



TETRA TECH NUS, INC.

600 Clark Avenue, Suite 3 ■ King of Prussia, PA 19406-1433
(610) 491-9688 ■ FAX (610) 491-9645 ■ www.tetrattech.com

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Project Number 2128

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Engineering Field Activity Northeast
Naval Facilities Engineering Command
10 Industrial Highway Mail Stop No. 82
Lester, Pennsylvania 19113-2090

Attn: Ms. M. DiGeambeardino, Code EV21/MD

Reference: Contract No. N62467-94-D-0888
Contract Task Order (CTO) No. 843

Subject: Feasibility Study for Sites 6, 12, 15 and 17 (OU-9), Reply to EPA Comments
NWS Earle - Colts Neck, New Jersey

Dear Ms. DiGeambeardino:

Tetra Tech NUS, Incorporated (TtNUS) is pleased to provide copies of the subject document. One copy has been sent to Jessica Mollin at EPA, Region II, and one copy is enclosed for your use.

Thank you for this opportunity to submit the documents. Do not hesitate to contact me if you have any questions or require revisions.

Sincerely,

Russell E. Turner
Project Manager

RET/vh

Enclosures

c: Jessica Mollin (EPA, Region II)
Garth Glenn (TtNUS) (without enclosures)
File

**EPA Comments and Navy Response
Draft FS for OU-9 (Sites 6, 12, 15 and 17)
NWS Earle, Colts Neck, New Jersey**

Comments

Risk Characterization. The information from the risk assessment is poorly characterized within the document. In general, the document fails to provide specific risk values in the text and provides only a qualitative assessment. This abbreviated information is not helpful to the reader in understanding the magnitude of the risks and the associated risks presented in the Tables in Appendix B. The Tables in Appendix B also fail to identify contaminants of concern and associated risks and hazards.

In addition, the presentation of risks fails to identify the receptor populations where the risk range is exceeded. In the Tables (Appendix B) the chemicals of concern and the exposure assumptions are not included in the assessment making it difficult to evaluate the significance of the exceedence of the risk range. It is recommended that the text be modified to indicate the risk concentration rather than simply stating that the risks are within the upper bounds of the risk range. It is also recommended that the Tables in Appendix B should specifically identify the exposure assumptions and chemicals of Potential Concern identified in the assessment comparable to the RAGS-Part D Tables 8 through 10.

For example, on page ES-13, it would be helpful to identify the risk associated with the chemical concentrations listed i.e., HI = 2.3. The current presentation fails to clearly explain the associated hazards.

Response: More information from the human health risk assessment will be provided to present the specific estimated cancer or non-cancer risk estimated from exposure to chemicals of concern at each site. Tables listing compounds of concern will be added to Appendix B and the exposure assumptions used in the human health risk assessment calculations will be provided and referenced for each site.

RME vs. CTE. As outlined in the NCP, the decision regarding remedial action is based on the RME exposures and risk and not the CTE. The CTE provides additional information. In several sections of the reports (e.g., pg. ES-14, etc.) statements are made regarding the significance of the CTE assessment and it is recommended that these sections should clearly indicate that the decision is based on the RME.

Response: CTE calculations were performed at the direction of EPA Region II. Discussion of the significance of the CTE calculation will be modified to clarify that it was performed to provide additional information, but that the RME calculation results are used for decision making.

Background. It appears that background was used as a criteria for determining whether a chemical should be maintained as a Chemical of Potential Concern. As outlined in EPA's Background Guidance and Risk Assessment Guidance for Superfund Part A, all chemicals should be screened based on Preliminary Remediation Goals to determine whether they should be maintained in the risk assessment. If the chemical is not a Known Human Carcinogen and it passes the risk based concentration screen, then it can be removed as a Chemical of Concern. However, if it does not pass the risk based screen and it is a known human carcinogen, then it should be maintained in the risk assessment and the contribution from background discussed in the risk characterization.

The statistical procedures used to evaluate whether a chemical is associated with background are not consistent with current background document. Specifically, there are a number of statistical tests that can be used in the evaluation of background and based on the small number of background samples identified, it is possible that other statistical tests may be more appropriate. Further, Region II recommends applying the Background Guidance not the 2 X rule that is listed in the document.

The Background guidance also identifies criteria for selecting background locations based on similar types of soil, etc. and this should be discussed within the FS.

