



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Paul A. Rakowski, P.E., DEE
Head, Environmental Program Branch
Environmental Division,
Atlantic Division (LANTDIV), Code 182
Naval Facilities Engineering Command
1510 Gilbert Street
Norfolk, VA 23511-2699

Re: Naval Station Roosevelt Roads - - SWMU #26 (Building 544 Area), Revised Risk Assessment, EPA ID # PR2170027203

Dear Mr. Rakowski:

The United States Environmental Protection Agency (EPA) Region II has completed its review of the revised Risk Assessment for SWMU #26 transmitted on May 3, 1999 by Baker Environmental Inc. on your behalf. EPA requested our contractor, Booz-Allen & Hamilton Inc., to review the revised Risk Assessment. They noted several errors in the risk calculations, which are discussed in the enclosed technical comments, and re-calculated the risks using the correct data. Nevertheless, even with the risks re-calculated by Booz-Allen, the total cancer risk estimates associated with adult and child resident exposures to surface soils are within EPA's acceptable risk range of 10^{-4} to 10^{-6} and the cumulative hazard indices (HIs) total less than one. Therefore, EPA approves the no further action required recommendation for this SWMU, and the RFI is now completed.

Please telephone Mr. Tim Gordon of my staff, at (212) 637- 4167, if you have questions regarding any of the above.

Sincerely yours,

Nicoletta DiForte, Chief
Caribbean Section
RCRA Programs Branch

Enclosure

cc: Mr. Israel Torres, Attn. Ms. Luz Muriel-Diaz, PREQB, with encl.
Ms. Madeline Rivera, NAVSTA Roosevelt Roads, with encl.
Mr. Christopher Penny, LANTDIV, with encl.
Mr. Mark Kimes, Baker Environmental, with encl.
Mr. John Tomik, CH2M Hill, with encl.
Ms. Connie Crossley, Booz Allen, w/o encl.

TECHNICAL REVIEW OF THE NAVY'S MAY 3, 1999 LETTER

1. The following three errors were identified in the risk calculations presented in Attachment 1:
 - The carcinogenic risks associated with child resident ingestion exposures to surface soil at SWMU 26 were incorrectly calculated by dividing (instead of multiplying) the chronic daily intake (CDI) for each chemical by the chemical's oral cancer slope factor (CSFo). The correct total incremental lifetime cancer risk (ILCR) associated with child resident ingestion exposure to surface soil at SWMU #26 is 1.9×10^{-6} . (An incorrect ILCR of 6.7×10^{-9} for child resident soil ingestion risk is shown on Attachment 1.)
 - The noncarcinogenic hazards associated with adult and child resident dermal exposures to surface soil at SWMU 26 were incorrectly calculated by multiplying (instead of dividing) the dermally absorbed dose (DAD) for each chemical by the chemical's adjusted reference dose (RfDd). The correct hazard indices (HIs) associated with adult and child resident dermal exposures to surface soil at SWMU #26 are 7×10^{-2} and 1×10^{-1} , respectively. (Incorrect HIs of 1.3×10^{-7} and 2.3×10^{-7} for adult and child resident dermal exposures to soil, respectively, are shown on Attachment 1).
 - The noncarcinogenic hazards associated with adult and child resident inhalation of fugitive dusts from surface soil at SWMU 26 were incorrectly calculated by multiplying (instead of dividing) the chronic daily intake (CDI) for each chemical by the chemical's inhalation reference dose (RfDi). The correct hazard indices (HIs) associated with adult and child resident dermal exposures to surface soil at SWMU #26 are 4.1×10^{-5} and 1.9×10^{-4} , respectively. (Incorrect HIs of 1.3×10^{-15} and 6.2×10^{-15} for adult and child resident fugitive dust inhalation exposures, respectively, are shown on Attachment 1).

Finally, given that the oral slope factor for beryllium was retracted from EPA's Integrated Risk Information System (IRIS, April 1999), beryllium is no longer associated with carcinogenic risks at SWMU #26. The revised risk calculations for SWMU #26 show that the total cancer risk estimates associated with adult and child resident exposures to surface soil are at the low-end of USEPA's target risk range of 1×10^{-6} to 1×10^{-4} for health protectiveness at Superfund sites, and the cumulative hazard indices are less than one. These results support the conclusion that no further action is necessary to protect human health from exposures to surface soil at SWMU #26. Therefore, despite the errors in the risk calculations presented in Attachment 1, the overall conclusions made by the Navy in their response to comments on SWMU #26 are acceptable.