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September 13, 2007

Project No. 112G00477

Mr. Howard Hickey
NAVFAC MW
201 Decatur Avenue
Building 1A, Code EV
Great Lakes, Illinois 60088

Reference: CLEAN Contract No. N62467-04-D-0055
Contract Task Order (CTO) No. 0042

Subject: Response to USEPA Comments Dated July 20, 2007 on Draft Interim Measures Work Plan (IMWP) for Solid Waste Management Unit (SWMU) 9 (Pesticide Control Area) Dated June 2007
Naval Surface Warfare Center (NSWC) Crane
Crane, Indiana

Dear Mr. Hickey:

On July 20, 2007, USEPA Region 5 (EPA) provided comments on the response to their June 14 and 21, 2007 comments on the IMWP for SWMU 9.

Responses to the July 20, 2007 comments are attached. Please note that the version of this SWMU 9 IMWP that was submitted to you on July 9, 2007 included modifications necessary to address EPA's June comments. This version of the SWMU 9 IMWP has been marked up to address EPA's July comments which are addressed in this letter.

Please contact Valerie Plachy at 412-921-8389 (e-mail: Valerie.Plachy@ttnus.com) or me at 412-921-8308 (e-mail: Ralph.Basinski@ttnus.com) regarding any questions or comments.

Sincerely,

Ralph R. Basinski
Task Order Manager

RRB/mlg
Enclosure

cc: Mr. Tom Brent, NSWC Crane (letter and attachment)
Ms. Lee Anne Rapp, NAVFAC Atlantic (PDF copy of letter via e-mail)
Ms. Bonnie Capito, NAVFAC Atlantic (PDF copy of letter via e-mail)
Mr. John Trepanowski, Tetra Tech (letter and attachment)
Mr. Ralph Basinski, Tetra Tech (letter and attachment)
Mr. Timothy Smith, Tetra Tech (letter and attachment)
Ms. Valerie Plachy, Tetra Tech (letter and attachment)
Mr. Garth Glenn, Tetra Tech (letter only)
Project File – CTO 0042 (Midwest)

ATTACHMENT

RESPONSES TO USEPA REQUEST FOR ADDITIONAL CLARIFICATION DATED JULY 20, 2007 REGARDING JUNE 14 AND 21, 2007 USEPA COMMENTS RESPONSES ON SOLID WASTE MANAGEMENT UNIT (SWMU) 9 INTERIM MEASURES WORK PLAN (IMWP) NSWC CRANE CRANE, INDIANA

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The following are questions from Dan Mazur on the ecological (Eco) portion of the responses:

Comment Eco-1: The values used for food & soil ingestion rates for tables 1 and 2 do not appear to correspond with values generated for the Eco-SSL documents as follows: shrew food ingestion rate (FIR) is 0.209 kg dw/ kg bw/ day and shrew soil ingestion is 0.03 (proportion of diet). In table 1, the FIR is 0.001648 kg/day (1.648E -3 kg/d) and the soil ingestion rate is 1.483E-5 kg/d (which is 0.009 proportion of the diet).

Please provide some clarification on how the ingestion rates were generated (correction for wet weight). Same issue for the woodcock in table 2.

Response to Eco-1: The information in the IMWP regarding ecological receptors is a summary of the findings presented in the Internal Draft RFI Ecological Risk Assessment (ERA), which has not been submitted for agency review. The IMWP does not include all of the supporting documentation normally included in a formal ERA. A description is given below that summarizes the derivation of the food ingestion rate issue raised by the comment, and additional tables are included in this response as described below.

The USEPA Eco SSL Attachment 4-1 Table 1 gives the ingestion rates in grams (g) dry weight per g body weight per day (the 0.209 value that is referred to in the comment). The values in Table 1 and Table 2 in the IMWP Response to Comment (6-21-07)-1 for ingestion rates are given in kg/day. The calculations of those factors are detailed in the attached Table 3 - Calculation of Exposure Parameters for Surrogate Wildlife Receptors and are listed in Table 4 - Exposure Parameters for the Terrestrial Wildlife Model. The description is as follows:

<u>Ingestion Rates (kg/day)</u>
Avg. value = Avg. Ingestion rate (g food wet weight/g body weight-day) * Avg. Body Weight (g)

For the shrew the average food ingestion rate and body weight calculated from the USEPA (1993) Wildlife Exposure Factors Handbook are 0.61 g/g-day and 16.87g, respectively (derivation shown in attached Table 3).

