptors, the U. S. Navy and Navy contractors should focus on a single base or site to demonstrate the ability to 'predict' the outcome of an aquatic toxicity test based on bulk sediment chemical or physical parameters with sufficient precision and accuracy that estimates are acceptable to the regulatory agencies in place of actual aquatic toxicity testing.

Specific Comments

2. A proposal was made to compare no observable adverse effect levels (NOAELs), which are dose values with units of mg/kg-day, directly to soil concentrations, which are media values with units of mg/kg, to screen sites for no further action. As discussed at the meeting, the NOAELs should be converted to soil concentrations based on the soil intake of the representative species chosen to evaluate potential ecological threat prior to use as ecological 'screening' criteria. The exposure pathways evaluated to calculate a no further action soil concentration should be those listed in the Preliminary Endangerment Assessment (PEA) manual: incidental ingestion of soil, ingestion of water, ingestion of prey, dermal absorption, and inhalation of volatiles or particulates.

3. We agreed to provide the Navy with a telephone number to contact regarding the Wildlife Habitat Relations (WHR) system which provides a group of potential receptors associated with particular California habitats. That Department of Fish and Game contact and phone number is Mr. Barry Garrison at (916) 653-1738.

4. We support the discussion that the peregrine falcon, nesting in the Bay Bridge hear YBI, be evaluated for inclusion in the ecological risk assessment. Although the typical home range of peregrine falcon may be large, this pair may have a home range confined largely to YBI by the availability of prey items.

5. As discussed at the meeting, benthic invertebrates should be collected and analyzed to determine the tissue concentrations which are available for transfer through the food web to higher consumers rather than analyze the tissues of organisms used in the aquatic toxicity testing. The exposure period of the proposed aquatic toxicity tests may be too short to reach steady-state tissue concentrations for some contaminants of concern.

6. Testing of a single aquatic organism, an amphipod, was proposed. If this single species test is to be used to evaluate the ability to predict the results of aquatic toxicity tests from sediment criteria, then it may be acceptable as a preliminary investigation of the ability to predict the response of a single amphipod species. If the purpose is to predict or assess the threat to ecological receptors in San Francisco Bay, a much wider suite of tests and endpoints must be employed. A suite of three aquatic toxicity tests, each with multiple endpoints, has typically been used at other sites in San Francisco Bay as the minimum necessary.