



December 29, 1997



*Department of
Toxic Substances
Control*

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Commanding Officer
Engineering Field Activity, West
Attention: Code 18, Mr. Richard Powell (1832)
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, California 94066-5006

*Pete Wilson
Governor*

*James M. Strock
Secretary for
Environmental
Protection*

**RE: Parcel E Draft Final Remedial Investigation Report, Hunters Point
Shipyard, San Francisco, California**

Dear Mr. Powell:

The Department of Toxic Substances Control, Regional Water Quality Control Board, and Department of Health Services have completed review of the above document and are providing our comments in the Enclosures.

If you have any questions, Please contact me at (510) 540-3822.

Sincerely,

A handwritten signature in cursive script, appearing to read "Chein Ping Kao".

Chein Ping Kao, P.E.
Senior Hazardous Substance Engineer
Office of Military Facilities

Enclosures

CC: Ms. Sheryl Lauth
US EPA Region IX
75 Hawthorne Street
San Francisco, California 94105-3901

Mr. David Leland
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612



General Comments

1. The Report must be signed by a Geologist or Engineer licensed and registered in the State of California.
2. Most, if not all, of the **Contaminant Fate and Transport** sections of the site reports include brief statements regarding degradation of many different contaminants, including pentachlorophenol, polychlorinated biphenyls (PCBs) and chlorinated solvents. The text infers that degradation is or will be occurring but there is no Hunters Point Shipyard (HPS) site-specific data presented to support the statement. For example, the Report's reference to 1,2-dichloroethylene (1,2-DCE) as a degradation product of trichloroethylene (TCE), while true, is not accurate. A significant body of literature exists that identifies the cis-1,2-DCE isomer as the preferential breakdown product of TCE. Unless speciation of cis-1,2-DCE and trans-1,2-DCE is performed and presented along with other degradation indicators (e.g., dissolved oxygen (D.O.), reduction-oxidation potential (Eh), etc.), DTSC would not agree with statements suggesting degradation is occurring. Likewise, statements identifying aerobic or anaerobic zones not supported by field data, are simply a hypothesis. It is unclear how a remedy evaluation can be performed in the Feasibility Study (FS) if data does not exist to support the presumption of degradation. DTSC will not support remedial decisions regarding degradation of contaminants unless site specific data is collected and presented for review by the regulatory agencies.
3. **Summary of Potential Data Gaps**, ES-89 Pgph 3. DTSC has concerns regarding the discussion on addressing data gaps and accelerated schedules. Previous experience, not only at HPS but at other sites, has shown that if the nature and extent of contamination is not defined in the Remedial Investigation (RI), proper remedy selection is difficult and in fact may not be suitable or appropriate for the site. Costs associated with uncertainties carried forward from the RI are magnified when proceeding through the FS, Remedial Design (RD) and Remedial Action (RA). Determining nature and extent of contamination and understanding hydrogeologic characteristics early is best for all parties involved.

Specific Comments

1. IR-01/21, Pgs. ES-16 & 4-208: DTSC recommends that data gaps at IR-01/21 be filled prior to developing the Final FS. Use of limited data from RI activities can lead the remedial decision process to a decision that is not appropriate.
2. IR-01/21, Pg. 4-136: Soil sampling at IR01B021A identified several Semi-volatile Organic Compound (SVOCs) in the shallow soil, but there is no discussion of SVOCs in the ground water section. Specify if ground water sampling at IR01B021 (since IR01B021A had refusal at ~6.75 feet) was performed and if the ground water results showed SVOC contaminates.