Average Food Ingestion Rate = 0.61 g/g-day * 16.87 g
= 10.3 g/day
= 0.0103 kg/day (wet weight value)

This was a wet weight value, so the dry weight was calculated as in the following manner. The food ingestion rate was converted from wet weight to dry weight by multiplying by the percent solids in the food items. For the shrew and the woodcock, 16% solids in earthworms (Sample, B.E., M.S. Aplin, R.A. Efroymson, G.W., Suter II, and C.J.E. Welsh. 1997. Methods and Tools for Estimation of the Exposure of Terrestrial Wildlife to Contaminants. Oak Ridge National Laboratory. October. ORNL/TM-13391.)

Food ingestion rate (dry weight) (kg/d) = 0.0103 kg/d * 0.16
= 0.001648 kg/d

The same process was used for the woodcock.

Soil Ingestion Rate
The shrew soil ingestion rate for the average scenario (0.9% or 0.009) was from the 50th percentile (mean) value listed in Table 3 in the USEPA Eco SSL Attachment 4-1.

The same process was used for the woodcock.

No changes have been made to the SWMU 9 IMWP to address this comment.

Aside from Dan's questions, I'm OK with the responses dated 7-09-07 and will wait to see the QAPP for more details on certain aspects. Those were my 'preliminary comments' - here are my comments after looking through the hardcopy version of the workplan in detail.

Comment EPA-1(7-20-07): Referring to the third bullet on page 3-2, Section 5.0 should contain the criteria which will be applied to collected water from dewatering and decontamination operations or which is otherwise collected for characterization prior to disposal.

Response USEPA-1(7-20-07): This comment appears to be based on the discharge of water from the remediation activities into NSWC Crane drainage channels or storm drains. Waters from the IMWP remediation activities will not be discharged onsite but will be taken offsite. Criteria for the offsite disposal of IMWP remediation activities waters will be based on the disposal facility criteria. The characterization sampling for generated water and excavated soil will be addressed in the QAPP and in the EMAC contractor's Characterization Sampling Plan.

The 5th bullet in the 3rd paragraph of Section 3.1 has been revised as follows:

> *"Dewatering of Subsurface Soils – In the event that subsurface excavation extends below the water table, subsurface soils may need dewatering prior to disposal to meet transportation and disposal requirements. The water drained from the stockpiled soil during dewatering will be containerized, filtered, and characterized. The EMAC contractor will arrange for off-site disposal or treatment of containerized water. The volume of water collected through dewatering is not expected to be large unless excavation/removal is performed during periods of heavy rain."*

The last paragraph in Section 3.2.4 has been revised as follows:

> *"Water that has drained from the staged soil lifts and collected within the material handling pad, along with any standing water removed from excavations, will be containerized for characterization prior to off-site disposal."*

The 4th sentence of the last paragraph in Section 3.2.11 has been revised as follows:

> *"Wash water will be filtered, containerized, and characterized for off-site disposal or treatment."*

The last two sentences of the 1st paragraph in Section 3.2.12 have been revised as follows:

> *"Prior to off-site disposal, the containerized water must be filtered and an initial characterization sample must be collected."*

Comment EPA-2(7-20-07): Referring to the last bullet on page 3-3, will this EMAC contractor prepared plan be part of the future QAPP?

Response USEPA-2(7-20-07): A QAPP is being prepared for the confirmation sampling. Once the EMAC contractor is awarded the work, the EMAC will be requested to provide the necessary information regarding the detailed site characterization sampling plan. The last bullet in Section 3.1 has been modified to read as follows to address this comment.