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Response: Additional discussion of the human health risk assessment methodology, as well as the procedures used to estimate background concentrations, will be added to give the reader improved perspective of the process.

Significant time has passed since this human health risk assessment work was performed in 1996 and 1997 and there may be new information available now, or EPA guidance may have changed. Thus, methodologies used in the report (selected by agreement of all parties at the time) do not necessarily reflect methodologies that would be used today. For instance, using the background comparison test recommended by EPA Region II at the time the risk assessment was being performed and reviewed, a metal (other than Class A carcinogens) was excluded from further consideration as a COPC if the arithmetic mean of the site data was not greater than twice the arithmetic mean of the corresponding background data for that metal. This ("2 X rule") approach probably would not be used today.

The methodologies used for the human health risk assessment were considered sufficient to adequately characterize potential risks based on regulatory review and guidance available at the time and are presented in detail in Section 2 of the Remedial Investigation Report (July 1996).

Lead. The discussion of lead concentrations should provide greater details regarding the average lead concentration found at the site and the comparison to the residential soil screening level of 400 mg/kg. The discussion should also indicate whether the samples were at the surface or subsurface and the receptors that may be potentially impacted.

Response: Additional discussion of the lead concentrations found in samples and a comparison to the present soil screening level (400 mg/kg) will be added as requested.

Potable Water Supply. The document indicates that the groundwater is not currently a potable drinking water supply. This approach does not address the groundwater classification for the aquifer nor does it address the potential future uses of the groundwater. The text should clearly define the groundwater classification and explain what institutional controls will be used to prevent its use as a drinking water supply. The current presentation is not clear on this issue. (See pgs. ES-24 and ES-26).

Response: All NWS Earle Waterfront sites are located in a Class II-A: Groundwater Supporting Potable Water Supply area as defined by New Jersey Department of Environmental Protection (NJDEP) Water Technical Programs Groundwater Quality Standards in NJ Administrative Code (N.J.A.C. 7:9-6). NJDEP would require institution of a Classification Exception Area (CEA) to ensure groundwater is not used for human consumption until NJDEP Groundwater Quality Standards (GWQS) are achieved.

Specific Comments.

Page ES- 7. If any RCRA corrective actions were performed, they should be stated.

Response: Any actions taken to clean up or control the spread of contamination or erosion at these sites will be briefly summarized here.

Estimate size of Site 15.

Response: No record is known to exist to delineate the area where oily wastes may have been disposed. An estimate of the potential Site 15 area (approximately 1 acre), based on the best records and findings available, will be added to the text.

Page ES-11. Since the RI was completed in 1996 and 1998, it may be appropriate to indicate whether the changes in current guidance would significantly change the results of the previous risk assessment. A qualitative assessment would be appropriate but should address issues regarding changes in guidance i.e., dermal and background, toxicity values, and exposure assumptions that may significantly change the calculated risks and hazards.

Response: A review of the best available state of current site conditions will be examined following EPA guidelines for a Five Year Review. The results of the review will be summarized in the FS.

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Under Site 6, the actual cancer risks and non-cancer Hazard Indices should be stated.

Response: The actual estimates calculated in the human health risk assessment will be added to the text.

Need discussion on whether there were any site risks for sediment and surface water.

Response: A discussion and results, if appropriate, will be added.

Page ES-12: Need discussion on whether there were any site risks for sediment at Site 12

Response: A discussion will be added (no sediments remain).

Page ES-13. Need more discussion on lead detected in surface soil. What levels was it found at?

Response: A Tetra Tech NUS risk assessor will run the IEUBK model on the excavation cleanup verification sampling results and the results will be discussed in the FS report.

Pages ES-14 and ES-15. What is considered a significant increase in blood lead concentrations? It may be helpful to indicate that the increase in blood lead concentration associated with site exposure did not exceed the guideline of 10 ug/dl.

Response: Estimates of blood levels in the most sensitive potential receptors, residential children aged zero through six years, were made using the EPA's Integrated Exposure and Uptake Biokinetic (IEUBK) model (the adult analogue of this model was not often applied at the time this risk assessment was performed). The output from the IEUBK model is a probability histogram that represents the estimated percentage of the modeled receptor population that would develop blood lead levels above 10 ug/dl. When the percentage of the modeled population (residential children) estimated to have blood lead concentrations above 10 ug/dl is greater than five percent, then EPA considered the potential for adverse affects to be significant.

