



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

December 21, 1995

Mr. Stephen Chao
Naval Facilities Engineering Command
Engineering Field Activity, West
900 Commodore Way, Bldg. 101
San Bruno, CA. 94066-2402

Re: *Draft Final Station-Wide Remedial Investigation Report (RI)*, Moffett Federal Airfield,
dated November 17, 1995

Dear Mr. Chao,

The U.S. Environmental Protection Agency (EPA) has received the subject document and the associated response to comments. It is obvious that an extremely large investment in time and funding has gone into completing this draft final document. Although some problems remain, and these should be corrected, we do not believe that any of our comments are insurmountable or will prevent the process from moving forward. As specified in the Federal Facility Agreement (FFA), the period between the draft final and the final submittal of a primary document is considered an informal dispute period. If the regulatory agencies have any remaining issues that must be addressed, the document should not be finalized. These outstanding issues are covered in this letter. As a side note, because the risk assessment in this document only considers human health risk and not ecological risk, conclusions one could make regarding remediation based on data in this document may be premature until the SWEA Phase II is complete. If you have any questions, please call me at 415-744-2385.

Sincerely,

A handwritten signature in cursive script that reads "Michael D. Gill".

Michael D. Gill
Remedial Project Manager
Federal Facilities Cleanup Office

cc: C. Joseph Chou (DTSC)
Michael Bessette (RWQCB)
Ken Eichstaedt (URS)
Sandy Olliges (NASA)
Peter Strauss (MHB)
Mike Young (PRC) (Fax)

COMMENTS

Draft Final Station-Wide Remedial Investigation Report (RI), dated November 17, 1995

General Comments

1. The work done to produce the area risk maps and point risk (sample by sample) maps appears practically complete. It is obvious that a lot of effort went into this task. It now provides the regulators with the tools necessary to see what cumulative effects to human health risk may be occurring from site contamination.

Unfortunately, these results came at higher than necessary cost. At various scoping meetings, the agencies had communicated a preference for a single map with overlays as was done at Sacramento Army Depot, to represent the cumulative site wide risk. The Navy argued for cumulative risk to be presented using area risk calculations, partially based on the fact that the method was less costly and more expedient. Based on the amount of work presented in this Draft Final version of the RI, these arguments appear questionable. It is obvious that there was a tremendous amount of effort (time and funding) that went into the area risk calculations (Appendix F) and maps (Section 6). We believe more money than necessary was expended to produce the cumulative risk assessment in this document. It presents results that could have been achieved with point risk maps. If contours had been provided on the point risk maps, as had been requested by the agencies (as early as a September 23, 1994 meeting), we believe the area risk maps would not have been necessary. With a few exceptions, they have provided results very similar to the point risk maps.

The various schemes by which base-wide maps were constructed tends to obfuscate the location and extent of contamination as well as how best to address any clean-up. The purpose of producing these maps was to present clearly and concisely an overall picture of the environmental information collected at the base in order to communicate to the public and regulatory agencies the progress of the base cleanup. This goal was unfortunately not achieved. However, once one understands the selection of data for each map, there appears to be sufficient information to reach constructive remedial decisions. Therefore, in the interest of conserving valuable resources, no further major reworking of the mapping scheme is proposed. The Navy should include a caveat in the document to anyone who may use the maps in the future that one must study all the maps carefully in order for one to piece together the whole picture. Although the Navy did not produce a single map or contoured point risk maps, we believe the same results can be achieved by interpreting the submitted maps and accompanying text.

2. There are differences in methodologies used to calculate area risks (e.g. dermal absorption factors) tend to bias the point risk calculations on the high side. Some differences in the two methods were larger than would be expected. While some of these differences need to be reconciled, we believe we have enough information to proceed with the RI/FS process.
3. A one-half acre exposure area was used for both occupational and residential scenarios in this cumulative risk assessment. This was acceptable to EPA because the Navy agreed to submit point risk maps along with area risk maps. EPA still maintains that either the Navy could have satisfied the requirements by submitting the point risk maps alone or by using a more realistic area size for a residential lot in the area risk maps. Most residents of Santa

Clara County do not have one-half acre lots. The majority of the residential lots are on the order of 8000 square feet. With that said, we would caution the Navy in assuming that a one-half acre lot can be used for any other Navy site. As stated in our correspondence of October 31, 1995, cumulative risk assessments should use an area size that is representative of a typical lot size for the county in which the base resides.

