UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

NOV 19 2002

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Kevin Cloe
Navy Technical Representative
Installation Restoration Section (South)
Environmental Program Branch
Environmental Division,
Atlantic Division (LANTDIV), Code EV23KC
Naval Facilities Engineering Command
1510 Gilbert Street
Norfolk, VA 23511-2699

Re: **Naval Station Roosevelt Roads - EPA I.D. Number PRD2170027203**

1) Draft RCRA Facility Investigation (RFI) Report for SWMU #3

2) Draft Corrective Measure Study Investigation Report for SWMU #9

Dear Mr. Cloe:

The United States Environmental Protection Agency (EPA) Region 2 has completed its review of: 1) the Draft RFI report for SWMU #3 (the base's currently operating solid waste landfill), submitted on the Navy's behalf by Baker Environmental's letter of September 4, 2002, and 2) the Navy's September 5, 2002 responses to EPA's October 4, 2001 Comments on the Draft Final Corrective Measure Study (CMS) Investigation Report for SWMU #9 (sludge burial pits associated with fuel storage tanks 212 - 217).

These documents were submitted pursuant to requirements of the 1994 RCRA Permit issued to Naval Station Roosevelt Roads. As part of our review, EPA requested our contractor, Booz Allen, to review both documents. EPA's comments are discussed below.

SWMU #3

EPA finds the RFI report for SWMU #3 to be largely acceptable. However, EPA request the following modifications/additions be made to the recommendations given in the RFI report, as regards further actions for SWMU #3:

1. As part of the final remedy for SWMU 3, pursuant to the corrective action requirements of the RCRA permit, the Navy shall submit to EPA two copies of all future semiannual groundwater monitoring results implement pursuant to the solid waste requirements (40 CFR Part 258). These shall be submitted to EPA simultaneously with their submission to the Puerto Rico Environmental Quality Board.

2. All future semiannual groundwater monitoring at SWMU #3, in addition to the volatile organic compounds (VOCs) and metal constituents required under 40 CFR Part 258 Appendix I, shall include sampling and analysis for all polycyclic aromatic hydrocarbons (PAHs) previously detected as part of the RFI sampling, and 1,4-dioxane and beta-BHC. Since these semivolatile organic compounds (SVOCs) and pesticides were detected in the groundwater at concentrations exceeding sceening levels, the future monitoring of these SVOCs and pesticides is warranted, to ensure that the concentrations and extent of any plumes resulting from those constituents do not increase over time.

Within 30 days of your receipt of this letter, please submit an Addendum to the Draft RFI Report for SWMU #3 addressing the above two recommendations, and all other comments in the enclosed Technical Review.

SWMU #9

EPA finds the Navy's September 5, 2002 responses regarding SWMU #9 to be acceptable, except for one issue regarding equilibrium partitioning (EP) eco-toxicity screening values for PAHs in sediments. This issue is discussed in the enclosed Technical Review prepared by our contractor, Booz Allen.

Within 30 days of your receipt of this letter, please submit a written response addressing the comment regarding acceptable EP eco-toxicity screening values for PAHs in sediments.

If you have any questions, please telephone me at (212) 637- 4167.

Sincerely yours,

Timothy R. Gordon

Timothy R. Gordon
Remedial Project Manager
Caribbean Section
RCRA Programs Branch

Enclosures (2)

cc: Mr. Carmelo Vazquez, P.R. Environmental Quality Board, w/encl.
Ms. Madeline Rivera, Public Works Department, Naval Station Roosevelt Roads, w/encl.
Ms. Kathy Rogovin, Booz Allen & Hamilton, w/o encl.
Mr. Mark Kimes, Baker Environmental, w/encl.

TECHNICAL REVIEW OF SEPTEMBER 5, 2002 RESPONSE TO EPA's OCTOBER 5, 2001 COMMENTS ON THE DRAFT CORRECTIVE MEASURES STUDY INVESTIGATION REPORT FOR SWMU 9

NAVAL STATION ROOSEVELT ROADS CEIBA, PUERTO RICO

REPA3-0203-004
November 11, 2002

I GENERAL COMMENTS

All general comments have been adequately addressed.

II SPECIFIC COMMENTS

All specific comments have been adequately addressed, with the exception of Specific Comment 10.

5.7.1.3.2 Bioavailability of Ecological COPCs

10. The facilities response is partially adequate. EPA agrees that polycyclic aromatic hydrocarbons (PAHs) were generally non-detected in sediment in areas A, B, and C. However, EPA remains concerned about the derived equilibrium partitioning (EP) ecotoxicity screening values for PAHs in sediment. EPA agrees that EP-derived benchmarks can be valid, but it is unclear whether NSRR has derived the values correctly. NSRR should consider the sediment quality criteria for PAHs recently published by Di Toro and McGrath (2000). The Di Toro values, which are based on the EP, have been peer-reviewed, and EPA understands that they will be adopted into national criteria. The Di Toro values are also less conservative than other screening benchmarks, but they do not appear to be consistent with those derived by NSRR. Sediment risks should be re-evaluated using the Di Toro and McGrath (2000) values, unless NSRR can provide adequate justification on the appropriateness of the facility-derived benchmarks.

References

Di Toro DM and McGrath JA. 2000. Technical basis for narcotic chemicals and polycyclic aromatic hydrocarbon criteria. II. Mixtures and sediments. Environ. Toxicol. Chem. 19:1971-1982.

