



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL

of pages **9**

BY FACSIMILE AND MAIL

August 13, 1994

Deborah Carlson, RPM
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To <i>Debbie Carlson</i>	From <i>A. Minichis</i>
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NSN 7540-01-317-7388	5099-101 GENERAL SERVICES ADMINISTRATION

RE: EPA Review of Draft Final Phase II Remedial Investigation, Site 09 - Old Fire Fighting Training Area, Volumes I and II, Naval Education and Training Center (NETC), Newport, Rhode Island.

Dear Ms. Carlson:

Attached you will find a series of attachments listing EPA's comments on the above-referenced document. The attachments to this letter are structured as follows: Attachment A describes the deficiencies noted during the review of the draft final Phase II RI report; Attachment B lists the comments on the draft final human health risk assessment report. These comments have been numbered for future reference.

The report indicates that polynuclear aromatic hydrocarbons (PAHs) are present in sediment and are bioavailable to certain organisms, but the report does not include a description of the potential risk. In fact, the Executive Summary highlights the Ecological Risk Assessment, but ignores PAHs as a potential risk despite the high concentrations in the adjacent Narragansett Bay sediments. Therefore, the information necessary to determine ecological risk is ignored in this summary.

During the review of the draft final Phase II RI report, it was noted that the Navy still argues that the primary sources of pyrogenic PAHs detected in sediments at the site are from "atmospheric deposition, sewage effluent, or combined sewer overflow discharges, and/or urban runoff". Despite EPA's previously documented concerns over these statements, the Navy continues to make these statements without adequate documentation. It is EPA's opinion that the largest source of pyrogenic PAHs in the sediments adjacent to the Old Fire Fighting Training Area is due to the fire fighting training exercises which have taken place at this area.



As you are aware, the Navy was required to submit a complete ecological risk assessment as part of the draft Phase II Remedial Investigation (RI) report. Since the draft ecological risk assessment report was submitted to EPA several weeks later, the review and revision of this document is being addressed separately.

As you will note during your review of the attached comments, several issues must be revised to address our previous comments, and as currently written, the draft final Phase II RI report does not fully meet the objectives required to satisfy a complete Remedial Investigation under the Comprehensive Environmental Response, Compensation and Liability Action (CERCLA) and the National Contingency Plan (NCP).

In view of the fact that all of our comments on the draft Phase II RI report were not satisfactorily resolved and that our comments on the draft ecological risk assessment report, which is an integral part of the Phase II RI report, has not yet been resolved, EPA does not concur in the Draft Final Phase II RI report at this time pursuant to Section 7.2(a) of the Naval Education and Training Center Federal Facility Agreement (FFA).

In the spirit of the team approach that the Navy, the State of Rhode Island and EPA are endeavoring to take for the NETC cleanup, EPA is not formally invoking dispute resolution at this time pursuant to FFA Section 13.3. However, in the event that we do not reach a satisfactory resolution of the attached comments, or our comments on the draft ecological risk assessment or draft leachate generation report, this letter shall constitute a written statement of dispute pursuant to Section 13.3 of the NETC FFA.

If there are questions with either the attached comments, or any of the site activities, please feel free to call me at 617/573-9614.

Sincerely,



Andrew F. Miniuks, Remedial Project Manager
Federal Facilities Superfund Section

Attachment

cc: Susan Svirsky, EPA
Ken Finkelstein, NOAA
Paul Kulpa, RI DEM/DSR
Greg Fine, RI DEM/DSR
Brad Wheeler, NETC
Mary Pothier, CDM-FPC

9/10/94 CC: CODE 1823
CODE 1822/TB
CODE 1831/SH
TRC-EC

ATTACHMENT A

REVIEW OF DRAFT FINAL PHASE II RI REPORT
McALLISTER POINT LANDFILL

General Comments -

OLD FIRE FIGHTER TRAINING AREA.

1. The Navy continues to make unsubstantiated statements that the sources of polynuclear aromatic hydrocarbons (PAHs) within the near-shore sediments are due to "atmospheric deposition, sewage effluent, or combined sewer overflow discharges, and/or urban runoff are potential sources of the PAHs detected at the site."

While it is possible that these sources have contributed to the PAH contamination within the near-shore sediments, it is also likely that the Navy's previous fire fighting activities at this site have also contributed to the contamination detected within the sediments. This likely possibility is not mentioned within this report.

The Navy has not presented adequate information to preclude the Old Fire Fighting Training Area as the dominant source of contaminants detected within the on-shore and off-shore marine environment.

2. Despite detecting inorganic contamination within the groundwater and soil, the Navy has not presented an explanation for the contamination. The conceptual model for this site does not account for the contamination detected during the field work.

? → Describe the Navy's conceptual model for this site to incorporate the results of the field work.

3. Although the draft final Phase II RI report states that high turbidity levels were noted in the groundwater samples and these suspended solids may be the cause of the elevated inorganics detected within the samples, no resolution or possible explanation of this issue is noted in the report. The report also states that elevated levels of inorganics were detected within background samples, yet no further explanation is provided.

