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LETTER OF TRANSMITTAL AND SOUTH CAROLINA DEPARTMENT OF HEALTH AND
ENVIRONMENTAL CONTROL COMMENTS ON DRAFT FEASIBILITY STUDY/CORRECTIVE
MEASURES STUDY FOR SITE 1 INCINERATOR LANDFILL MCRD PARRIS ISLAND SC

7/31/2001

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL



2600 Bull Street
Columbia, SC 29201-1708

July 31, 2001

Commanding Officer
Department of the Navy
SOUTHNAVFACENGCOM
ATTN: Mr. Art Sanford
2155 Eagle Drive
North Charleston, South Carolina 29406

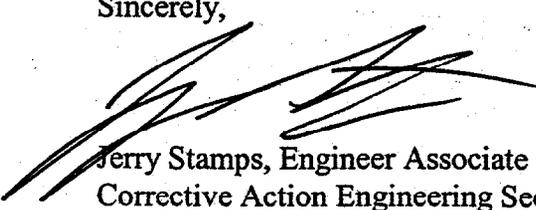
RE: Draft Feasibility Study / Corrective Measures Study Site/SWMU 1 – Incinerator Landfill
(7/01)
Marine Corp Recruit Depot
Parris Island
SC6 170 022 762

Dear Mr. Sanford:

The Corrective Action Engineering and the Hydrogeology Sections of the South Carolina Department of Health and Environmental Control (Department) have completed the review of the above referenced document, which was received on July 2, 2001. The Department has determined that the attached comments must be adequately addressed prior to receiving a final determination concerning this document.

If you have any questions or concerns, please feel free to contact me at (803) 896-4285 or Don Hargrove of the Division of Hydrogeology at (803) 896-4033.

Sincerely,



Jerry Stamps, Engineer Associate
Corrective Action Engineering Section
Division of Waste Management

cc:

David Brayack, TrNUS
Tim Harrington, MCRD Parris Island
Don Hargrove, Hydrogeology
Rob Pope, EPA Region IV

Tom Dillon, NOAA
Priscilla Wendt, SCDNR

ENGINEERING COMMENTS
prepared by Jerry Stamps
Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management
July 31, 2001

1. **General**

In accordance with RCRA guidance concerning the development of a Corrective Measures Study, this document should discuss viable remedial alternatives and propose a corrective measure most appropriate for this SWMU. The Department is aware that this varies from the CERCLA guidance pertaining to the development of a Feasibility Study. Therefore, the proposed corrective measure may be discussed in the cover letter for this document.

2. **General**

The Department's preferred alternative is what may best be described as a modified Alternative 2a. The Department maintains that alternative 2a with the addition of the excavation of the PAH contaminated area is most appropriate for this site. The consolidation of the PAH contaminated sediments would result in more timely remediation of the sediments rather than relying on a lengthy natural attenuation process which has not been demonstrated to be occurring at this site. Furthermore, it does not appear as though site-specific modeling has been conducted to establish the length of time required for contaminant concentrations to decrease to RGOs. Consequently, please modify the document to include a modified 2a remedial alternative.

3. **General**

The use of a CAMU is inappropriate for this site. The purpose of the CAMU is to treat, store, or dispose of hazardous remediation waste without triggering Land Disposal Restrictions (LDR). Data should be compiled, if it exists, or collected to determine if these sediments are considered characteristically hazardous (i.e., TCLP data). If the results demonstrate that the sediments are not hazardous, then LDRs do not apply, and activities may proceed as planned without the use of a CAMU. Should the sediments prove to be hazardous, then the Navy must comply with LDRs and may want to consider another course of action since the Department can not approved the use of a CAMU without a permit, corrective action order, or other enforceable mechanism in place.

4. Section 4.5.1.2, Institutional Controls (Land Use Controls) and Monitoring, Page 4-6

This section states that the cost for land use controls are low, when in fact, the cost of land use controls are considerably high over the long term. The land use controls are to remain in effect in perpetuity or until such time as residential standards are met. This should be reflected in the cost discussion. Furthermore, Land Use Controls should not be evaluated as a technology in the remediation of contaminated sites. They are to be implemented in conjunction with a selected corrective action in cases where residential standards are not met and are not intended to be a stand-alone remedy. Consequently, this discussion should be removed from the document.

5. Section 4.5.1.2, Institutional Controls and Monitoring, Page 4-13

See comment #4.

6. Section 4.6, Page 4-18; Table 4-1 and 4-2

See comment #4

7. Section 5.1.2, Component 2, Page 5-4

This section should be modified to reflect the modified 2a approach which would include the excavation of the PAH contaminated sediments.

8. Section 5.1.2, Component 4, 4th paragraph, Page 5-5

This section discusses installing sumps within the interior of the landfill, if necessary, to control the migration of contaminated ground water. Such contingency may negatively impact the effectiveness of the low permeability cap. If such action is necessary, the Navy must ensure that a preferential pathway for infiltration through the cap is not created. Upon the completion of the contingency measure, if necessary, a demonstration must be made to the Department that the effectiveness if the cap is maintained.

9. Section 5.1.2, Component 6, Page 5-6

Upon completion of the sediment excavation, the Department recommends re-grading the area to prevent the creation of a "moat" adjacent to the landfill. Furthermore, this section states that remaining sediment contamination may be covered by soils. Given the dynamic nature of the site, the soils used as a cover may only be temporary as they may be eroded away with tidal fluctuations. As such, the Navy should make all reasonable efforts to ensure that sediment contamination does not remain in place upon completion of the excavation activities.

