RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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April 26, 2002

James Shafer, Remedial Project Manager
U.S. Department of the Navy
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway
Code 1823-Mail Stop 82
Lester, PA 19113-2090

RE: Old Fire Fighter Training Area Draft Final Feasibility Study, Naval Station Newport, Newport, Rhode Island

Dear Mr. Shafer,

The Rhode Island Department of Environmental Management, Office of Waste Management (RIDEM) has reviewed the Draft Final Feasibility Study for the Old Fire Fighter Training Area. Attached are comments generated as a result of this review.

The first section of the comment package addresses the Navy's response to comments issued by the State on the draft document. The second section deals with information presented in the Draft Final Feasibility Study.

If the Navy has any questions concerning the above, please contact this Office at 401-222-2797, ext. 7111.

Sincerely,

Paul Kulpa

Paul Kulpa
Office of Waste Management

cc: Mathew DeStefano, DEM OWM
Richard Gottlieb, DEM OWM
Kymberlee Keckler, EPA Region I
Melissa Griffin, NSN

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Comments on Draft Final Feasibility Study
For
Soil and Marine Sediments
Old Fire Fighter Training Area

7. Page 2-4, Section 2.21, Identification of Media of Concern, Soil Paragraph 2.

Both carcinogenic and noncarcinogenic risks were below EPA risk range and RIDEM's benchmarks for recreational receptors and excavation workers.

Please modify the above as follows: Both carcinogenic and noncarcinogenic risks were below EPA Risk range for recreational receptors and excavation workers. The concentrations of contaminants are above the State's standards for unrestricted recreational use of the site.

Evaluation of Draft Final Report

The Draft Final contains a typographical error. In the Navy's response submittal dated 2 August 2001, the Navy stated that the text will be revised as suggested. The text in the draft final contains the following: "Both carcinogenic and non carcinogenic risk were below EPA risk range and RIDEM's benchmarks for recreational and excavation workers, although the concentrations of the standards are above the standards for unrestricted recreational use of the site" The modified text is confusing and inaccurate as the State does not have benchmarks. Therefore please modify as originally requested.

8. Page 2-5, Section 2.21, Identification of Media of Concern, Soil Paragraph 2.

...of 1.0 for any target organ.

Please add the following sentence to the above: ...of 1.0 for any target organ. The RIDEM unrestricted recreational standard was exceeded on the shoreline.

Evaluation of Draft Final Feasibility Study

Please indicate whether any of the shoreline samples exceed RIDEM's residential standards

10. Page 2-5, Section 2.21, Identification of Media of Concern, Groundwater Paragraph 8.

This section of the report discusses the groundwater objectives for the site. The report should list, in addition to any chemical specific objective, the requirement for no free product in the groundwater at the site.

Evaluation of Draft Final Feasibility Study

In response to comments, dated 2 August 2001, the Navy stated that the text would be revised as suggested. Please indicate which paragraph in Section 2.2.1 contains the agreed to changes. In addition, removal of free product should be listed as an remedial action objective for groundwater.

11. Page 2-9, Section 2.2.2.3, Development of Remedial Objectives for Soil Whole Section.

Although not stated, the report should note that either the lower of the RIDEM Direct Exposure Standards or the Sediment PRGs will be applied to the beach.

Evaluation of Draft Final Feasibility Study

Please be advised that RIDEM's residential scenario is applied to recreational areas. Accordingly, the Office of Waste Management reiterates the comment

12. Page 2-12, Section 2.2.2.4, Remedial Action Objectives for Soil Whole Section.

This section of the report discusses the remedial objective for soil. In addition to the chemical specific objectives the report should include the objective of no free product in the soil. This requirement applies to both the vadose and saturated zones.

Evaluation of Draft Final Feasibility Study

In response to comments the Navy has agreed to modify this section of the report to reflect this requirement as an remedial objective for soil. This modification has not been performed. Therefore, please correct this typographical omission and modify the report as previously agreed.

14. Page 2-13, Section 2.2.3.1, Identification of Chemicals of Potential Concern in Sediment.

In addition to the specific chemicals of concern the report should include a PRG for TPH. The TPH standard of 500 ppm may be applied at the site.

