RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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6 October 2004

Mr. Fred Evans, P.E., Remedial Project Manager
US Department of the Navy
Engineering Field Activity Northeast
Naval Facilities Engineering Command
10 Industrial Highway
Lester, PA 19113-2090

RE: Phase II Screening Level Ecological Risk Assessment
IR Program Site 16 (Former Creosote Dip Tank and Fire Fighter Training Area)
Naval Construction Battalion Center, Davisville, Rhode Island
Submitted 18 August 2004, Dated August 2004

Dear Mr. Evans;

The Rhode Island Department of Environmental Management, Office of Waste Management (RIDEM) has reviewed the above referenced document regarding the Naval Construction Battalion Center, located in Davisville, RI. As a result of this review, this Office has generated the attached comments.

RIDEM looks forward to working with the Navy and USEPA on this Site. If you have any questions or require additional information please call me at (401) 222-2797 ext. 7138 or e-mail me at rgottlie@dem.state.ri.us.

Sincerely,

Louis R. Maccarone II

Louis R. Maccarone II, Engineer
Office of Waste Management

Cc: M. DeStefano, DEM OWM
C. Williams, EPA Region 1
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S. Licardi, ToNK
J. Shultz, EA Eng.

Naval Construction Battalion Center
Phase II Screening Level Ecological Risk Assessment
IR Program, Site 16
August 2004

1. **Executive Summary; Page ES-1, Second Paragraph.**

Based on the Step 3a food web, risks to surrogate mammal (raccoon) and the surrogate avian species (herring gull) were found to be acceptable.

Risks are based on the raccoon and herring gull. In previous analyses the mink was used even though they were not found on the site. Please state how it was determined that these were the most sensitive species for this type of analysis.

2. **Executive Summary; Page ES-1, Third Paragraph.**

Concentrations of all classes of chemical were found to be higher in Allen Harbor compared to reference areas; however, Allen Harbor has restricted flow with Narragansett Bay, as well as intensive use compared to any of the reference areas.

This sentence notes that the use of Allen Harbor is more intense than at any of the other reference locations. Please explain what is meant by intense, i.e. commercial/industrial activity, marine traffic, time of use, etc. and what information would lead that conclusion.

3. **Executive Summary; Page ES-1, Fourth Paragraph.**

There was evidence that shoreline areas, including Site 16, had higher PAH concentrations than those areas outside of the shoreline areas; however this may represent PAH sources such as vehicular emissions and storm drain runoff.

Please explain how this was determined. It is possible the non-shoreline areas are lower in concentration due to dilution from deeper water, yet this was not mentioned. Please expound.

4. **Executive Summary; Page ES-2, First Bullet.**

A middle distillate petroleum signature in the former fire fighting training area generally matched the low levels of diesel range hydrocarbons in a proximal sediment sample. It was not possible to determine if these diesel range hydrocarbons originated from historical Navy or more contemporary marina activities. However, the composition of this petroleum distillate indicated that this material could not have caused the PAH distributions observed throughout Allen Harbor sediments.

Paragraph 4 on Page ES-1 notes that concentrations of chemicals found in Allen Harbor are homogeneous. Please state whether this petroleum signature is in the harbor or not.

5. **Executive Summary; Page ES-2, Third Bullet 3.**

Please remove this bullet as we are studying Site 16 and not the coastal areas of the United States. The issue here is whether Site 16 has caused contamination in Allen Harbor. This has no bearing on other coastal areas, including those in Rhode Island.

6. **Section 2.2: Field Investigation; Page 3 of 26, Fifth paragraph.**

For this reason, Wickford Cove, located south of Allen harbor (see Figure 2-1), was originally proposed as a reference location because of its marina and industrial activity.

It is not that RIDEM objected to the use of Wickford Cove, rather the Navy stated they wanted a reference location that was similar to Allen Harbor. RIDEM pointed out that Wickford Cove had industrial activity, which was not present in Allen Harbor. Instead, RIDEM suggested the use of Fishing Cove which has similar characteristics as Allen Harbor and is adjacent to Wickford Cove. Please revise this sentence to reflect this.

7. Section 2.2: Field Investigation; Page 3 of 26, Fifth Paragraph, Sentences 6 and 7.

While the original design for this reference area was to capture marina influences, Fishing Cove failed to satisfy this objective.

Please state why Fishing Cove failed to satisfy this objective since it and Allen Harbor both have boat moorings with no upland activity (e.g. boat repair and maintenance facilities).

8. **Table 2-1: Screening Metals RSC Results, General Comment.**

Please include the lead results within this data table.

9. **Section 3: Physical Characteristics of the Study Area, Page 6 of 26, Second Paragraph, General Comment.**

This paragraph makes statements regarding scour and depositional areas within Allen Harbor. These statements should be removed or fortified by referencing applicable study data. Please revise.

10. **Section 4.1: Comparison of RSC Results with Quantitative Results; Page 7 of 26, Second Paragraph.**

As can be seen, R^2 values for all three regressions are acceptable at 0.88, 0.81, and 0.76, respectively.

R^2 values of 0.9 or higher are strived for when performing a regression analysis, though 0.85 would be considered the lower end of acceptability. Please revise this paragraph accordingly.

11. **Figure 4.3: Comparison of ICP and XRF Zinc Concentration Data.**

Figure 4.3 data points clearly show that a power function ($y = ab^x$, where a and b are constants) would most likely be the best fit for the data. Please explain why a power function was not considered.

12. **Section 4.1: Comparison of RSC Results with Quantitative Results; Page 7 of 26, Fourth Paragraph.**

However, the under-prediction does not impact the ability of these RSC results to be used for the sample selection process because of the significant relationship between RSC and fixed laboratory results.

Please explain what statistical analyses were performed, besides regression, to demonstrate the "significant relationship" between the RSC and fixed laboratory results.

13. **Section 4.2: Nature, Extent, Fate, and Transport of Contaminants in Allen Harbor; Page 8 of 26, Second Paragraph 2, General Comment.**

For lead, zinc, and PAH the statement is made that there is no evidence that Site 16 was responsible for the patterns of constituent shown. Surface soils have not been fully investigated for this site, therefore it may be possible that soil erosion and/or sediments from the drainage system could partially account for the contamination currently being seen in Allen Harbor. Until all media of this site are fully evaluated it is premature to eliminate an area as not being "responsible" for the contamination. Please revise this paragraph to reflect this.

14. **Section 5.1.2: Assessment and Measurement Endpoints; Page 14 of 26, Three ROC Bullets, General Comment.**

Please state if the herring gull and raccoon represent the most sensitive receptors of concern. If they are not we may be underestimating the ecological risk at this site. In previous studies at NCBC, for example, the mink was chosen as a receptor of concern.

15. Appendix B: Environmental Forensics Report, General Comment.

Much explanation is provided on the equipment used to determine the makeup of the samples. Please explain how the samples were "aged" to represent the up to 60 years of being at the site. Please provide a comparison to new and weathered oils delineating their differences.

16. Appendix B, Environmental Forensics Report, Section 2.3: Reference Materials, Page 4-5, First Paragraph.

In addition, the former fire fighter training reference fuels composed of neat, compusted, and evaporated middle distillates (kerosene and diesel) were added to the analysis from a similar study conducted for the Navy at the former fire training area in Cutler, Maine.

It is not stated what fuels were used at the fire fighter training area in Cutler, Maine and whether they aged in the same manner as at Site 16. Therefore, RIDEM does not agree with the use of the Cutler, Maine site as an acceptable reference area.

17. General Comment.

In future revisions of this document, please show constituent concentrations on the maps/figures. This would be helpful in interpreting and analyzing the data.