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NAS WHITING FIELD
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LETTER AND U S NAVY RESPONSE TO U S EPA REGION I COMMENTS TO BASELINE RISK ASSESSMENT WORK PLAN OPERABLE UNITS 2 (OU2), 4 (OU4), 5 (OU5), 6 (OU6)
NAS WHITING FIELD FL
2/8/1996
ABB ENVIRONMENTAL

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ID-00120

February 8, 1996

Craig Benedickt
U.S. Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

SUBJECT: **Response to Comments for the Baseline Risk Assessment Workplan Operable Units 3, 4, 5, and 6, Naval Air Station Whiting Field, Milton, Florida**
Unit Identification Code: N60508
Contract No. N62467-89-D-0317

Dear Craig:

Enclosed please a find two copies of the draft Response to Comments for the Baseline Risk Assessment Workplan, Operable Units 3, 4, 5, and 6 Naval Air Station Whiting Field, Milton, Florida. Copies of this document are also being forwarded to representatives on the NAS Whiting Field Document Distribution list.

We would appreciate if you could complete your review of the responses prior to the March 8, 1996 Partnering Meeting so that we could discuss them at that time. If you have any questions, please call me or Gerry Walker at 904-656-1293.

Sincerely yours,

ABB ENVIRONMENTAL SERVICES INC.

Terry Hansen, P.G.
Task Order Manager

cc: File: 7560-- (11.2.1)
Jeff Adams-- SouthDiv

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PROJECT REVIEW COMMENTS

NAS Whiting Field Operable Units 3, 4, 5, and 6
Milton, Florida
Baseline Risk Assessment Workplan

Response to EPA Region IV Comments

Human Health Risk Comments:

General Comments

It appears as though the workplan is comprehensive and adequate to meet the objectives of the risk assessment process. However, one item related to identification of exposure pathways and receptors needs clarification. The document preparer has discounted groundwater as being a possible drinking water exposure pathway under the future residential use scenario. No reason is given in the text section of the document as to why this is the position taken on this issue.

The Risk Assessment Workplan will be amended to include groundwater ingestion as part of the future use scenario.

Specific Comments

Section 4.3.2, Identification of Exposure Pathways and Receptors, Page 4-7. In Table 4-2, a summarization of the proposed human health receptors for future land use lists the groundwater as being a point of nonexposure for the future resident scenario. There is no justification given in the text for not evaluating this exposure pathway. Potential household use of site groundwater should be included in the evaluation for future land use at this site. Please provide clarification.

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Ecological Risk Comments

General Comments

This workplan contains most of the elements required in the EPA draft Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments. Organizational deficiencies exist in the areas of Preliminary Risk Calculation, Problem Formulation and Conceptual Model Development (see Figures 3 and 4 of the draft guidance). Once these deficiencies are corrected, the workplan will be more focused on operable units of ecological concern, and it will be more useable as a model for future ecological risk assessment workplans at other Operable Units (OU) at Whiting Field.

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Authorization and funding considerations aside, it would be much more practical and efficient to include OU 7 (Clear Creek Flood plain) in this risk assessment workplan. Sites in OUs 3 and 4 have the potential for impacting Clear Creek and its floodplain, and a more comprehensive assessment would result in a better definition of on- and off-site conditions, cumulative impacts and ecological receptors at risk.

Use the EPA draft "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessment" (draft ERA guidance), as an organization model for this work plan. Emphasis should be placed on Steps 1-4: Preliminary Site Characterization, Preliminary Exposure Estimate, Problem Formulation and Conceptual Model Development. These steps in the process are necessary for the workplan to be more focused on actual and potential problem areas, and for there to be a clearer understanding of potential ecological contaminants of concern, exposure pathways, ecological receptors at risk, assessment endpoints and measurement endpoints at the various Operable Units (OU).

The Navy believes that the intent of the EPA draft document guidance, "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments," September 26, 1994, suggested by the reviewer, is addressed in the Workplan, and that extensive revision of the current Workplan is not warranted. The suggested guidance is, as stated, in draft form and therefore subject to revision. The Guidance document stresses in the introduction that it is not intended to direct the selection of specific protocols. Also stressed is the necessity of use of professional judgement.

The Workplan for OUs 3, 4, 5, and 6 was constructed following accepted published guidance from EPA (as cited in the Workplan, in the introduction to Chapter 5). The Workplan evolved through discussions with the risk management team and application of professional judgement. The potential for risk to ecological receptors in the event of the presence of complete exposure pathways was based upon comparisons of relevant media concentrations of contaminants with background screening values, coupled with professional judgement.

It is agreed that it may be more practical and efficient to include OU 7 (the Clear Creek Flood Plain) in this Risk Assessment Workplan. However, authorization and funding cannot be disregarded. The decision was made by the Navy and agreed to by the partnering group (including both the State and Federal regulatory groups) to separate the Clear Creek Flood Plain (now OU 7) from that of OUs 3, 4, 5, and 6. The basis for this decision was the detection of different contaminants at OU 7, as compared to those found at OUs 3 and 4; this finding suggests different sources of contamination. Since the Workplan was written, the Clear Creek Flood Plain was given site designation (Site 39) and elevated to the top five priority risk ranking of sites at NAS Whiting Field.

In addition, although sediment samples were proposed to be collected from the floodplain as part of the OU 4 risk assessment, these samples will not be collected. The original purpose of the

samples was to investigate the potential for landfill leachate originating at Sites 15 and 16 to flow via groundwater and discharge into the Clear Creek floodplain. However, any leachate produced by the landfills would be detected in the down gradient monitoring wells and, therefore, sediment samples are not warranted. A continuous surface water pathway is not present at the sites. A detailed risk assessment of the Clear Creek Floodplain will be completed in the future.