Evaluation of Draft Final Feasibility Study

In response to comments the Navy has agreed to modify this section of the report to reflect this requirement. This modification has not been performed. Therefore, please correct this typographical omission and modify the report as previously agreed.

15. Page 2-19, Section 2.2.3.4, Remedial Action Objectives for Sediment.

In addition to the objectives listed, the report should include the objective of no free product in the sediment.

Evaluation of Draft Final Feasibility Study

In response to comments the Navy has agreed to modify this section of the report to reflect this requirement. This modification has not been performed. Therefore, please correct this typographical omission and modify the report as previously agreed.

16. Page 3-6, Section 3.2.2.2,
Limited Action (Deed Restrictions), Bullet 1, Sentence 2

It is stated that deed restrictions, by themselves are not reliable because they are difficult to enforce. Please be advised that deed restrictions are routinely used not only in Rhode Island, but also across the nation as a form of remediation. Enforcement of the deed restriction depends on an effective monitoring program. At Naval Construction Battalion Center, across the Narragansett Bay, such a program is in place for sites where deed restrictions have been applied.

Evaluation of Draft Final Feasibility Study

The report states that the ELUR would be implemented in accordance with the Navy guidance on deed restrictions. Deed restrictions would also have to meet regulatory requirements. Therefore, this section of the report should note that any deed restrictions would have to meet the requirements of the regulators.

23. Page 4-20, Section 4.4.3,
Soil Alternative 3:Removal and Disposal,

The estimated volume of soil requiring removal at the Old Fire Fighter Training Area is approximately 50,000 cubic yards. The estimated cost for this option is approximately eight million dollars. The approximate volume of contaminated soil, which required removal at the Melville North Landfill, was 100,000 cubic yards. The estimated cost to remove and dispose of this soil was approximately eight million dollars. Please evaluate the cost estimates to ascertain the reason for the discrepancies in the cost of the projects.

Evaluation of Draft Final Feasibility Study

The revised cost in the Draft Final Feasibility Study is higher than in the Draft Feasibility Study. The report has not stated why it will cost twice as much to remove one half of the volume of contaminated soil from Old Fire Fighter Training Area when compared to Melville North Landfill. The discrepancy in the cost between the two sites brings into question the estimates for Old Fire Fighter Training Area. Therefore, please provide an explanation for the difference in the cost.

35 **Table 2.8, Selection of Soil COPCs.**

During remedial investigation activities a variety of oils were observed at the site (heavy oils, hydraulics, fuel oils, oil sludges, etc). Samples of the various oil types were not collected and analyzed (certain efforts were designed to visual determine the extent of contamination and or only the predominant oil type was tested, etc). Therefore, please modify the COPC table to include the full list of RIDEM regulated Method 1 SVOCs.

Evaluation of Draft Final Feasibility Study

The Navy has stated that .."even if the additional SVOCs were added to the COPC table, they would be screened out in the COC selection, resulting in no net change in the document." This position is based upon the assumption that the SVOC concentrations would be so low that these compounds would be screened out during the COPC selection process. As the samples were never collected it is not possible to determine if the concentrations of the compounds would have been screened out. Therefore, as previously stated the full list of SVOCs will be included in those areas where stained soils, saturated soils, or free product is encountered.

1. **General Comment**

The majority of the contamination at the site resulted from the release of, or burning of, waste oils. Accordingly, the report addresses petroleum contamination at the site and has proposed a remedial standard for TPH, as well as, remedial actions to address the petroleum-related contamination. The Office of Waste Management concurs that the report should discuss petroleum contamination at the site and the report must include both a remedial standard for TPH and remedial actions for TPH. However, in order to avoid confusion with the petroleum exclusion rule in Superfund, the report should note in the appropriate sections that virgin petroleum is excluded from Superfund.

2 **Page ES-2, Background,**
Paragraph 3, Sentence 5

This sentence states that intermediate and low risks are acceptable from and ecological standpoint. Please note the Office of Waste Management does not consider intermediate stations as acceptable from an ecological perspective. Therefore, either modify the sentence as follows or include the following caveat:

Modified Sentence

The stations rated, as low risk may be considered acceptable from an ecological perspective

Caveat

The Rhode Island Department of Environmental Management does not agree with, and has not approved the Ecological Risk Assessment for the site, and does not concur with the position that intermediate risk stations may be considered acceptable from an ecological point of view.