3. IR-02 Central, Pgs. ES-23 & 4-373:
 - a. The extent of dioxin contamination is not currently defined. Uncertainties in the extent of contamination could likely impact remedy selection (e.g. cost of excavation and removal versus capping and long term monitoring). Costs associated with uncertainties carried forward from the RI are magnified when proceeding through the FS, RD and into the RA. The earlier the extent of contamination is defined, the better it is for all the parties involved.
 - b. Figure 4.1-19A & B, S-1A & B. The extent of PCB contamination in the area of IR02TA57A is not defined. The text (4.4.4.1) should include a discussion of the elevated detection limits (1,900) influence on data interpretation. DTSC recommends additional sampling in the area.
4. IR-02 Central, Pgs. 4-374 & 375. The Report identifies elevated lead being found in the area of the former firing range but never suggests that the firing range could be just as likely a source of lead as the dumping of liquid wastes from Tank S-505, dumping of wastes at Triple A site 19, etc. Characterization of the waste source (firing range versus liquid waste disposal) is important for remedy selection. For example, if the lead results were based in part on lead shot being present in the soils, physical separation processes may be appropriate. If the lead is from microscopic metal shavings, paint chips, etc., different treatment processes (solidification in place, capping, etc.) may be more appropriate.
5. IR-04, Pgs. ES-30 & 4-557: Pgph 1. IR-04 is in the northeast corner of Parcel E.
6. IR-04, Pg. 4-591: The discussion on soil chemistry should include pH of soil and groundwater since potential sources included a battery disposal area. Soil pH will affect the leachability of metals to ground water and may need to be considered during remedy selection.
7. IR-05, Pg. 4-659 & Figures 4.1-19A & B. PCB contours depicted to show the 66 $\mu\text{g}/\text{kg}$ (PRG) are located inside sample locations where the detection limits on the sample consistently exceed the 66 $\mu\text{g}/\text{kg}$ level. DTSC had previously made this same comment on the draft document in regards to PCBs and Benzo(A)pyrene. The Navy's response does not adequately address the comment or issue, and contrary to the response provided by the Navy, the contours do not respect the data as presented. At a minimum, section 4.8.4.1, **Nature and Extent of Contaminants in the Soil**, should include a discussion on why the contouring is appropriate and how the analytical detection limits are used to contour data. DTSC will hold the Navy responsible for ensuring that the FS properly depicts contaminant concentration contours relative to "clean-up" levels.

8. IR-40, Pgs. ES-51 & 4-1024. Including the recommendation to remove Pier 2 does not appear to be relevant or appropriate for the RI. The purpose of the RI is to characterize contamination to aid in selecting an appropriate remedy. Removal of the pier is not needed from an environmental clean-up stand-point. DTSC recommends removing the text discussing removal of Pier 2.
9. IR-76, Pg. 4-1385, The text states that anaerobic conditions exist at IR-76. Evidence (at a minimum D.O. data) showing anaerobic conditions exist at IR-76 could not be found in the Report by DTSC staff. The Report should reference or include the data that supports the statement that anaerobic conditions exist.
10. Appendices R&S, Pages S-133 through 136
 - a. DTSC would like to further discuss the Navy's Response to DTSC's General Comments 2, 3, 4 and 5 and DTSC Specific Comments 1, 2, 3 and 5.
 - b. Figure S-2. DTSC's copy of the figure does not include the dashed blue line found in IR-01/21 and IR-02C. The legend should clarify the significance of the dashed blue line.

**Regional Water Quality Control Board, San Francisco Bay Region,
Comments on the Draft Final Parcel E Remedial Investigation Report,
Hunters Point Shipyard, dated October 27, 1997.**

GENERAL COMMENTS:

1. The city reuse plan for Parcel E, as presented in Figure 4.0-3, shows several possible wetland creation sites in the parcel. In addition to the evaluation of the existing wetland added to the Draft Final document, the Navy needs to look at the concentrations and distribution of chemicals in the wetland creation areas designated in the reuse plan from the perspective of the suitability of these areas for wetland creation. The wetland cover and non-cover values used in the analysis of the existing wetland seem appropriate for use as screening values for these other areas as well.
2. It is the understanding of RWQCB staff that the significance of groundwater concentrations will be evaluated against NAWQC when considering potential use by fish and wildlife. Specifically, exceedances of NAWQC at the point of compliance or within the tidal influence zone will constitute a basis for action by the Navy.
3. The text of Section 5.4 notes the Navy's intent to perform an analysis of onshore to offshore migration as part of the Parcel F FS. This analysis will be essential in developing an understanding of migration pathways and in developing remedies for the onshore parcels (including Parcel E) that are protective of human health and the environment.

