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EMAIL OF TRANSMITTAL AND U S EPA REGION IV COMMENTS ON SOUTH CAROLINA  
DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL COMMENTS ON POST-  
INTERIM CONSTRUCTION RISK ASSESSMENT AT SITE 3 MCRD PARRIS ISLAND SC  
8/30/2008  
U S EPA REGION IV

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**Subject:** Feedback on DHEC comments to Site 3 Tech Memo  
**Date:** Saturday, August 30, 2008 11:30:51 AM  
**Attachments:** [DHEC SWMU 3 RA 080826 LilaNOTES.doc](#)  
**Importance:** High

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NOTE: Meredith only - Please forward to Sommer.

Hi folks,

See attached redline document for ease of providing feedback. EPA's feedback is included in the "NOTE" after a DHEC comment.

I have some feedback related to DHEC's comments that I feel will 1) simply add clarification to what was agreed to, 2) reflect what EPA understood to have been discussed on the call, and 3) identify where EPA disagrees with comments submitted by DHEC.

I don't think we are that far apart, but perhaps it is more a matter of clarification. I welcome questions. Call my cell because I am still at the hospital, not the office. 770-856-5808.

EPA will be submitting formal comments in the near future.

Thanks,  
Lila

**MEMORANDUM**

TO: Meredith Amick, Environmental Engineering Associate  
Corrective Action Engineering  
Division of Waste Management  
Bureau of Land and Waste Management

FROM: Susan K. Byrd, Risk Assessor  
Corrective Action Engineering Section  
Division of Waste Management  
Bureau of Land and Waste Management

DATE: August 26, 2008

RE: Marine Corp Recruit Depot  
Parris Island, South Carolina

Document:  
Technical Memorandum  
Post-Interim Construction Risk Assessment  
Site/SWMU 3-Causeway Landfill

The above referenced document by Tetrattech NUS, Inc. has been reviewed. The Department has the following risk related comments:

**GENERAL COMMENTS:**

1. It is unclear in the document if the contamination present is site related or from non-point source, road run-off, basewide pesticide applications or other forms of anthropogenic contamination. Please be sure that the document clearly identifies contamination attributable to the landfill and does not over estimate risk based on background.

NOTE: Elimination based on background must be based on an EPA and DHEC APPROVED background data set. The approved data set may already have considered anthropogenic sources (i.e. typical facility pesticide concentrations). If background data is proposed to be used from sources other than the previously approved Site 3 background data set, approval should be obtained prior to use in screening or other risk assessment steps. Specify which background data is being used and ensure proper approval prior to proceeding with the risk assessment process.

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Additionally, if contaminants are proposed for elimination based on a determination that they are not site related by reasons other than an approved background number, the information being used to make the determination should be communicated to EPA and DHEC prior to proceeding in the risk assessment process and approval should be obtained.

2. In continuation with Comment 1, the Department recommends a more thorough discussion and use of the background data set. Looking at the entire background data range indicates that most of the COPCs for the human health and ecological risk assessments appear to be attributable to background. Although the media of concern at Site 3 is sediment, the Department recommends the use of EPA's *Guidance for Characterizing Background Chemicals in Soil at Superfund Sites* (June 2001).

NOTE: Not sure what is meant by "entire" background data range. In screening out COPC's the Navy/MCRD should use 2 x's the mean data sampling result for Site 3 background as approved and carry those COPC's forward. Use the range of data results for Site 3 background as approved to further refine COC selection and for discussion purposes in the Uncertainty Section. See notes on background in #1 above. Also see and use the previously provided Region 4 specific screening level guidance submitted via email on June 18, 2008 and EPA's Risk Assessment Guidance.

3. During a August 21, 2008, recent MCRD Team conference call it was recommended that the MCRD contact Mr. Butch Younginer of DHEC's Bureau of Water at (803) 898-4399 regarding SC fishing advisories and applicable fish tissue data from the area surrounding MCRD. Currently SC has fish advisories in the area of SWMU 3 for shark, tilefish, king mackerel, and swordfish. However, these species are not likely to be present in the estuary habitat associated with SWMU 3. Mr. Younginer also stated that the bioavailable form of mercury, also known as methyl mercury, is not the predominant form of mercury present in the saline wetland environment. SCDHEC fish tissue data does not indicate bioaccumulation of mercury in the saltwater estuary.

NOTE: Not sure how this data will be used. General data regarding the bioavailability of mercury in an estuarine environment may be used in a qualitative discussion in the Uncertainty Section, but the argument still needs to be reviewed and accepted by EPA. Otherwise, the data is not to be used in risk assessment calculations.

4. In accordance with EPA risk assessment guidance, the Department recommends the use of the 95% Upper Confidence Limit (UCL) instead of the maximum and average concentrations for the exposure point concentration in the human health risk assessment.

