

DEPARTMENT OF HEALTH SERVICES
TOXIC SUBSTANCES CONTROL PROGRAM
700 HEINZ AVE., BLDG. F, SUITE 200
BERKELEY, CA 94710-2737



June 21, 1991

Commanding Officer
Attn: Mr. Eddie Sarmiento
Naval Station Treasure Island
Building 1 (Code 84)
San Francisco, CA 94130-5000

Dear Mr. Sarmiento:

DHS AND RWQCB COMMENTS ON THE ID OF EXPOSURE PATHWAYS AND INTAKE ASSUMPTIONS FOR THE PHEE FOR HUNTERS POINT ANNEX

On June 3, 1991, the Department of Health Services (DHS) received a copy of each of the following: the Draft Identification (ID) of Exposure Pathways, Baseline Public Health and Environmental Evaluation (PHEE), dated May 29, 1991 (revised version of May 9, 1991 submittal); the Draft ID of Exposure Pathways for Operable Unit II (OU-II) for the PHEE, dated May 29, 1991; and the ID of Intake Assumptions for OU-II for the PHEE, dated May 29, 1991. April 22, 1991, on the Draft Final TIMP for Naval Station, Treasure Island, Hunters Point Annex.

The DHS and the San Francisco Regional Water Quality Control Board (RWQCB) have reviewed the above referenced documents and we submit the enclosed comments in response.

If you have any questions regarding this letter, please contact me at (415) 540-3816.

Sincerely,

A handwritten signature in black ink that reads "William L. Brown".

William L. Brown
Hazardous Materials Specialist
Site Mitigation Branch
Region 2
Toxic Substances Control Program

cc: See next page

Mr. Eddie Sarmiento

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cc: Ms. Louise T. Lew (Code 1811)
Naval Facilities Engineering Command
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San Bruno, CA 94066-0720

Mr. Chuck Flippo (H-7-5)
Remediation Project Manager
U.S. EPA, Region 9
75 Hawthorne Street
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Mr. Tom Gandesbery
Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, CA 94612

DHS COMMENTS ON THE ID OF EXPOSURE PATHWAYS AND INTAKE ASSUMPTIONS FOR THE PHEE, HUNTERS POINT ANNEX

Analysis

General Comments

These comments constitute a preliminary review of the exposure pathways and intake assumptions to be used at Hunters Point Annex operable unit II. The statement made in the Identification of Intake Assumptions for Operable Unit II, Baseline Public Health and Environmental Evaluation (BPHEE), indicates that "...the values for exposure-scenario-specific intake assumptions will be summarized in future submittals to the agencies." (page 2, line 6). Phrases such as "...seasonal factors may be adjusted .." (page 7), "...a fraction will be used.." (page 7) and "...ingestion rates will be developed.." (page 7) make it impossible to approve exposure assumptions in the form presented in these documents.

Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A) (RAGS) or Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual, Supplemental Guidance, "Standard Exposure Factors" should be used as the source of EPA-approved intake assumptions. The Exposure Factors Handbook (EFH) should be used as a source of information not contained in either of the two primary sources. The Identification of Intake Assumptions for Operable Unit II document seems to devote a great amount of discussion comparing the intake factors in the RAGS documents with the intake factors in the EFH.

Specific Comments Exposure Pathways for Baseline PHEE

Is the data from the stormwater analysis of Hunters Point Annex yet available? Does the statement that "The primary media of concern with regard to fish and shellfish include groundwater, bay sediments and the bay waters." (page 4) exclude stormwater runoff because of these analyses? If not, stormwater runoff should remain a medium-of-concern until demonstrated otherwise.

Pathway #4 (page 5) makes reference to pathway #2 as representative of indoor exposure in addition to outdoor exposure. Does this mean that the outdoor exposure rate and the indoor exposure rate will be assumed to be equal, so that total time spent onsite will be the determiner of exposure via inhalation of dusts? If this is the assumption we would agree with the decision not to perform a separate indoor inhalation of dust evaluation. This same comment should be considered for pathway #13, pathway #23, pathway #38 and pathway #51.

Does the comment associated with pathway #27 indicate a spring exists in the area of Hunters Point?

Groundwater to San Francisco Bay is not the only exposure route for fish or shellfish. The comment associated with pathway #63 is inaccurate or incomplete.