SPECIFIC COMMENTS:

1. Section 4.0, Definitions. The first sentence mentions three ways to describing analytes detected, but only two are presented. Please revise.
2. Section 4.0, Aquatic Ecological Assessment, p 4-18, third para. Modeling of wind transport and surface water erosion are noted, with the possibility that results may be available in the draft final RI. What is the status of these efforts? Please update this section to reflect modeling results and status.
3. Section 4.1.4, p. 4-62. The analysis of NAWQC exceedances in Section 4.1.10.4 and Table 4.1-48 indicates more exceedances of the NAWQC for zinc than for any other metal. In addition, the relative magnitude of the highest measured zinc concentration relative to its NAWQC exceeds that of arsenic and nickel, both of which were plotted. Please add a plot showing the distribution of maximum of concentrations of zinc in groundwater.

4. Section 4.1.9, p 4-76, line 6. The text states that molybdenum average concentration exceeds its ER-M and does not mention mercury, while Table 4.1-40A notes mercury but not molybdenum. Please review and correct this inconsistency.
5. Section 4.1.9, Table 4.1-41B. There are discrepancies between the NAWQC values cited in this table and those presented in Table 4.1-48. Please review and correct any inconsistencies.
6. Section 4.4.10, p. 4-79, second bullet. Please provide additional detail on the City policy and permit conditions regarding groundwater use. Does the Navy view these policies and permit conditions as adequate institutional controls on groundwater use or as mechanisms for implementing additional institutional controls? If there are additional actions that would be required to assure adequate controls, please identify them.
7. Section 4.1.10, p. 4-79, fourth para. It's not clear how the beneficial uses of Parcel E groundwater are supported by water quality criteria exceedances. The intent and reasoning of this paragraph need to be clarified.
8. Section 4.1.10.1, p. 4-80, first para. We strongly disagree with the suggestion that exceedances of MCLs constitute a basis for eliminating Parcel E groundwater from consideration as a potential drinking water source. On the contrary, exceedances of MCLs are a motivation for action to improve water quality for drinking water use. In addition, coincidence of MCL exceedances with HGAL exceedances indicates degradation of water quality as a result of Navy activities that must be addressed.
9. Section 4.1.10.1, p. 4-80, third and fourth paras. Technologies for desalinating seawater exist and are operative at many locations worldwide. Please review the use of the terms "theoretically possible" and "some future technologies" in these paragraphs.
10. Section 4.1.10.1, p. 4-81, second line. The 77,000 mg/L value seems anomalously high. The Navy addressed this issue in Appendix S (Response to Comments) but that discussion is not reflected here. It could be helpful to the reader to note in the text such anomalous values.
11. Section 4.1.10.1, p. 4-82, second para. Please review the reference to Yosemite Falls. Isn't Yosemite Falls in Yosemite Valley (Merced River watershed), while the Hetch Hetchy reservoir is in the Tuolumne River watershed?

12. Section 4.1.10.1, p. 4-81. Please explain why settling and subsidence would be problems in this area proposed for use as parkland. Does the Navy have any estimates of the extent of settling that might be expected for potential groundwater extraction scenarios.
13. Section 4.1.10.4, p. 4-83, second para and Table 4.1-48. A number of errors were identified in Table 4.1-48 regarding comparison of HGAL and NAWQC values to measured concentrations. Please review the table and revise the table and this section of text as appropriate. Also, please explain the significance of the 10 times value for evaluating HGAL exceedances.
14. Section 4.4.10.4, p.4-84, first para. Does the Navy have a hypothesis regarding the coincidence of maximum exceedances at IR02MW141A, all apparently from the same sample?
15. Section 4.1.10.4, p. 4-84. The discussion of dilution of groundwater discharging to receiving waters does not address the potential for exposure of benthic organisms to groundwater discharging to the bay. In addition, the approach is not consistent with what we understand to be the Navy's intent to use NAWQC to evaluate groundwater concentrations at the point of compliance and within the tidal influence zone.
16. Section 5.7, p. 5-89. The text notes that a data gap technical memorandum will be prepared prior to the draft final FS. Please update the status of this memo. It's not clear why preparation of this memo would need to wait until the Draft Final FS. How does the Navy intend to complete analysis of remedial alternatives in those instances where significant data gaps remain after completion of the RI?