Describe how past activities at the site (e.g., burning of waste oils, etc.) relates to the inorganic contamination which has been detected within the groundwater.

Provide documentation to support the Navy's belief that some of the inorganic contaminants detected within the groundwater is due to naturally occurring background conditions.

Specific Comments -

The following comments are based on new information provided in the Draft Final RI Report:

Section 1.3.3 - Previous Site Investigation, page 1-14

4. Revise the text to state:
- soil gas survey results are provided in Appendix D-1, not Appendix C;
 - the Phase I RI Magnetic contour map is provided in Appendix C-2, not Appendix B; and
 - the Phase I RI conductivity contour map is provided in Appendix C-3, not Appendix B.

Section 2.2 - Geophysical Investigation, pages 2-2, 2-3

5. Revise the text to state that Appendix B does not provide the results of the Phase II electromagnetic and magnetometer surveys, these results are presented in figures 2-4 and 2-5; that the Hager-Richter report is provided in Appendix C-1, not Appendix B.

Section 2.2.2 Electromagnetic Conductivity Survey, page 2-5

6. The text states that elevated values (over 300 mmhos/m) were recorded west of the central mound area; however, contours drawn on Figure 2-4 do not show any readings in this area greater than 100 mmhos/m.

Revise either the text or the figure.

Section 2.3.2 Soil Gas Results, page 2-9

7. Revise the text to state that soil gas survey results are presented in Appendix D, not Appendix C.

Section 2.5.2.2 Field Measurements and Observations, pg 2-16

8. Revise the text to state:
- the Phase II soil borings logs/well boring logs are found in Appendices F-1 and F-2, not appendices E and F;
 - the soil boring logs/well boring logs are found in Appendices E-1 and E-2, not appendix D.

Section 2.6.1 Overview of Investigation, page 2-20

9. Revise the text to state that results of grain size analysis are in Appendix G, not Appendix H.

Section 2.6.2 Field Measurements and Observations, page 2-23

10. Salinity values in this section and on Table 2-6 are reported in parts per hundred (%); a more common way of reporting salinity is parts per thousand (ppt). Ocean salinities generally run from 33-37 ppt; if the values in the report are to be left in parts per hundred, a statement of general ocean values, in parts per hundred (3.3-3.7%) would be helpful here, to keep the reader from misinterpreting 1.39% as 1.39 ppt. The correct conversion is 13.9 ppt, a value about midway between the value of fresh water and ocean water.

Section 3.3.6 Site Ground Water Hydrogeology, page 3-22

11. i) Revise the text to state MW-8R, MW-9R and MW-11R (not MW-6R) are on site.
- ii) Revise the text to discuss comparison of two rising head tests performed on MW-9R.

Section 3.3.6 Site Ground Water Hydrogeology (Vertical Hydraulic Gradients), page 3-23

12. While it may be true that precipitation is higher in the winter months, a more important factor in determining the change from negative to positive gradient at the MW-6 well cluster may be net recharge. During winter months evapotranspiration would be low, allowing more of the precipitation to recharge into the ground.

Revise the text to discuss this issue.

Revise the text giving the range of vertical gradients at the MW-11 well cluster to include new value for 5/21/94.

Section 3.3.6 Site Ground Water Hydrology (Horizontal Hydraulic Gradients), page 3-24

13. Revise the text to state that the slightly lower horizontal gradient determined for the western portion of the site is probably due to the fact that no well measurement at MW-7S was made on 2/22/94, the date that the highest horizontal gradient was determined for both the central and eastern portions of the site. As currently written, the text implies the difference may be due for some other reason (e.g., change in geology, etc.).

Revise the text accordingly.

Table 3-4

14. i) Revise text to state the method of calculating the vertical hydraulic gradient is explained in Appendix I-4, not Appendix J.
- ii) There is a mathematical error in computing the vertical distance and the head difference for MW-11 on 5/12/94; as a result, the correct gradient appears to be 0.0292, not 0.0289.

Revise the text.

Response to Comments

The following responses to EPA comments do not appear to have been incorporated and/or require additional documentation as noted below. The response number is the number associated with the original EPA comment; see EPA's letter dated May 13, 1994:

- #12. The reference to the 12-pound hammer is still present on p. 3 of Hager-Richter's report in Appendix C-1, and has not been deleted as stated in the Navy's response.

Resolve this discrepancy.

- #13. A figure was added showing the contouring performed under the EM-31 Survey, however, no additional discussion was provided in the text.

Add discussion of the EM-31 survey to the text as noted in the original response.

- #14. See comment 13.

- #17. It is not possible to get a quantitative feel for which of the well clusters (MW-2 or MW-11) is closer to the shore from the provided text or figures. If the Navy has quantitative information available about which well is actually closer to the shoreline, then revise the text of the RI report, especially if it is to be used as a possible explanation of the observed differences in the vertical gradients.

It is unclear what is meant by the Navy's other explanation that "MW-2 is located 200 feet east of MW-11 in along Coasters Harbor..."; identify how this will effect the tidal influence on the well cluster.