TECHNICAL REVIEW OF THE SEPTEMBER 4, 2002 DRAFT RCRA FACILITY INVESTIGATION (RFI) REPORT FOR SOLID WASTE MANAGEMENT UNIT (SWMU) 3

NAVAL STATION ROOSEVELT ROADS
CEIBA, PUERTO RICO

REPA3-0203-003
November 4, 2002

Booz Allen Hamilton reviewed the September 4, 2002 Draft RCRA Facility Investigation (RFI) report for the Solid Waste Management Unit (SWMU) 3 at the above-referenced facility for technical adequacy. The review focused on assessing the adequacy of the groundwater and sediment data collected, and evaluating the conclusions drawn from those results. Based on this review, the groundwater and sediment surrounding the landfill has been adequately characterized. Additional detail should be added to the report regarding the evaluation of the sediment results, and groundwater monitoring under Subtitle D should be expanded to include those semivolatile organic compounds (SVOCs) detected above screening levels during the RFI. General and specific comments are provided below.

I. GENERAL COMMENTS

1. As part of the RFI, groundwater samples were collected from nine monitoring wells surrounding the landfill perimeter. Samples were analyzed for 40 CFR 264, Appendix IX constituents.

   Arsenic, barium, thallium, vanadium, chloroform, polycyclic aromatic hydrocarbons (PAHs), 1,4-dioxane, and beta-BHC were detected above EPA Region 3 drinking water Risk Based Concentrations (RBCs). Only arsenic, thallium, and benzo(a)pyrene exceeded the Maximum Contaminant Level (MCL). These detections are isolated and only marginally exceed screening levels.

   Copper, nickel, thallium, and zinc were detected above Marine Surface Water Screening Values (MSWSVs). However, thallium was the only metal to exceed screening levels in the filtered/dissolved samples. The other elevated results in the unfiltered samples appears to correlate with higher turbidity samples and may be indicative of suspended solids rather than contamination. According to EPA's *Water Quality Criteria for the Protection of Aquatic Life in Ambient Water* (EPA820-B-96-001), it is standard practice to compare dissolved concentrations of contaminants from filtered water samples with ecological screening benchmarks.

   The RFI presents a weight-of-evidence approach to justify the exceedences of MSWSVs by detected contaminant concentrations in unfiltered samples. First, average

groundwater concentrations were compared to MSWSVs. This comparison indicated MSWSVs were not exceeded. While from a risk assessment perspective, it is generally preferable to use the 95 percent upper confidence limit on the mean, this comparison suggests that the majority of contaminant concentrations are below MSWSVs. In addition, a review of the sampling data from all five groundwater monitoring events indicates that exceedence were rarely detected for the same constituent in the same well over two consecutive monitoring events. Given that the exceedences of MSWSVs are inconsistent both temporally and spatially, it does not appear that concentrations of metals are indicative of a release. In addition, the RFI states that the groundwater is discharging into a marine environment and the MSWSVs do not take dilution effects into consideration. When a dilution factor of 10 is applied to the concentrations of metals detected in groundwater samples, the majority of the exceedences are reduced to levels below the MSWSVs. Therefore, concentrations that exceeded MSWSVs in groundwater samples would most likely not pose a threat to ecological receptors exposed to surface water.

The RFI concludes that additional investigation is not required and recommends that further groundwater monitoring and eventual landfill closure be accomplished under RCRA Subtitle D. Booz Allen concurs with these conclusions and recommendations. The locations where groundwater screening levels were exceeded are isolated, the drinking water exposure pathway is not complete, and it is unlikely that the levels detected in groundwater would pose a risk to the adjacent surface water due to the size of the surface water bodies and resultant dilution effects. Furthermore, groundwater will continue to be monitored under Subtitle D, so there will be an ongoing mechanism to observe concentrations of these constituents for the foreseeable future.

In order to verify the findings of the RFI and ensure that the nature and extent of the detected contaminants does not increase over time, ongoing monitoring under RCRA Subtitle D should be expanded to include PAHs, 1,4-dioxane, and beta-BHC. These constituents should continue to be monitored until they are not detected for two consecutive sampling rounds.

2. Sediment samples were collected from 17 locations in the shallow surface water surrounding the landfill. Similar to the groundwater results, the locations where sediment screening levels were exceeded are isolated and the exceedences are minimal. As a result, they do not appear to be indicative of a release from the landfill. Based on the data collected during the RFI, further investigation or interim measures do not appear warranted.

   The report indicates that EPA previously approved the Navy's no further action recommendation for sediment at SWMU 3, based on data collected during the 1996 and 1998 sampling events. A review of the historical documentation supports this statement, but the documentation is lengthy and cumbersome. In order to ensure that this report adequately documents the conclusions of the RFI, this report should be expanded to include a summary of the historical evaluation of the sediment data, including human

health and ecological risk assessment data. Specific references to each historical document (i.e., reports and letters) should be included in a manner that allows the reader to trace the history of the issue.

II SPECIFIC COMMENTS

Table 5-1 Summary of Organic Detections in Groundwater, SWMU 3, Base Landfill

1. The quantitation limits for some PAHs (i.e., benzo(a)pyrene, benzo(b)fluoranthene, and indeno (1,2,3-cd) pyrene) were substantially higher than the associated screening criteria. As such, some contamination above the screening levels may have been overlooked. Analytical methods for future monitoring should be selected to ensure they provide detection limits (quantitation limits if possible) lower than the associated screening levels.