3 **Page ES-2, Background,**
Paragraph 1, Last sentence Paragraph 2.

This section states that residential use of the groundwater is unrealistic due to the groundwater classification, the high salinity of the groundwater and the availability of an alternate water supply. The groundwater classification at the site does not prohibit its use for domestic purposes. In this State there are private wells in GB aquifers. In regards to the salinity issue, the highest chloride concentration observed in the monitoring wells at the site is 5 ppm. The majority of the shallow and bedrock wells had chloride concentrations of 1 ppm or less. The secondary USEPA MCL for chloride is 250 ppm, and chloride concentration in seawater is 19,000 ppm. Accordingly, it is inappropriate to state that the groundwater is saline. Finally, the availability of an alternate water supply does not preclude the use of wells. Therefore, the last sentence in paragraph 2 and the last sentence in paragraph 1 should be eliminated from the report.

4 **Page ES-4, Summary of Soil Alternatives,**
Soil Alternatives 2 and 3

Based on the Navy's estimates Alternative 2 will cost approximately $246 per cubic yard of soil and Alternative 1 will cost approximately $167 per cubic yard. These costs seem extremely over-inflated. Please provide the justification for these costs.

5 **Page 1-14, Section 1.9, Human Health Risk Assessment**
Paragraph 3, last sentence, Paragraph 4.

Paragraph 4 and the last sentence in paragraph 3 should be removed from the report, see comment 3.

6 **Page 1-14, Section 1.9, Human Health Risk Assessment**
Paragraph 5.

This paragraph contains a commentary concerning the subsistence fisherman scenario. Please remove this paragraph.

7 **Page 1-15, Section 1.10, Ecological Risk Assessment**
Paragraph 3.

This paragraph states that intermediate risk stations are consider acceptable from an ecological risk point of view. Please modify the paragraph as suggested in comment 2.

8 **Page 2-5, Section 2.21, Identification of Media of Concern, Groundwater**
Paragraph 2.

Paragraph 2 should be deleted from the report, see comment 3.

9 **Page 2-5, Section 2.2.1, Identification of Media of Concern (Sediment),**
Paragraph 3, Last Sentence

This sentence states that HI's did not exceed 1.0 for sediment. The Shellfish section notes that shellfish will be addressed within the sediment section. Shellfish have HI's greater than one and therefore by extension sediment must then have an HI greater than one. Please modify the report to state that the shellfish ingestion routes results in the sediment having a HI greater than 1.

10 **Page 2-12, Section 2.2.2.3, Identification of Chemicals of Concern in Soil,**
Paragraph 1, Sentences 2 and 3.

These sentences note that for each constituent the maximum concentration is compared to the PRG and any chemical with an exceedance is retained as a COC. Please be advised that under RIDEM Remediation Regulations any detection of a constituent must be retained as a COC until it can be demonstrated that said constituent does not pose a risk individually or cumulatively.

11 Page 2-12, Section 2.2.2.3, Identification of Chemicals of Concern in Soil, Whole Section.

Please include pyrene and flouranthene as PRGs for soil (concentrations exceeded RIDEM Standards).

12 Page 2-13, Section 2.2.2.4, Remedial Action Objectives for Soil, Whole Section.

This section of the report addressed contamination in the vadose zone. The saturated zone at the site is also contaminated and the report should include a remedial objective for these soils. The remedial action for the site will entail the removal of contaminated soils. As such contamination in the saturated zone will be easily accessible. In many location it is anticipated that the contamination may only exist within the top few feet of the saturated zone. The Office of Waste Management recommends that the Navy take advantage of this opportunity to excavate these soils. Please be advised that the State regulations does not allow for free product in any media, including the saturated zone, and that all remedial actions must be protective of human health and the environment.