> *"Detailed Characterization Sampling Plan – The EMAC contractor will prepare a characterization sampling plan as indicated in Table 3-1. This plan must describe sampling procedures for collected soil, wastewaters, and removed debris. The sampling procedures and analytical methods must comply with acceptable methods and must comply with the requirements of the approved waste disposal facility. The EMAC contractor will also provide these waste characterization procedures to Tetra Tech for inclusion into the Confirmation Sampling Quality Assurance Project Plan (QAPP)."*

Comment EPA-3(7-20-07): Text on disposal characterization needs to be clarified. For example, the first bullet on page 3-3 states that "some of" the material will be disposed of based on "in-place" concentrations. This should apply to PCB soils and should be stated as such. Text in Section 3.2.1 states that soils from excavations will be stockpiled or containerized separately for characterization purposes. PCB soils must be disposed of based on in-situ concentrations and may be segregated based on > 50 ppm and < 50 ppm concentrations. RCRA excavated soils from different locations should not be mixed or otherwise diluted. The text also mentions potential utilization of roll-off boxes. Wouldn't it be more advantageous to direct load excavated soils into roll-off boxes instead of staging and double handling them?

Response USEPA-3(7-20-07): The 7th bullet in the 3rd Paragraph of Section 3.1 has been revised to read as follows:

> *"Off Site Disposal of Soils - Excavated soil containing PCBs will be disposed based on the in-place (in-situ) concentration of PCBs [i.e., greater than or less than 50 parts per million (ppm)]. Soils with in-situ PCB concentrations greater than 50 ppm will be segregated from soils with in-situ PCB concentrations less than 50 ppm. Soils with PCB concentrations greater than or equal to 50 ppm will be disposed in a Toxic Substance Control Act (TSCA)-approved or RCRA landfill. Soils with PCB concentrations less than 50 ppm will go to an NSWC Crane-approved solid waste landfill.*
>
> *Pesticides and herbicides are present in SWMU 9 soils in concentrations that may require soil 'disposal' as a listed hazardous waste. NSWC Crane has requested that IDEM determine whether the concentrations of pesticides and/or herbicides in soils are such that the soils would be deemed to contain hazardous wastes. Soils 'containing' hazardous wastes must meet the Land Disposal Restriction (LDR) universal treatment standards for underlying hazardous constituents prior to land disposal. NSWC Crane has requested an LDR treatment variance from USEPA Region 5 for these SWMU 9 soils that are subject to LDR universal treatment standards and do not meet these standards.*
>
> *Excavated soils containing pesticides and/or herbicides will be disposed based on whether threshold concentrations for 'contained-in' determinations are exceeded and whether soils containing hazardous wastes exceed the LDR disposal standards.*
>
> *If USEPA Region 5 grants NSWC Crane's LDR variance request, then soils will be segregated only on the basis of whether it 'contains' hazardous waste."*

Comment EPA-4(7-20-07): The table presented in Section 3.2.6 does not seem to reflect the values presented in the tables in the preceeding sections. For example, text states that soils classified as hazardous waste are present, yet the table has blanks or zeroes in the "Hazardous" column. Please correct any inconsistencies.

Response USEPA-4(7-20-07): The zeroes in the hazardous and non-hazardous columns represent the anticipated volume of that type of waste for that particular location. For example, the area adjacent to Building 150 is expected to be all non-hazardous waste. Therefore, on the referenced table, it is reported that for Building 150, 26 cubic yards of material will be excavated and disposed as non-hazardous waste and 0 (zero) cubic yards will be disposed of as hazardous waste. As for the apparent inconsistencies, the table summarizes all of the excavated materials (delineated and side-slope material for the purposes of generating a safe excavation), for example, the 930 cubic yards of soil to be disposed of as non-hazardous waste reported for the Fire Training Area includes 223 cubic yards of surface soil (reported in the Table on page 3-4), 395 cubic yards of non-hazardous subsurface soil (reported in the Table on page 3-5 first row), and 312 cubic yards of non-hazardous sidewall soil (reported in the Table on page 3-5 third row). However, based on the conclusions of the evaluation being conducted under Comment USEPA-3(7-20-07), these volumes will likely need to be modified.

For clarification, the excavation volumes throughout the text have been revised to be consistent with the volumes listed in the tables. Additionally, the approximate excavation dimensions have been replaced with the excavation volumes listed in the tables.