Specific Comments Exposure Pathways for OU II

Pathway #4 (page 5) makes reference to pathway #2 as representative of indoor exposure in addition to outdoor exposure. Does this mean that the outdoor exposure rate and the indoor exposure rate will be assumed to be equal, so that total time spent onsite will be the determiner of exposure via inhalation of dusts? If this is the assumption we would agree with the decision not to perform a separate indoor inhalation of dust evaluation. This same comment should be considered for pathway #13, pathway #23, pathway #38 and pathway #51.

Does the comment associated with pathway #27 indicate a spring exists in the area of Hunters Point?

Is there evidence that fish or shellfish are not currently taken from areas that might reasonably be expected to be impacted by contaminants from Hunters Point Annex (pathway 29)? If not the ingestion of fish and shellfish from bay waters should be evaluated as a current exposure (page 8). Current onsite recreational users are defined as those "...using the bay waters in the immediate vicinity of HPA for water-recreational sports and activities such as fishing, boating and swimming." (page 3). This definition seems to indicate that fishing occurs in the vicinity of HPA.

Specific Comments Intake Assumptions for OU II

We were unable to arrive at the same body weight for all the age groups which appear in the Intake Assumptions for OU II (page 5) from the data in the EFH (Tables 5A-3 and 5A-4).

An alternative to the "wading" scenario as an average swimming exposure (page 6) would be to set different exposure periods for the average swimming and reasonable maximum (RME) swimming exposure, while maintaining the same body surface area. What exposure period is proposed for the swimming scenarios? Perhaps demographic information is available indicating a "typical" swimming period near HPA.

What are the proposed average and RME ingestion rates for water (page 6)? RAGS guidance suggests tapwater ingestion rates of 1.4 liters/day for average and 2 liters/day for RME.

What are the proposed average and RME ingestion rates for soil (page 6)?

What are the proposed ingestion rates for shellfish and fish (page 7)? RAGS guidance suggests fish and shellfish ingestion rates of 30 grams/day for average and 140 grams/day as the 90th percentile.

What "fraction" will be used in the equation to adjust annualized ingestion rates of fish and shellfish (page 7)?

Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual, Supplemental Guidance, "Standard Exposure Factors" offers guidance on ingestion of homegrown vegetables (page 9).

The calculations and discussion regarding exposure time to outdoor air are difficult to follow (page 8). What is the proposed "different value" which will be developed for children as compared to the EPA estimate of 0.44 hour/day? An even division into outdoor and indoor for the categories of household work, visiting, playing and games and other passive leisure combined with the categories labeled "indoors" is approximately 0.7 hours/day. Is the text of this section correct in suggesting more time is spent outdoors during the school year (1.4 hours/day) than the non-school year (0.68 hours/day)? If these exposure periods are annualized, then that should be stated and their development more fully outlined. Our agreement at the June 13, 1991 meeting, that indoor and outdoor concentrations would be considered to be the same unless significant evidence to the contrary is available, would seem to make this indoor versus outdoor time analysis unnecessary.

How can the cumulative exposure due to "commingled plumes" in groundwater at OU II "not be quantitatively assessed" (page 9) and still perform a quantitative risk assessment for OU II? Operable Unit II should be delimited so that exposure due to any contamination within the OU bounds is assessed quantitatively.

The worksheets attached to the Intake Assumptions for Operable Unit II should be completed to allow evaluation of the interaction of the intake assumptions. Critical factors, such as inhalation rates (IR), absorption factors for dust in air (PAF), oral absorption factor (OAF) and dermal absorption factor (DAF) are not included in the appropriate columns. These worksheets will greatly facilitate the evaluation of incremental risk by exposure pathway once they are completed.

Conclusions

Evaluation of the adequacy of the intake assumptions for OU II is impossible without additional data. The Worksheets supplied with the document should be filled out as completely as possible to facilitate evaluation of the interaction of the exposure pathways and the various intake assumptions in estimating incremental risk. We look forward to the submittal of these worksheets with the appropriate factors included, as we indicated in the June 13, 1991 meeting, so that we may fully evaluate the exposure pathways and intake assumptions.

**RWQCB COMMENTS ON ID OF EXPOSURE PATHWAYS FOR THE PHEE,
HUNTERS POINT ANNEX**

The RWQCB staff concur with the inclusion of "Future Land Use" scenarios which include contact with, and ingestion of, on-site groundwater, and the inclusion of ingestion of fish and shellfish, which is an existing pathway.