Furthermore, clearly describe the significance of the vertical gradient at this site. If, as the Navy appears to claim, the reversal of vertical gradient at MW-11 is solely due to tidal influences (and nothing else), then a similar reversal should be noted at MW-2. Since this effect is not observed, it suggests that something else is controlling the reversal.

The following three points may help explain the anomaly:

i) From Table 3-2, the following changes in groundwater height over the tidal cycle were noted:

<u>Well</u>	<u>Change in water elevation (high minus low tide)</u>
MW-2S	0.89 ft
MW-2D	1.41 ft
MW-11S	-0.02 ft
MW-11R	0.94 ft

Thus the wells at MW-2 seem to show a greater tidal effect than those at MW-11; the real reason the vertical gradient reverses at MW-11 is that MW-11S shows no tidal effect. Since MW-11S does not vary with the tides, as groundwater levels go up and down at MW-11R, the gradient reverses.

ii) the average seasonal variation in the water table (as compiled from data in Table 3-2) for all wells but MW-11S is 1.31 ft; MW-11S only varies by 0.26 ft (MW-11R for comparison varies by 0.96 ft). Thus MW-11S not only shows little tidal effect, but also little seasonal effect.

iii) MW-11S is the only well on site not screened in overburden or bedrock but in fill.

All the above suggests that there is something anomalous about MW-11S in that it shows no tidal effects or seasonal effects, and that this anomaly may be the cause of the gradient reversal, not the tides.

As the Navy has stated, any future omission of groundwater elevation data will be noted on figures and discussed in the text.

#20. The use of the term "contaminant-comparison" implies a risk-based genesis and a federal/state acceptance, neither of which is true in this instance.

Replace the term "contaminant-comparison" level for the analytical soil data with another term (i.e., hypothetical threshold) for comparison of EVOCs, ZSVOCs, ZPAHs and EPAH (carcinogenics) as appropriate. If as stated in the Navy's response, these are only to be used as general indicators of the degree of soil contamination, then their degree of usefulness will not be altered by changing the term used to refer to them.

- #21. The Navy responds it does not feel it is necessary to remove statements like "very low levels" because "these statements provide general indications of the level of contaminant classes detected...", indicating a need for a qualitative description of contamination of the site. This statement contradicts the approach stated on p. 4-3 (addressed in comment 20 above), in which the Navy argues that it needs to use its own established "contaminant-comparison" levels in order to present quantitative descriptions of contamination.

The problem with using statements like "very low levels" is that something is always left unstated. Are these very low levels with respect to:

- previous samples collected at this location; or
- other samples at this location; or
- other locations at the site; or
- other sites; or
- elsewhere within the State of Rhode Island; or
- unreferenced data on background samples.

Either delete these vague references or further explain these statements.

- #24. See discussion of the Navy's response to comment #20.
- #25. A substitution of chloroethane for chloroform was made in the text; however, the remainder of the paragraph discusses the above detection as probably due to laboratory contamination.

While chloroform is a common laboratory contamination, chloroethane is not.

Revise the text to discuss the chloroethane contamination.

- #29. See discussion of the Navy's response to comment #20.
- #35. The text was not revised to indicate that the summary of MCL exceedances was abbreviated; instead it states that a more complete discussion can be found elsewhere. Revise text as previously requested.

ATTACHMENT B

REVIEW OF DRAFT FINAL HUMAN HEALTH RISK ASSESSMENT REPORT

~~MOLLISTER POINT LANDFILL~~

OLD FIRE FIGHTER TRAINING AREA.

Response to Comments

The following responses to EPA comments do not appear to have been incorporated and/or require additional documentation as noted below. The response number is the number associated with the original EPA comment; see EPA's letter dated May 25, 1994:

- #11. The Navy's response to comments indicates that the text and tables will be revised to define surface soil and subsurface soil as 0 to 1 foot below grade and deeper than 1 foot below grade, respectively. In the draft final Phase II RI report, it now states on page 2-3 that no Phase I subsurface soils samples were obtained from the 1- to 2-foot interval below grade, and on page 2-5 that no Phase II subsurface soil samples were obtained from the 1- to 1.5- foot interval below grade.

Discuss these gaps in the data and the implications to the risk assessment in Section 7.1, Uncertainties Related to the Hazard Identification.

- #19. Risks were not calculated for chromium (assuming that the concentrations reported as total chromium are entirely chromium VI). In addition, the Navy does not provide further rationale for using the 0.14 ratio of chromium VI to chromium III.

The revised text states that "Although a variety of factors affect the ratio of trivalent to hexavalent chromium (e.g., soil type and characteristics), this information is not provided in Bagdon and Hazen (1991) and is not available for Site 09". This statement adds to the questionability of the application of this ratio to Naval Education and Training Center.

Confirm if the total chromium concentrations reported are chromium VI, calculate risks for chromium, and provide the rationale for using the above-referenced ratio (0.14) of chromium VI to chromium III.