13 Page 2-13, Section 2.2.2.4, Remedial Action Objectives for Soil, Whole Section.

This section of the report lists the remedial action objectives for the site. During the remedial investigation of the site it was discovered that a number of buried pipes contained petroleum sludges. Although not stated, it is assumed that any buried structures, (tanks, pipes, concrete vaults, etc.) which are found to be contaminated, will be addressed as part of this remedial effort. Accordingly, this section of the report should note that any buried contaminated structures on the site will be addressed (either cleaned and left in placed, removed, etc.).

14 Page 2-13, Section 2.2.3.1, Identification of Chemicals of Potential Concern in Sediment.

In correspondence dated 5 March 2002 the Office of Waste Management submitted a list of PRGs which were considered acceptable for both protection of human health and the environment. Please be advised that the following compound was omitted from the list submitted by this Office:

Dibenzo(a,h)anthracene 134 ppm

15 Page 2-15, Section 2.2.3.2, Development of Preliminary Remediation Goals for Sediment, Paragraph 1, Sentence 1

This sentence states that the purpose of the PRG process is to select a manageable number of COCs.. Under the State program, the purpose of the PRG process is not to select a manageable number of COCs, but rather to determine what concentration of each COC is acceptable from a human health and ecological risk standpoint. The existing sentence implies

that if someone arbitrarily feels there are too many COCs that they could be eliminated without any consideration, thus leaving contamination at the site. Please revise this paragraph accordingly.

16 **Page 2-23, Section 2.3.2, Sediment, Paragraph 4**

"The associated volume of the contaminated sediment in the eelgrass beds using a 1-foot depth is 76 cy." If a remedial investigation has been completed, please explain why the depth of contamination needs to be assumed.

17 **Page 3-6, Section 3.2.2.2, Limited Action, Whole Section.**

Please be advised that in cases where deed restrictions are placed to address contamination at a site the responsible party must submit an annual report to the DEM documenting that all of the restrictions are being met. This report must be submitted every year as long as the restrictions remain on the property. The Office of Waste Management will periodically inspect the site to ensure that the provisions of the deed restrictions are being met. The cost for this annual reporting should be included for this and the other alternatives, which require deed restrictions.

18 **Page 5-3, Sediment Alternative 2: Limited Action, Whole Section.**

The report proposes the use of a fence to restrict access to the beach area. Please be advised that a fence is not considered to be an effective barrier to contamination. Fences are easily scaled or accessed through holes and they do not prohibit direct contact with the contaminated soils, nor do they address windblown dust problems. As such, the Office of Waste Management does not consider a fence to be an acceptable remedy to address contamination at the site.

19 **Page 5-3, Sediment Alternative 2: Limited Action, Whole Section.**

The report proposes the use of buoys to restrict harvesting of shellfish and or lobsters from the site. Buoys will not prohibit the migration of lobster in and out of the contaminated zone. As such this remedy will not be protective.

20 **Page 5-40, Comparative Analysis of Sediment Alternatives, Whole Section.**

This section of the report includes an estimated cost table for the various sediment remedial alternatives. Based upon the information in the table the estimated cost to dredge 6029 cubic yards of sediment is $ 624 per yard. This cost is excessive. Please provide a more realistic cost estimate for the dredging operation.

21 **Page D-3, Development of Sediment PRGs Based Upon Shellfish Consumption by Humans, Part 2.**

The subsistence fisherman was originally evaluated in the human health risk assessment. However, this exposure scenario was removed in the PRG process. As previously stated in meetings and correspondence the Office of Waste Management has noted that the shellfish ingestion rate used by the Navy in the human health risk assessment does not agree with values published by the FDA (the Navy's ingestion rate grossly underestimates this exposure). The Office of Waste Management has requested that the Navy use the FDA rate for the average individual. In lieu of modifying the ingestion rate for the average individual the Navy elect to evaluate the subsistence fisherman (the ingestion rate of which is more inline with the FDA study). The Office of Waste Management agreed with the Navy's proposal. The current PRG process does not evaluate the subsistence fisherman, whose consumption rate is more in line with the FDA study. Therefore, the human health PRGs are not reflective of the risk at the site. The Navy may elect to either modify the human health PRGs to include the subsistence fisherman, or employ the dermal PRGs independent of depth. The Office of Waste Management has reviewed the information and has determine that application of the dermal PRGs independent of depth would address the areas which would be addressed if a FDA consumption rate was employed.