Regarding Responses to Draft Comments:

4. Comment 1. No differences were shown for before/after soil remediation on the soil maps because the authors say this would be misleading to indicate any remediation, when it's not yet chosen. While this argument does makes some sense, we believe this should be made clear on the maps, too.
5. Comment 5. The paragraph in the response does not appear to have been added to Section 1.2.4.5. Please add it.
6. Comment 9. Table 1-5 does not appear to be any more comprehensive in the Draft Final version than the Draft version, as stated in the response.
7. Comment 12. This comment should also have addressed the potential VOC contamination in the same way that Comment 5 should have addressed it.
8. Comment 13. If providing a reference on the determination of lead found in AVGAS is out of context with this paragraph, at least provide a reference with this information in your response to comments.
9. Comment 26. Same as draft comments 5 and 12 above.
10. Comment 58. Reference to the Petroleum CAP does not seem to have been added.
11. Comment 75. The text revision does not seem to have been made.
12. Comments 76, 77 (also applies to Appendix E). Based on procedure, frequency of detection as a screen is not required at Moffett Field and was not necessary to focus this investigation. Its use can filter out the detection of a high concentration, i.e., possible hot spots, within a given site. When applied here, it does not affect the final outcome because you have provided a sample by sample evaluation. Although no changes to the document regarding the use of frequency of detection as a screening criteria and/or PRGs are necessary, we believe that by using PRGs (a concentration-toxicity screen), the Navy and the agencies could have reached a conclusion faster and cheaper than was done using the area risk method.
13. Comment 83. The sample-by-sample calculations appear to be consistent in that the stated methodology was mathematically applied. However, this methodology is different from that which was used in the area estimates and different from the Region 9 PRGs and biases high the outcome (especially for those chemicals where dermal exposures contribute significantly to the risk), thus confusing the conclusions of both analyses to such an extent that one cannot be used to check the results of the other. Although there are differences, both methods can

be used qualitatively to reach conclusions on areas that warrant remediation. In the interest of conserving resources, no further work is recommended.

14. Comment 87. Based on the cited guidance, EPA would not have paid for Monte Carlo uncertainty estimates to be calculated at this site. It is not EPA's request that the Monte Carlo analysis be removed from the document, because it would be a costly task with little benefit; it has no bearing on any decisions. The funding has already been spent. But we still believe it was unnecessary work. In addition, there are some inconsistent variations in the distributions functions which would have the effect of lowering the 95 percentile in relation to the RME calculations. As stated previously, since this is an unnecessary analysis for this site, no further attempt should be made to reconcile the differences.

Specific Comments

15. Executive Summary. Please include a brief mention of sample by sample (point) risk analysis here.
16. Section 4.22, Spatial Analyses of Metals. The maps seem to make sense; it appears that there are no horizontal or vertical trends in the distributions of arsenic, antimony or chromium, except for outfall areas. We agree with the statement (page 4-96, Interpretations) "...increased metals concentrations in surface water outfall areas such as the stormwater retention ponds and the Northern Channel are expected due to the nature of the materials composing the samples from these locations". This fact will be very important in any future decisions made regarding remedial actions. It is clear that clay sediments concentrated at the outfall areas cause more contaminants (and metals) to be sorbed and therefore accumulated at concentrations greater than health protective levels.
17. Section 4.13.2.1, page 4-62. Please include the latest version of the EPA Region 9 PRGs in an appendix.
18. Section 5.1.18, page 5-11, also Section 5.1.20. As of this date, the Horizontal Conduit Study is still not finalized, due to ongoing discussions with the Navy. Please reference the draft final version of this document to avoid any possible misunderstandings.
19. Section 6.6.1.1, page 6-92. Plate 6-7 indicates a groundwater risk greater than 10^{-4} in the Site 2 (landfill) area, from vinyl chloride in groundwater. Plate 6-9, an after-remediation snapshot, shows that this risk will be diminished to between 10^{-5} and 10^{-4} . How can this be so when no groundwater treatment has been proposed for the Site 2 area (capping only for the landfill; no groundwater remediation in the OU5 northern groundwater plume due to high TDS)? Also, response to comment #1 states that the only "risk reduction" demonstrated in these maps is groundwater treatment; no soil treatment is considered. What action will cause the risk at this site to decrease?
20. Section 6.6.1.1, page 6-93, para 1. Does the Navy plan on submitting an "after remediation" plot for an occupational scenario soils carcinogenic risk? The first sentence here would indicate that it is forthcoming. Same comment applies to Section 6.6.1.2, page 6-95, last paragraph (non-carcinogenic risks).
21. Section 6.7, page 100. The paragraph on sample by sample risk appears out of place. Is

this an editing oversight?