10. Section 5.1.2, Component 7, 2nd paragraph, Page 5-7

This section states that after the first year of quarterly ground water monitoring, the frequency will be reduced to annual monitoring. It is inappropriate to make this determination at this point in time. This section should be revised to state that after the first year of sampling, the data will be evaluated to determine an appropriate monitoring frequency. A change in frequency may be proposed by the Navy in the form of an annual report submitted to the regulatory agencies for review and concurrence.

The discussion relating to the natural attenuation of the PAHs should be removed in accordance with the modified 2a approach.

The 3rd paragraph should state that unrestricted reuse of this property would be ensured via the Land Use Control Assurance Plan (LUCAP) and the Base Master Work Plan.

11. Section 5.1.3, Component 2; Section 5.1.2, Component 3

Section 5.1.2 pertains to alternative 2a which involves excavating the pesticides and inorganic sediment contamination; whereas, Section 5.1.3 pertains to alternative 2b which involves the excavation of pesticide, inorganic, and PAH sediment contamination. One would expect the volume of excavated material to be greater for alternative 2b since the PAH contamination would also be excavated. However, alternative 2a states that 11,600 cubic yards of sediment/waste will be excavated while alternative 2b states that 9,000 cubic yards will be excavated. This is contrary to what one would expect based on the target contaminants for excavation.

12. Section 5.1.3, Component 3, 4th paragraph, Page 5-10

See Comment #8

13. Section 5.1.3, Component 5, Page 5-11

See Comment # 9

14. Section 5.1.3, Component 6, Pages 5-11 and 5-12

See Comment # 10 with the exception of the PAH comment.

15. Section 5.1.4, Component 4

See Comment # 9

16. Section 5.3.2.1, Page 5-22

The discussion of the natural attenuation of the PAH area should be removed in accordance with the modified alternative 2a.

17. Section 6.0

This section should be modified to be consistent with the modified 2a alternative.

18. Section 6.2.9, Page 6-5

The 30-year present worth of alternative 2a is \$2,000 less than the capital cost; whereas, the 30-year present worth of alternative 2b is \$316,000 greater than the capital cost. Please verify the cost estimates.



2600 Bull Street
Columbia, SC 29201-1708

MEMORANDUM

TO: Jerry Stamps, Engineering Associate
Corrective Action Engineering Section
Division of Hazardous and Infectious Waste Management
Bureau of Land and Waste Management

FROM: Donald C. Hargrove, Hydrogeologist
RCRA Hydrogeology Section I
Division of Hydrogeology
Bureau of Land and Waste Management

DATE: 30 July 2001

RE: Parris Island Marine Corps Recruit Depot (MCRD)
Parris Island, South Carolina
Beaufort County
SC6 170 022 762

DRAFT Feasibility Study/Corrective Measures Study For Site/SWMU 1-Incinerator
Landfill
(June 2001)

The Division of Hydrogeology has reviewed the Document listed above. This document (dated 29 June 2001) was received on 2 July 2001. It provides a physical description of Solid Waste Management Unit (SWMU) 1, which includes the history of this SWMU. It briefly describes previous studies performed at SWMU 1, and compares different remedial technologies to address contaminated media present at the SWMU.

This document was reviewed with respect to R.61-79 of the South Carolina Hazardous Waste Management Regulations (SCHWMR), and appropriate guidance documents. Based on this review, the Division of Hydrogeology has determined that this document is technically inadequate. It should be revised to incorporate the following comments, and resubmitted for review:

- 1) Title: The title of this document should include SWMU 41. Please revise accordingly.
- 2) Section 2.2, Site-Specific Geology And Hydrogeology: This section specifies the top and bottom of the waste was delineated using soil borings. The figures in this CMS state that the depth of the waste was estimated using aerial photographs. It is unclear how aerial

photographs can be utilized to determine waste thickness since the difference in elevation would be insignificant when photographed from an altitude of 20,000 feet. Additionally, it has not been shown that aerial photographs exist that show this area prior to the addition of waste at SWMU 1. Either the text or the figures should be revised to reflect the method(s) used to calculate waste thickness. If aerial photographs were, in fact, used, please describe the methodology for these calculations.

- 3) Table 2-1, Results of April 2001 Sediment Investigation: The abbreviation "NR" used for the arsenic-Eco PRG is not defined. Please revise the table.
- 4) Figure 2-1, Site Layout: This figure shows a single location for SWMU 41. The conclusions drawn in the RI/RFI report for SWMUs 1 and 41 do not surmise that only the northern-most location be addressed in the future. Included below is part of an aerial photograph from 1955 that shows an incinerator with a smokestack at the southern location. This location must be included in all the figures in this CMS.



- 5) Figures 2-3 through 2-7, Cross Sections: Comment #2 applies to these figures.

- 6) Figure 3-2, Contaminated Sediment Delineation Map: The arsenic result for PAI-01-SD-021-01 should be marked with an "H". Please revise the figure accordingly.
- 7) Section 4.4, identification And Screening Of Technologies And Process Options: Institutional Controls should not be included as a separate remedial measure. Institutional Controls should be evaluated as PART OF a remedy, but not as a stand-alone remedy. Please revise the text accordingly. This comment applies to all subsequent sections of this CMS which list Institutional Controls as a stand-alone remedy.
- 8) Section 5.1.2, Component 7 – Implementation of land use controls, long-term monitoring, 5-year reviews, and operation and maintenance: It is not appropriate to specify quarterly monitoring for one year only. Automatic reductions in groundwater monitoring frequency is not prudent. The text should be revised to say that quarterly monitoring will continue until such a time that the State and EPA approve a reduction in monitoring frequency.

If you have any questions regarding these comments, please call me at (803) 896-4033.