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LETTER REGARDING SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES COMMENTS ON DRAFT FEASIBILITY STUDY/CORRECTIVE MEASURES STUDY FOR SITE 1 INCINERATOR LANDFILL MCRD PARRIS ISLAND SC
7/31/2001
SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES

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South Carolina Department of
Natural Resources

Paul A. Sandifer, Ph.D.
Director
John V. Miglarese
Deputy Director for
Marine Resources

July 31, 2001

Commanding General
Marine Corps Recruit Depot
Attn: Timothy J. Harrington, NREAO
P.O. Box 19003
Parris Island, SC 29905-9003

RE: FS/CMS for Site/SWMU 1 – Incinerator Landfill
MCRD Parris Island;
Beaufort County, SC

Dear Mr. Harrington:

Personnel with the S.C. Department of Natural Resources (SCDNR) have reviewed the above referenced document and offer the following comments.

The Feasibility Study/Corrective Measures Study (FS/CMS) uses the results of the Remedial Investigation/RCRA Facility Investigation (RI/RFI) to evaluate four potential remedial alternatives for addressing risks to human health and the environment at Site/SWMU 1. This site is a 7-acre landfill at the tip of Horse Island, which extends approximately 670 feet into the marsh toward Archer Creek. It is estimated that 56,000 cubic yards of soil, fill, and waste material were disposed in the landfill from 1921 to 1965. Waste materials included combustion residues (ash) from the coal-fired incinerator at SWMU 41, as well as other non-hazardous and hazardous waste. Results of the ecological risk assessment performed as part of the RI/RFI for Site 1 indicated that pesticides, PAHs, and several heavy metals in sediments and soils posed an unacceptable risk to aquatic and terrestrial ecological receptors.

As stated in the FS/CMS, Alternative 1 (No Action) was developed to provide a baseline for comparison to the other alternatives, but would not be protective of human health or the environment. This alternative would not be acceptable to the SCDNR as a remedial action alternative. At the opposite end of the spectrum, Alternative 3 (Excavation and Off-Site Disposal of Waste and Sediment) would remove all waste material and sediments with contaminant concentrations in excess of Remedial Goal Options (RGOs). This alternative would be the most protective of any of the alternatives considered, and would be acceptable to the SCDNR provided

all excavated areas were actively restored (regraded and replanted) to provide functional saltmarsh habitat. Implementation of this alternative would also obviate the need for land-use controls, maintenance of a cap, or long-term monitoring of contaminant migration from the site.

The other two alternatives presented (Alternative 2A and 2B) are premised on the applicability of the "presumptive remedy" of containment of waste materials, surface soils, and contaminated sediments on-site. Both alternatives involve the installation of a low-permeability cap system over the consolidated and regraded waste, soils, and sediment (which will be excavated from the surrounding marsh and placed within the upland boundary of the existing landfill). The two alternatives differ in that Alternative 2A would involve the excavation of *only* those sediments with concentrations of pesticides and metals that exceed the RGOs for ecological receptors; whereas, Alternative 2B would remove *all* contaminated sediments with concentrations of pesticides, metals, *and PAHs* above the RGOs for the protection of both ecological *and human* receptors. This latter alternative would include the removal of sediments from an area east of the landfill (Area III) where total PAH concentrations exceeded ecological RGOs by an order of magnitude (29,455 ug/kg). In Alternative 2A, these sediments would be addressed solely through natural attenuation and long-term monitoring. Alternative 2B would also remove sediments from an area north of the landfill (Area II) where arsenic concentrations exceed human health RGOs, but are generally comparable to background concentrations. The SCDNR defers to SCDHEC on the adequacy of Alternative 2A for the protection of human health, but does not believe that natural attenuation of PAH-contaminated sediments in Area III is sufficiently protective of ecological receptors. Therefore, we recommend that, at a minimum, the sediments in Area III be removed, either as proposed in Alternative 2B or in Alternative 3. The SCDNR concurs with SCDHEC's comment (see letter dated 7/31/01) that the Navy should make all reasonable efforts to ensure that sediment contamination does not remain in place upon completion of the excavation activities. In order to protect ecological receptors such as fiddler crabs, which can burrow to depths of up to 3 feet, verification sampling should be performed at least to this depth to ensure that ecological RGOs are met throughout the upper three feet of surficial sediments. Finally, since Area III is somewhat removed from the landfill itself, and, therefore, from any potentially continuing sources of contaminant migration, opportunities for habitat restoration and enhancement in this area should be actively explored by the Parris Island Partnering Team during the Remedial Design phase.

In summary, the SCDNR believes that Alternative 3 (Excavation and Off-Site Disposal of Waste and Sediment) would be acceptable, provided all excavated areas were actively restored (regraded and replanted) to provide functional saltmarsh habitat, comparable in quality to that of the adjacent unimpacted marsh. Alternative 2B would also be acceptable, provided the proposed cap was constructed to eliminate any migration of contaminants to adjacent surface waters or sediments, either from erosion of contaminated soils or from discharge of contaminated groundwater. The limited groundwater sampling conducted to date does not indicate that groundwater contamination currently poses a substantial risk to ecological receptors; however, the elevated salinity in those groundwater samples does indicate that there is an interconnection between tidal surface waters and shallow groundwater that will not be addressed by the cap

proposed under either Alternatives 2A or 2B. Therefore, the SCDNR recommends the inclusion of a detailed monitoring and contingency plan as part of any remedy selected for this site, in order to evaluate the effectiveness of the cap in preventing future migration of contaminants from the landfill to adjacent sediments and surface waters. Finally, the SCDNR recommends that all intertidal areas impacted by excavation be actively restored to functional saltmarsh habitat, comparable in quality to nearby unimpacted saltmarsh or tidal creek habitat. In this regard, the Natural Resource Trustees are anxious to work with the other team members to seek innovative, cost-effective remedies that, not only minimize exposure to contaminants, but also enhance habitat restoration and value.

We hope you find these comments helpful. If you have any questions, please contact Priscilla Wendt, the SCDNR project manager for this site, at 803-762-5068.

Sincerely,

Robert E. Duncan
Environmental Programs Director

cc: Dave Brayack, Tetra Tech NUS, Inc. ✓
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