NOTE: I am sure this is not intended to imply that a 95% UCL is not necessary for an Eco Risk Assessment. However, for clarification, EPA also expects that in the Eco Risk Assessment you screen against the max and use the 95% UCL for calculations if calculations are found to be necessary.

4.5. The document is unclear in the use of the combined 2001 and 2003 data sets. Based on

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the 2002 tech memo using 2001 data, only Area 4 had elevated ecological risk primarily due to pesticides. The more recent data, only from Area 4, indicates the pesticide concentrations have decreased. Combining the 01 and 03 data sets for Area 4 presents an overestimation of current site risks.

NOTE: In the HHRA this is probably not a problem since the data set is large when evaluating the entire site. However, since the ERA was done Area Specific, this would likely be a problem if 95% UCL calculations were needed, since it is doubtful that the 2003 data for Area 4 alone would be sufficient to obtain a 95% UCL, or sufficient to satisfy the risk assessors. Additionally, in Specific Comment # 1 SCDHEC appears to call into question the analysis of the 2003 data. In order to be more comprehensive in the analysis, to provide a more robust data set for the Area 4 ERA, and to be consistent in thought and process across HH and Eco risk assessments, EPA feels 2001 and 2003 data should be included together for Area 4.

6. The human health risk assessment at Site 3 uses EPA default parameters for the conservative adult fishing scenario. Based on the above-mentioned conference call, it was determined that these conservative default parameters were not applicable to Site 3. Please revise the document using only the site specific parameters. If interviews with local fishermen/women indicate that these parameters are less conservative, please adjust the risk assessment using the most conservative but realistic parameters. A brief discussion on why someone would be less likely to fish as Site 3 than other areas at MCRD would be helpful. Please include any information regarding access restriction to Areas 1-4 such as alligators, security, more suitable nearby fishing areas etc.

NOTE: EPA instructed the Navy/MCRD to run two site specific scenarios: one using the "marines" type parameters, and the other being the fisherwoman off-base resident. This will provide a range of risk within which to make risk management decisions.

- ~~5.7~~ The Department is hesitant to concur with any recommendations regarding the path forward for this site until after the completion of the extensive revisions. If the human health risk assessment concludes that unacceptable risks are associated with the site specific fishing scenarios, then fish tissue sampling will be recommended prior to the implementation of Land Use Controls.

#### **SPECIFIC COMMENTS:**

1. Section 3.2, 2003 Sediment Samples, Page 6: Several COPCs from the 2001 sampling event were excluded from analysis in the 2003 sampling event. Zinc and copper were identified in 2001 as ecological chemicals of potential concern, but the 03 sediment samples were only analyzed for DDD, DDE, DDT, arsenic, lead, mercury, and total organic carbon. Please clarify. If DHEC is questioning the analysis of 2003 samples, it seems inconsistent to be advising to use only 2003 data for Area 4. This seems to be an argument for leaving 2001 and 2003 data combined for Area 4.
2. Paragraph 1, Page 8: Please clarify the conclusions of the 1998 human health and

ecological risk assessments with regards to PAHs. The document states that the “risk assessment prepared for the RFI/RI Report indicated that direct contact with 1998 sediment did not pose unacceptable risks.” It is unclear if this statement is referring to the human health or ecological risk assessments. The paragraph goes on to discuss the Ecological Screening Value comparisons, but fails to summarize the ecological and human health risk assessment conclusions regarding PAHs.

3. In various places, ½ the background value was used in tables and discussions. Please refer to General Comment 2 regarding appropriate background comparisons, and remove the ½ background references in discussions, tables, and figures.
4. Section 6.2.2, Screening Results, Page 24: The text states that arsenic, copper, and lead exceed ESVs in Area 2; however, the referenced Table 18 indicates that no analytes were retained as COPCs. The Table 18 footnote indicates the maximum concentrations were only slightly above ESVs and less than alternate screening values. Please include the alternate screening values in Table 18 and clarify in the text.

NOTE: I assume these alternate values are the ones in Table 21. However, my question is what are the Max and Mean values in Table 21? Apparently they are sitewide max's and means and should be labeled as such. If the ERA was conducted by Areas, should there not be an area specific max and mean comparison made for those sitewide max's which exceeded alternative values?

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5. Section 6.3.2.5, Pond Side Sediment-Area 4, Page 30, Paragraph 2: The text states that the maximum concentration of DDD was detected from PAI-03-SD-59 at 47.5 ug/kg. Table 20 and Figure 4 indicate the maximum DDD concentration is 58 ug/kg. Please clarify.

If you need any further information, feel free to contact me at (803) 896-4188.

EPA will be providing official comments in the near future.