Department of Health Services**Review of the Navy's Responses to DHS' Comments from Review of "Appendix E with Attachments E1 and E1-1, and Appendix P with Attachments P1 through P5" of Parcel E Remedial Investigation Draft Report, Hunters Point Shipyard, San Francisco, California, May 29, 1997 and the October 27, 1997 Draft Final Report of Parcel E Remedial Investigation**

December 24, 1997
DTSC Resource Planning Form # 371

The following comments are in response to the request from Mr. Chein Kao of the Department of Toxic Substances Control to review the Navy's responses to DHS' comments from the review of Appendix E with Attachments E1 and E1-1, and Appendix P with Attachments P1 through P5 of the *Parcel E Remedial Investigation Draft Report*, for Hunters Point Annex, located in San Francisco, CA.

General Comments:

1. DHS' 8/29/97 General Comment 1 is correct as stated. This comment stated the following: *DHS did not have access to all the documents referenced for justification of why additional surveys were not required or necessary. DHS only questioned the validity of the documentation when discrepancies occurred; additional clarification was needed; or the justification appeared questionable. Therefore, DHS' review scope was limited by the documentation available.*

DHS only reviews documents and/or sections of documents that are requested by the DTSC through an interagency agreement between DTSC and DHS. This issue has also been addressed at meetings with the Navy, EFA West and PRC where it was requested that DHS not review all the documents that DHS previously requested.

2. Page S-100, Navy's Response to DHS' 8/29/97 General Comment 3. It is not clear how the Navy proposes to show that the subsurface areas, including the concrete pad at Building 707 (See Specific Comment 1.), do not have subsurface contamination. This becomes more difficult to discern with the different types of media (i.e., asphalt, soil/grass, gravel, fill contaminated with radium devices, etc.). It appears that many of the "buildings"/areas that have been scanned for direct radiation are buried beneath fill material that potentially could contain radium devices. It is not clear that these radium devices would be discernable from anomalous readings.

Information should be provided regarding the depth of the fill material, the depth of compaction (e.g., it was noted in the Navy's response to DHS' Specific Comment 3 that some soil was compacted approximately 18 inches) and samples to verify with a 95% assurance that the outside areas that are open to the weathering effects of the external environment (NUREG/CR-5849 refers to these areas as "Open Land Areas.") do not contain unacceptable levels of contamination.

DHS would like to review all data pertinent to determining the "criteria for free release of all the remaining buildings and sites." (See the following General Comment 3 regarding the discrepancies in tables and figures showing data and the lack of an established release limit.)

3. Pages S-161 and S-162, Navy's Responses to DHS' 8/29/97 General Comments 4 and 6. The response from the Navy to use zero activity (i.e., zero picocuries per gram (pCi/g)) as background for sample media where no background samples were collected will be acceptable "provided the total activity meets the release criteria accepted for the site." It is not clear, however, that the accepted release criteria have been established or if it is being proposed that subsurface residual contamination be left in place.

Page 2. Review of "Appendix E and F" of Parcel E Remedial Investigation Draft Report, Hunters Point Shipyard, San Francisco, California, May 29, 1997.

General Comments: (Continued.)

3. Continued. The statement on page E1-19 stating, "All activity above 6,500 cpm was considered residual contamination. ", was rewritten in the Draft Final Appendix E, Attachment E-1, Page E1-20 as, "All activity above 6,500 cpm was considered different from the background sample population." It does not appear from the new statement and previous values given for asphalt that 6,500 cpm is a significant number which was why DHS requested information regarding the surface covering and locations for values greater than 6,500 cpm.

The new tables listing the surface coverings of anomalous readings (i.e., those readings above 6500 cpm) contain many discrepancies between the cpm values shown on the figures, and also the locations of these anomalies. Rather than try to correct all these values on the figures, DHS would prefer to look at all the data if an action level is established for cpm values. There appears to be great variation in the cpm value for the different surface coverings (e.g., asphalt appears to have an average value approximately 1,000 cpm greater than soil) which may misrepresent those areas as being higher than background, but may also mask areas with subsurface contamination.

4. DHS would like to participate in confirmation or verification surveys, which may need to include subsurface sampling, after these areas are remediated or considered ready for release for unrestricted use.

Specific Comments:

1. Appendix E, Page E-25, Section 2.3.2.8. It is unclear what area of Building 707 Concrete Pad will be removed as part of the remedial action in Parcel E.