

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2

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April 12, 1995

Commander
Department of the Navy
Engineering Field Activity, West
Naval Facilities Engineering Command
Attn: Mr. Stephen Chao, Project Manager
900 Commodore Drive, Bldg. 101
San Bruno, California 94066-2402

Dear Mr. Chao:

**NAVY'S RESPONSE TO AGENCIES COMMENTS ON FINAL OPERABLE UNIT-6
REMEDIAL INVESTIGATION(RI) REPORT, MOFFETT FEDERAL AIRFIELD DATED
FEBRUARY 28, 1995.**

The Department of Toxic Substances Control (DTSC) has received and reviewed the subject documents. The Department suggested revisions as discussed above should be noted and incorporated in any future documents for OU 6. Where applicable, similar revisions should be incorporated into risk assessments for other operable units. If you have questions, please contact me at (510) 540-3830.

COMMENTS

- 1. Page 1, Response to Comment 1:** The Navy's response to this comment consisted of several pages concerning hot spot analysis. It did not address the crux of our position, which is unchanged, any decision to proceed with additional sampling should be based on site specific conditions and not on an arbitrary rule of thumb that DTSC is unaware of.
- 2. Page 4, Response to Comment 2:** The Navy has totally misstated or misinterpreted our comment. DTSC, like U.S. EPA specifies a *reasonable maximum exposure* (RME) not an upper bound exposure scenario, be calculated. Our point is simply that when there is a conflict between U.S. EPA Region IX guidance and DTSC guidance regarding some parameter, such as cancer slope factor or dermal absorption factor, then the more health protective guidance should be followed. To our knowledge, this principle has been followed at every site in California, military or non-military facility at which DTSC and Region IX have (had) joint oversight. This principle is also contained in the National Contingency Plan.

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3. **Page 6, Response to Comment 3:** The value contained in the Health Effects Summary Table (HEAST) for copper has been used to calculate an RfD for copper for many sites in California (including other military bases) for several years. It is also accepted by Region IX, U.S. EPA since it is the value used for calculating the Region IX Preliminary Remedial Goal (PRG) for copper. The military has used these PRGs at other bases and raised no objections to the copper PRG. Incidentally, we know of no RfDs where the value listed on the IRIS system takes into account bioavailability from a soil matrix. We want to reiterate that copper must either be carried through the risk assessment using the same RfD value ($3.7 \text{ E-02 mg/kg-day}$) as was calculated for the Region IX copper PRG; or alternatively, copper could be dropped as a chemical of concern if it is present at levels that fall within background values for the site.

4. **Page 6, Response to Comment 4:** The PAH concentration issue is currently discussed in the Phase II Site Wide Ecological Assessment, the same approach should also apply to OU6. However, DTSC guidance does indicate: (a) PRGs should not be used to screen out chemicals of concern; (b) if an industrial scenario screen is used, the site should be screened against a residential scenario as well, to document the need for a deed restriction or remedial options.

5. **Page 8, Response to Comment 5:** Since there are no buildings on OU-6, all industrial exposure will occur outdoors. Under these conditions in the past, DTSC has sometimes used a value of 100 mg/day for soil ingestion in an outside industrial exposure scenario.

6. **Page 10, Response to DTSC General Comment 1:** The Navy should be aware that DTSC will disavow any opinions or interpretations in the risk assessment which are contrary to our guidance. We request that extraneous opinions be removed in order that all agencies involved have a document which they can accept without reservation.

7. **Page 11, Response to DTSC Specific Comment 1:** We are pleased that the Navy will evaluate groundwater for OU-6 in the basewide risk assessment and for the other OUs. Please note, even if no wells are ever constructed for commercial or residential use, shallow groundwater contamination can constitute a complete exposure pathway via emission of volatiles.

8. **Page 12, Response to Specific Comment 2:** Information concerning the remedial activities described in the response should be inserted in the risk assessment.

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9. **Page 13, Response to Comment 3:** See our comment immediately above. Please insert the corrected concentrations of nickel in the document.

10. **Page 13, Response to Comment 5:** The response indicates the Navy is not changing the scenario from 3 to 5 days per week, despite information from the public that some individuals use the facility for recreation more than five times per week. DTSC does not concur with the 3 day/week scenario.

11. **Page 14, Response to Comment 6:** We are pleased that additional assessment of potential exposure to VOCs will be carried out.

12. **Page 15, Response to Comment 7:** Please see our comment on item 10 above.

13. **Page 16, Response to Comment 8:** DTSC does not concur with the contractors response and will not be able to approve the risk assessment if our guidance is not followed. The Preliminary Endangerment Assessment (PEA) guidance on dermal absorption of metals is being used currently at sites (military or non-military) where DTSC has oversight of risk assessments, including sites with joint U.S. EPA- DTSC oversight.

14. **Pages 16 and 17, Response to Comments 9 and 10:** DTSC is of the opinion that the discussion of arsenic in the document tends to understate the toxicity of this compound. It is probably not worth expending any more time (and money) over this point since it is a relatively minor issue and it does not impact the risk assessment quantitatively. However, if questions arise over this point, we will restate our opinion that the toxicity of arsenic is understated in the document.

15. **Page 17, Response to Comment 11:** Similarly to number 14 immediately above, we don't feel it is useful to expend a great deal of time over this issue. We do not feel individual statements should be taken out of context from a document to understate the risk of a chemical. Our point is that some intermediate species along the metabolic reduction pathway between chromium VI and Chromium III is likely the species responsible for the carcinogenic and mutagenic effects of chromium VI. Stating that reduction of Chrome VI to Chrome III is a detoxification pathway without recognition that it is also the pathway leading to its carcinogenic action does not present a complete picture of its toxicity. However, a brief perusal of the updated ATSDR *Toxicological Profile for Chromium* (1993) revealed this quotation on page 106, "*The reduction of Chromium(VI) in the cells to Chromium(III) and its subsequent genotoxicity may be greatly responsible for the final genotoxic*

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effects (Beyersman and Koster 1987). Reduction of chromium(VI) can also result in the formation of chromium V which is highly reactive and capable of interaction of with DNA (Jennette 1982; Norseth 1986)." Similar to number 14 above we feel the discussion of chromium in the document serves to understate its toxicity.

16. Pages 21 and 22, Responses to Comment 20, 22 and 23: Please see our point number 6 above (regarding page 10, Response to DTSC General Comment 1).

17. Page 23, Response to Comment 26: Please use the value of 20 m³ specified in our guidance for inhalation volume for an eight-hour work day (2.5 m³/hour).

18. Page 24, Response to Comment 29: Please see our point number 14 (regarding Page 13, Response to Comment 5).

19. Page 24, Response to Comment 31: Please add a statement to the risk assessment which clarifies the contribution of inorganic constitutes as compared to organic contaminants to total carcinogenic risk.

20. Page 24, Response to Comment 32: Please see our Point 3 (regarding Page 6, Response to Comment 3).

Sincerely,



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Enclosure

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REFERENCES

Agency for Toxic Substances and Disease Registry (ATSDR), 1993. Toxicological Profile for Chromium (1993).

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US EPA Office of Solid Waste and Emergency Response, Directive 9285.6-03B, 1991. Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors.

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