Comment EPA-5(7-20-07): Referring to Section 3.2.12 states that an 8-mil thick polyethylene geomembrane will be overlaid with a gravel drainage layer. Is there any concern about piercing this liner with the gravel and/or soil/sediment/machinery loads?

Response USEPA-5(7-20-07): The referenced 8-millimeter (mil) polyethylene geomembrane is a minimum requirement to ensure the containment of water. Ultimately, it is the EMAC contractor's requirement to evaluate how they plan to use the handling pad(s), what types of equipment they plan to operate within the material handling pad(s), and what construction materials will stand up to this type of use to prevent the impact of underlying soils.

Comment EPA-6(7-20-07): Referring to Section 5.2/5.3 and with the understanding that the QAPP will provide detail on numbers and locations of verification samples, the Navy should maintain consistency with the SWMU 13 PCB IM workplan for sidewall sampling every 20 to 25 linear feet.

Response USEPA-6(7-20-07): This comment is noted. However, the decision to go with collecting verification samples along the SWMU 13 sidewalls every 20 to 25 linear feet and along the SWMU 9 sidewalls every 100 square feet was based on the excavation approach. At SWMU 9, the initial excavation is defined by connecting clean sample locations, where the initial excavation for SWMU 13 was defined by connecting contaminated sample locations. This verification sampling is consistent with the methodology used for SWMU 8 verification sampling.

No changes have been made to the SWMU 9 IMWP to address this comment.

How will composite sample results be compared to criteria? Direct? UCL?

Response USEPA-6(7-20-07) (continued): The Composite results will be compared directly to the criteria. The 1st bullet in the 2nd Paragraph of Section 5.1 has been replaced with the following text:

- *"Soil Excavation Areas - Verification samples will be collected from the excavation side walls and excavation floor in the three soil excavation areas. Based on the estimated extent of excavation at the former Building 55 area, ten*

excavation floor samples will be collected and eleven excavation sidewall samples will be collected. From the excavation area on the southern end of Building 150, one excavation floor sample and four excavation side wall samples will be collected. Lastly, at the former fire training area, two excavation floor samples and six excavation sidewall samples will be collected. The verification samples will be analyzed for the COCs (i.e., pesticides, PCBs, and/or DRO) at each excavation area. The analytical results of these samples will be directly compared to the COC media cleanup goals. The following is a listing of the COCs that are present at each of the three excavation areas.

Excavation Area	***Applicable COCs***
Former Fire Training Area	*PCBs*
Former Building 55 Area	*Pesticides and DRO*
Building 150 Area	*DRO*

"In the event that verification sample results indicate that COC concentrations remaining in an excavated area still pose unacceptable human health or ecological risks (COC concentrations greater than COC media cleanup goals), the Navy may direct the EMAC contractor to extend the excavation in the appropriate direction(s). The extent of additional excavation will depend on the location and concentrations of the COCs that still pose risks to human or ecological receptors. Following the additional excavation effort, additional verification samples will be collected by Tetra Tech. Excavation expansion may continue, at the discretion of the Contracting Officer, until all verification sample results indicate that all COC concentrations within the excavated area fall within acceptable human health and ecological risks (COC concentrations less than the COC media cleanup goals)."

Petroleum verification should be consistent with the IDEM RISC TPH guidance (e.g. PEC comparison to criteria).

Response to USEPA-6(7-20-07) (continued): Comment noted, as indicated above, the COC concentrations found in the verification samples will be directly compared to the COC media cleanup goals.

In this section or other appropriate section, discharge limits to the Crane sewer for water (e.g., collected stockpile water) should be listed (e.g. PCB < 0.5 ppb). Section 5.2 also states that a number of samples will be selected for fixed-based lab analysis - will this be expanded upon in the QAPP?

Response to USEPA-6(7-20-07) (continued): The discharge criteria for the collected wastewater will be discussed in the QAPP.

<u>Non-Technical Modifications to the SWMU 9 IMWP:</u>

1 - The following acronyms definition has been added to the 5th paragraph table in Section 5.2:

"ppm - parts per million.
"ppb - parts per billion."

2 - The following acronyms have been added to the acronym list:

"TSCA Toxic Substance Control Act
"LDR Land Disposal Restriction"