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NAS SOUTH WEYMOUTH
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LETTER AND COMMENTS FROM U S EPA REGION I ON RESPONSE TO COMMENTS
REGARDING DECISION DOCUMENT FOR REVIEW ITEM AREA 104 OLD SWAMP RIVER
NAS SOUTH WEYMOUTH MA
05/18/2009
U S EPA REGION I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

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

May 18, 2009

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

Re: Responses to Comments on the Review Item Area 104 – Old Swamp River Decision Document; Appendix E of the Ecological Risk Assessment (April 2009); and Section 1.0 of the Human Health Screening Evaluation (April 2009)

Dear Mr. Helland:

Thank you for the opportunity to review the Responses to Comments, Review Item Area 104 – Old Swamp River, Decision Document, dated April 22, 2009; Appendix E to the Ecological Risk Assessment; and Section 1.0 of the Human Health Screening Evaluation. Outstanding comments are discussed below.

Ecological Risk Assessment

Table E-2, Table E-3, and Table E-5 have a column entitled “Background Concentration,” whereas Table E-6, Table E-8, and Table E-9 have a column entitled “Maximum Background Concentration.” Please revise the tables such that both columns are entitled “Background Concentration” because the basewide background concentration is set at the UPL, if calculable, or the maximum concentration in the original basewide background dataset if the UPL could not be calculated. Since the comparisons in the text often use the term “maximum background concentration,” please replace this phrase with “background concentration” to minimize ambiguity. Please confirm whether the maximum concentration in the original basewide dataset or other background dataset is not used for comparison with site data if there is an original UPL for that chemical and medium.

The LOAEL TRV for DDx are not consistent with those presented in the table showing the sources of NOAEL and LOAEL TRVs. Please correct the TRVs for the various forms of DDT.

The qualitative comparison of Old Swamp River (OSW) sediment concentrations to RDA sediment concentrations (Section E.3.3) is not sufficient to conclude that the RIA 104 Old Swamp River data do not pose potential risk. Since there were several chemicals with higher concentrations in the RIA 104 OSW sediment than the RDA sediment, a quantitative assessment of these data is needed,

The Step 3A evaluation of risk to sediment invertebrates relies in part on a comparison of sediment concentrations with PECs, which are less conservative than TECs. While these comparisons are discussed in the text, the report should show these comparisons in a table to more clearly present this part of the evaluation.

Carbon disulfide was identified as a surface water COPC in the North Tributary and should be included in the food chain modeling for the mole and wren. Please add it to the Ecological Risk Assessment in Appendix E.

The arguments to eliminate surface water COPC on page E-16 should be supported with a comparison of site averages and maxima to acute benchmarks.

- p. E-14, §E.3.1.1 In the last sentence of the section entitled "SVOCs," please replace "minimal" with the phrase "no different than background."
- p. E-15, §E.3.1.1 Under "Pesticides/PCBs," EPA recommends that the following sentence be inserted before the last sentence of the paragraph about Aroclor 1260 to support the assertion that concentrations below the PEC, but above the TEC are expected to cause minimal effects: "In addition, the average concentration of Aroclor 1260 was 63 ug/kg including non-detects at half the detection limit and 130 ug/kg including only positive detections."
- p. E-15, §E.3.1.1 In the section entitled "Inorganics," please add the following sentence at the end of the first paragraph: "Therefore, beryllium is not retained as a COPC for this receptor class."
- p. E-16, §E.3.1.2 Manganese was identified as a surface water COPC. To eliminate manganese as a potential COC, please explain that the maximum concentration was less than the background concentration.
- p. E-17, §E.3.1.3 In the third paragraph, please change the fourth sentence to "Also, the sediment invertebrate BSAF for aluminum is assumed to be 1.0 because a BSAF was not available for aluminum...."
- p. E-17 The second paragraph states that none of the LOAEL HQs were greater than one. Please correct the text to reveal that the LOAEL HQs for aluminum for both the wren and mole exceeded 1.0 and the total DDT and vanadium LOAEL HQs for the wren exceeded 1.0 (Table E-10).
- p. E-17 The argument that risk from vanadium to the Carolina wren (LOAEL HQ based on average concentration is greater than 1.0) is based on a comparison to the SOWEY background UPL. The SOWEY UPLs were intended to be compared with site maxima not site averages. The comparison of site average concentrations with the UPL is neither acceptable nor consistent with other investigations at SOWEY. The elevated HQ for vanadium warrants a more in-depth evaluation of the RIA 104 data with the background data.
- p. E-20, §E.3.2.1 The Step 3a discussion for risk to sediment invertebrates in the South Tributary should include evaluations for barium, cadmium, manganese, and mercury.