A statement can be added to the human health risk assessment text for each site reflecting the results of the IEUBK model indicating that less than five percent of the modeled population was expected to develop a blood lead concentration greater than 10 ug/dl.

Page ES-20. It would be helpful to include information in this section regarding Site 12 explaining how the information from the soil excavation activities were addressed in the risk assessment.

Response: The remedial action soil removal activities were performed in 1999, after the human health risk assessment was completed.

Pages 1-4, 1-6. Delineate on the maps the boundaries of the sites.

Response: Maps will be revised to reflect this request.

Page 1-20. Why was the 95% UTL selected for the analysis of background and not other statistical techniques. See the Background Guidance for additional information.

Response: At the time the risk assessments were performed, discussions with all parties, including EPA and NJDEP were held to agree on the approach. The methodologies used for the human health risk assessment were considered sufficient to adequately characterize potential risks based on regulatory review and guidance available at the time. Risk assessment methodologies are presented in detail in Section 2 of the Remedial Investigation Report (July 1996).

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NWS Earl , Colts Neck, N w Jersey

Table 1-5. See previous comments regarding Background Guidance and application for samples of various sizes. It appears that a small number of samples were collected for the background analysis and it is unclear why more sophisticated analyses were performed on such a small sample size. A comparison to a risk based concentration may be more appropriate for evaluation of the significance of the chemical rather than this background analysis in the screening phase of the assessment.

Response: Based on regulatory review and guidance available at the time, the methodologies used for the human health risk assessment were considered sufficient by all parties to adequately characterize potential risks.

Table 1-6. See previous comments for Table 1-5

Response: Based on regulatory review and guidance available at the time, the methodologies used for the human health risk assessment were considered sufficient by all parties to adequately characterize potential risks.

Table 1-7. See previous comments for Table 1.5

Response: Based on regulatory review and guidance available at the time, the methodologies used for the human health risk assessment were considered sufficient by all parties to adequately characterize potential risks.

Table 1-11. It is unclear why these contaminants were evaluated as background when they are not naturally occurring. A clear distinction is required to indicate these are potential anthropogenic exposures and that they are not site related. The basis for the representative concentration should be listed i.e., 95% UCL, mean, etc.

Response: The distinction that organic compounds are not considered naturally occurring will be addressed in the text and Table 1-11 will be revised to clarify the basis for the representative concentration.

Page 1-42. List the site risks and associated exposure assumptions.

Response: The requested information will be provided.

Page 1-43. State the results of the additional surface water and sediment samples which were collected further into the marsh.

Response: The requested information will be provided.

Page 1-45. Add "**There is**" before paragraph starting with "An underground storage tank..."

Response: The requested correction will be made.

Pages 1-48 to 1-51. See previous comments regarding background concentrations.

The methodologies used for the human health risk assessment were considered sufficient to adequately characterize potential risks based on regulatory review and guidance available at the time the risk assessment was developed.

Pages 1-56 to 1-57. Present the calculated cancer risks and non-cancer Hazard Indices. Also, for lead, indicate whether the comparison values for lead are based on residential or industrial screening levels.

Response: The requested information will be provided. Also, the results from the IEUBK model for post-soil removal conditions will be discussed.

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Need discussion on whether there are any site risks for sediment at Site 12.

Response: The text will be revised to clarify that no significant site risks remain.

Page 1-74. See previous comments regarding significance of CTE and also defining significance of increase blood lead concentrations in the IEUBK Lead Model.

Response: The text will be revised to clarify that RME calculation results are used for decision making.

Page 1-90. Why are PCBs evaluated based on background? A clear distinction in the assessment of background concentrations is necessary to separate information regarding naturally occurring and anthropogenic concentrations. The definition of anthropogenic as being not related to the site should also be considered in the presentation of the information.

Response: PCB's were COPC's at Site 17 and therefore included in the risk assessment. Although the text does compare the concentrations of these compounds to concentrations found (or not found) in the "background" samples, the compounds' contribution to site risks were considered in the risk assessment.

The definition of anthropogenic will be considered in revising this section for clarity as requested.

Page 1-95. See previous comments regarding significance of increases in blood lead concentration.

Response: A statement can be added to the human health risk assessment text for each site, reflecting the results of the IEUBK model, indicating that less than five percent of the modeled population was expected to develop a blood lead concentration greater than 10 ug/dl.