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LETTER REGARDING U S EPA REGION I REVIEW OF DRAFT STREAMLINED HUMAN
HEALTH RISK ASSESSMENT FOR AREA OF CONCERN 1 NAS SOUTH WEYMOUTH MA
11/13/2009
U S EPA REGION I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

November 13, 2009

Brian J. Helland, P.E.
BRAC Program Management Office NE
4911 South Broad Street
Philadelphia, PA 19112-1303

Re: Draft Streamlined Human Health Risk Assessment for Area of Concern 1

Dear Mr. Helland:

Thank you for the opportunity to review the Draft Area of Concern 1 Streamlined Human Health Risk Assessment, dated October 2009. The Human Health Risk Assessment (HHRA) evaluates risk to future residents exposed to contaminants in subsurface soil at Hangar 1. Risk was based on post-remediation soil data collected in 2000. The HHRA concludes that cancer risk (lifetime cancer risk = $8E-5$) and non-cancer risk (max HI = 0.2) are acceptable.

The HHRA only evaluated exposure to subsurface soil. EPA agrees that the inhalation pathway does not need to be evaluated quantitatively as the soil-air SSL was not exceeded.

No site groundwater data were screened against RSLs. Please confirm that there are no groundwater data available from under the footprint of Hangar 1. Regarding the downgradient wells, page 8 does not say how far downgradient they were collected. Please show the three downgradient monitoring wells referred to in Appendix C on the site figure to make it clear that they can represent the site.

The text states that the downgradient groundwater data are associated with RIA 10C. The 2004 RIA 10C Decision Document does not include these data. Please reference these data so that they can be reviewed. Is the short list of analytes in Appendix C comprehensive for these wells?

Chemicals with maximum concentrations exceeding the EPA SSL for soil to groundwater include naphthalene, several SVOC PAHs, aroclor -1254, xylenes, cadmium, lead, and manganese. Of these, only manganese was present in downgradient groundwater above the RSL, but the maximum concentration was less than the background UPL. Given this and the rationale provided on page 8 (and pending clarification of the downgradient well locations and data), the data suggest that soil contamination in Hangar 1 has not significantly impacted site groundwater and the rationale for not including this pathway in the HHRA is acceptable.

The COPC selection is sound and benchmarks are appropriate. The risk estimates are based on appropriate and conservative exposure assumptions and TRVs. However, the calculations in Appendix E should be reviewed. In particular, please review the cancer intake/exposure concentrations for benzo(a)pyrene equivalents. EPA could not replicate the values presented in Tables 7.1 RME and 7.2 RME for the cancer intake values or the non-cancer intake/exposure concentration for dermal exposure for the child resident. For example, for the child resident, the

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cancer ingestion intake factor, as presented in RAGS Table 4.2 RME, is 1.1.E-6. This factor multiplied by the soil EPC (1.1 mg/kg) equals 1.2E-06 mg/kg-d, not 6.4E-06 mg/kg-d, as shown in Table 7.2 RME. Please correct.

In Table 2, some chemicals (carbazole, EPH aromatics, VPH aliphatics) are not selected as COPC based on no toxicity criteria (NTX). These chemicals should be identified as COPC.

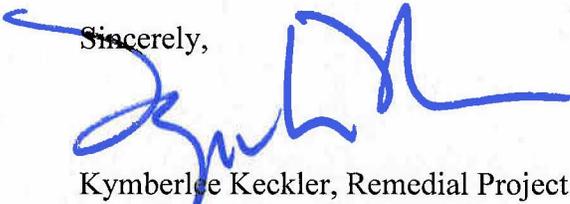
The method for calculating benzo[a]pyrene equivalents should be added in an appendix, showing the calculations for the subsurface soil samples and the individual concentrations used as input to the ProUCL calculations (*i.e.*, sample ID with result used, such as ½ DL, *etc.*).

In Section 8, it is difficult to follow the calculation of cancer risks of mutagenic PAHs from the equations on Tables 5 and 6 because the use of ADAFs is not as transparent as it is in the sample calculations. Please describe the method for calculating cancer risk for mutagenic chemicals (with equations similar to the sample calculations). The equations should be the same as in Tables 5 and 6 so that the calculation is transparent. It might be useful to add an example calculation to the footnotes of Tables 5 and 6.

In Table C.1, please provide definitions for the acronyms NA, SMCL, MCL, N, C and provide footnotes 5, 6, 7 and 8.

I look forward working with you and the Massachusetts Department of Environmental Protection to select a final remedy for Hangar 1. Please do not hesitate to contact me at (617) 918-1385 should you have any questions.

Sincerely,



Kimberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

cc: Dave Barney, USN, South Weymouth, MA
Dave Chaffin, MADEP, Boston, MA
Kevin Donovan, SSTTDC, South Weymouth, MA
Phoebe Call, TTNUS, Wilmington, MA