- p. E-21, §E.3.2.2 The Step 3a discussion for risk to aquatic biota in the South Tributary should include evaluations for aluminum, cyanide, iron, and manganese.
- p. E-22, §E.3.3 Please clarify the fifth sentence: “Because the RDA risk assessment evaluated food chain impacts to wildlife using site-specific tissue data, it was not necessary to conduct food chain modeling in OSR was part of this ERA for RIA 104 using a screening approach.”
- Table E-2 The frequency of detection (FOD) and average concentration for benzo(a)pyrene in North Tributary sediment are not consistent with the data in the Decision Document. The listed FOD in Table E-2 is 13/17, but from the Decision Document, it appears that benzo(a)pyrene was detected in only 9 of 17 samples. EPA calculated an average concentration of 228 ug/kg, which is higher than the value presented in Table E-2. Please ensure that all appropriate data for benzo(a)pyrene were incorporated into these risk memos.
- Table E-3 The FOD for PAHs are listed as 1/12 but should be 1/10 instead.
- Table E-4 Please add total PAHs to the list of HQs. A NOAEL HQ of 1.3 for the mole was presented in the Attachment tables.
- Table E-10 Please add endrin aldehyde, endrin ketone, iron, and mercury to the list of COPC for the Carolina wren, as these COPCs had NOAEL HQs above 1.
- Table E-11 Please add total DDT to the list of COPC for the star-nosed mole. The NOAEL HQ for total DDT was greater than 1.
- Table E-11 Please add total DDT and mercury to the list of COPC for the Carolina wren. These COPC had NOAEL HQs greater than 1.
- Table E-12 Please correct the formatting so the footnote shows-up completely in the printed copy.

Human Health Screening Evaluation

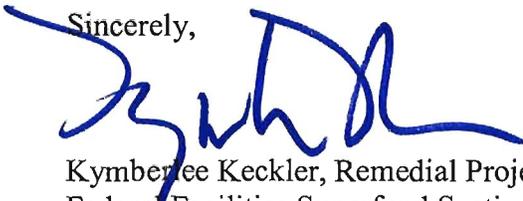
The approach of evaluating recreational human health risk by comparison of the exposure point concentration (EPC) with risk-based concentrations that are ten times higher than the residential soil or tap water EPA Regional Screening Levels (*i.e.*, Oak Ridge National Laboratory Risk-Based Screening Levels) may be reasonable and conservative, but should be further documented because this is the first time the approach is used at Naval Air Station South Weymouth. Please provide a table documenting the combined multipliers on the EPC for the EPA RSLs for residential soil and tap water with the combined multipliers on the EPC for incidental soil and surface water ingestion during recreation, using factors that have been used for such recreational exposures at Naval Air Station South Weymouth. EPA will consider the ten-fold approach acceptable if such documentation reveals that the recreational multipliers are at least one order of magnitude higher than the respective residential soil or tap water multiplier.

Tables D-1, D-2, and D-4 have a column entitled "Background Concentration," whereas Tables D-3, D-5, and D-6 have a column entitled "Maximum Background Concentration." Please revise these columns to state "Background Concentration" because the basewide background concentration is set at the UPL, if calculable, or the maximum concentration in the background data set if the UPL could not be calculated. Since the comparisons often use the term "maximum background concentration," please replace this phrase with the phrase "background concentration" to limit ambiguity. Please confirm that the maximum concentration in the original basewide dataset or other background dataset is not used for comparison with site data if there is an original UPL for that chemical and medium.

- p. 5, §3.0 To clarify the equation, please replace "Hazard Index or Cancer risk estimate" with "Site Hazard Index or Cancer Risk Estimate." Please provide an example calculation in the text, new table, or footnote.
- p. 6, §3.0 Please provide documentation or the location of such documentation (e.g., Table number) for the values in the summary table.
- pp. 6 & 7, §3.0 Please provide table references that document the results presented in the three bullets.
- p. 11, §4.0 Please change "...State cancer risk benchmark of 1E-05" to "...State cancer risk limit of 1E-05" or "...State cancer risk criterion of 1E-05" because benchmark is generally used for a risk-based chemical concentration. Also, change the phrase "State benchmark" to "State cancer risk limit" or "State cancer risk criterion" throughout the text (*see also* page 13).
- p. 12, §4.0 At the end of the first bullet, it is stated that several of the pesticides detected in the OSR sediments were detected in fish tissue samples at concentrations that appear to reflect background conditions. Please document this assertion with a table or footnote.
- p. 13, §5.0 Please revise the second sentence after the list of COPCs to "The ORNL RSLs were increased by a factor of ten to reflect that exposures to surface waters and sediments of the study area are anticipated to be significantly less frequent/intensive than receptor exposure generally assumed to occur when evaluating residential exposure to soils and drinking water."

I look forward working with you and the Massachusetts Department of Environmental Protection on the investigation and remediation of the remaining areas of the base. Please do not hesitate to contact me at (617) 918-1385 should you have any questions.

Sincerely,



Kymberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

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