22. Section 6. Was the recreational scenario data for OU6 taken directly from the OU6 RI (yet to be finalized)?
23. Section 6. According to your letter of 11/6/95, you agreed to produce a map illustrating before and after remediation risks. We could not find the maps showing the after remediation area risks for the industrial or recreational scenarios. Were they produced and not included in our copy of the document?
24. Figures 6-3, 6-4, 6-5. Why were half-acre areas not used for these risk maps?
25. Table 6-29 (Draft), Summary of RME Cancer Risks and Hazard Indices Associated with Exposure to Groundwater. This table was helpful. Why was it removed from the Draft Final version? Also, there is no table outlining RME cancer risks or hazard indices for groundwater using the area risk method (as in the Draft). Please include these tables.
26. Tables 6-34, 6-35. The EPA RME risks listed for beryllium in both tables (containing risks of background inorganics) appear incorrect. These risks were both greater than 10^{-4} in the OU2-East soils (see OU2-East Record of Decision), although all parties agree that they are background levels. These and any other errors need correction. How were these numbers generated?
27. Appendix G. A brief interpretation of this analysis needs to be presented to address potential problems from lead on site. A map showing the locations of lead exceeding 400 ppm (from Table 6-31) is one possible way of illustrating potential problems.
28. Appendix H, page H-8, bottom. The proposed soil/sediment remediation obviously does not include outfalls. Why? Is it because the Navy considers it too premature to estimate cleanup levels in these areas? If this is true, EPA would suggest that the maps be marked to reflect this idea. Otherwise, it gives the public the idea that no remediation will be done.
29. Appendix H, Section H.5. This "Uncertainties Section" seems to deal with general risk assessment and not the uncertainties of the point risk method. It seems out of place. We suggest that paragraphs 2 (page H-9) and 3 (page H-10) be removed.
30. When creating the maps (area risk and point risk), the only difference was supposed to be the exposure point concentrations. Most maps showed risks which were close in value when comparing the same area of the site for the same scenario. However, some discrepancies were found. These differences were generally limited to distinct areas per scenario. These areas are outlined below and the discrepancies should be addressed.
 - a. Residential / Carcinogenic / Soil-Groundwater. (Figure H-1 and Plate 6-7). The areas of difference on these maps were Site 4 and the Lindberg Ave. ditch.
 - b. Residential / Non-Carcinogenic / Soil-Groundwater. (Figure H-2 and Plate 6-8). Comparing these two plots show great differences. No appreciable HQ's appear on the east side or the Lindberg Ave. ditch areas of the point risk map, yet on the area risk map, they do show up.

c. Occupational / Carcinogenic / Soil. (Figure H-5 and Plate 6-5). The areas of difference are parts of Lindberg Ave. ditch, on the circle near the NASA property (area 3782), and south of Site 12 (area 2516).

d. Occupational / Non-Carcinogenic / Soil. (Figure H-6 and Plate 6-6). The areas of difference are north of Hangar 3, south of Hangar 2, the eastern side of the Site 22 landfill (in the ditch), north of Site 1 in the pond, and on the northern end of the circle near the NASA property (area 3782).

Editorial Comments

31. Many Section 4 figures were completely redone. It is unclear why this was done. The draft version's figures were generally sufficient. This additional work was an unnecessary cost, especially in light of the schedule problems caused by the amount of work required to simply respond to the agencies' comments on the draft.
32. Why wasn't Section 6's text, the section with the most changes, highlighted like the other sections? This made it more difficult to review the Draft Final for differences.
33. Response to Comment 79. The response says the exposure duration is 250 days/yr, but we believe you mean 350 days/yr. Was 350 days/yr used in the risk calculation?
34. Section 4.10.1.1, page 4-38, last para. It seems that the beginning of the first sentence should say Figure 3-5, not Figure 3-6.
35. Table 6-2, page 6-115. The reason for eliminating the ingestion of fish and seafood exposure pathway contains the phrase "the bay is not part of the base". Please remove this irrelevant statement. The bay surface waters are connected to the base surface waters through sloughs and channels.
36. Appendix E, Section E.6.1, page E-35, para 2. The last two sentences need to be corrected to reflect that this is the Draft Final version of this document.