Specific Comments:

1. **Section 5.0, last sentence. Add amphibians to the list of terrestrial wildlife and add amphibians and reptiles to the list of aquatic life.**

   The suggested word changes will be made.

2. **Section 5.1, first bullet. Change this bullet to conform with Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Section 5.5. Analytes may be excluded as Ecological Chemicals of Potential Concern if: 1) they are common laboratory contaminants and site concentrations are less than ten times the maximum detected in any blank, or 2) they are not common laboratory contaminants and site concentrations are less than five times the maximum amount detected in any blank.**

   Wording of the bullet will be changed as suggested.

3. **Move Appendix B (Ecological Risk Problem Formulation) to the text of the workplan and expand it in accordance with the draft ERA guidance cited above. Include development of testable hypotheses and rationale for assessment endpoint selections at each OU of concern. It is stated in Appendix B of the workplan that several of the sites pose little if any ecological threat based on comparisons of site contaminant levels to appropriate screening values. In those cases, please provide the site concentrations and screening levels for the contaminants of concern. The overview of Sites 21E and 21F in OU6 is incomplete. Please provide additional information.**

   Please see general comments above. Site-specific considerations used in designing this Workplan were placed in Appendix B in order to focus attention on the activities to be done under the Workplan. However, Appendix B will be moved as the reviewer suggested to the body of the document and it will be included in a section entitled Problem Formulation. Additional information will be provided for Sites 21E and 21F (now identified as Sites 31E and 31F).

4. **Include a Section on Conceptual Model Development in accordance with the draft ERA guidance cited above. Be sure to include conceptual models, rationale for measurement endpoint selection and study design for each OU of concern.**

   The Workplan was written prior to completion of the ecological field work. Conceptual models will be presented in the Risk Assessment document for each OU of concern along with a complete description of measurement endpoint selection and study design. Inclusion of these pieces in the Risk Assessment document helps provide critical information for the reader's understanding of the complete process.

5. Section 5.2.1. **In the first paragraph please clarify the descriptions of ecological receptors. The two broad categories of ecological receptors are terrestrial and aquatic biota. Within these two categories, the various classes (not species) of receptors can be identified. Some "Wetland Receptors" may fall into either or both of these categories depending on their habitat requirements. For example, amphibians inhabiting wetlands spend time in both terrestrial and aquatic habitats, while fish inhabiting wetlands occupy aquatic habitats only. Conceptual site models for the various OUs would help to define which ecological receptors are potentially at risk.**

   Further description of ecological receptors will be added to Section 5.2.1.

6. Table 5-1 **This table should be changed to reflect the ecological receptors in Table 5-3. At this point in the process generic ecological receptors (i.e., terrestrial vertebrates, fish, terrestrial plants, aquatic plants, etc.) should be used, and a limited number of surrogate species identified for each group to be considered. Species listed in Table 5-1 for toxicity testing are not ecological receptors, but are surrogates. This information is repetitious of the information in Table 5-2, and thus should be deleted. The sub heading under Receptor Evaluated indicates that food web modeling will be performed for the terrestrial vertebrate species listed, but there is no mention in the text of the model(s) to be used. Please delete this subheading. Consideration of food webs should be included in the Preliminary Risk Calculation and Problem Formulation sections in order to define surrogate species to be used in the risk calculation, but food web modeling would add little if any value to the risk assessment.**

   Table 5-1 will be deleted, as suggested by the reviewer.

7. Section 5.2.2. **In the second paragraph heading and the first sentence, add "and aquatic" after "wetland" and floodplain...". Add algae to the list of potential receptors in the second sentence. In the third paragraph, change the third sentence to read "...ingestion of**

contaminated surface water or surface soil, and ingestion of food items that are contaminated as a result of accumulation from the soil or sediments."

The suggested word changes will be made.

8. **Section 5.2.2.1. In the third sentence, change "wildlife" to "receptor".**

The suggested word change will be made.

9. **Section 5.2.3. In the second paragraph identify criteria for selection of soils to be used for the toxicity testing (i.e., soil from areas of stressed vegetation, soils from areas exhibiting staining, etc.). In the last sentence on page 5-9, add "identification and " before "evaluation". Make the same change in the Aquatic section, second paragraph, last sentence. Also in the aquatic section, identify criteria for selection of sediments to be used for toxicity testing.**

The suggested changes will be made.

10. **Section 5.3. - Change the last sentence to read "...aquatic and terrestrial receptors described in ...".**

The suggested change will be made.

11. **Section 5.3.1. Refer to Framework for Ecological Risk Assessment, EPA/630/R-92-001, February 1992 (page 121) for the accepted definitions of assessment and measurement endpoints. In the second paragraph, last sentence, delete "as well as aquatic toxicity benchmark values" since screening levels are not measurement endpoints. In the third paragraph, the assessment endpoint for terrestrial wildlife conflicts with that presented in Table 5-3. In addition, terrestrial wildlife measurement endpoints have been omitted from this paragraph. In the last paragraph, delete "as well as terrestrial plant and invertebrate benchmark values", since benchmark values are not measurement endpoints.**

The section under discussion will be reviewed and appropriate changes will be made.

12. **HQs for individual receptors should be summed only if they are for ECPCs with similar toxicity mechanisms or effects. The discussion and interpretation of HQs and HIs should conform with information in Section 2.3 of the draft ERA guidance. The correct interpretation is that a HQ or HI of 1 or greater should be interpreted as a level at which**

adverse ecological effects are likely to occur. A HQ or HI of less than 1 does not indicate a lack of risk, but should be interpreted based on the severity of the effect reported and the magnitude of the calculated quotient. Please use this description in any discussions or interpretations of the HQs and HIs calculated in this risk assessment.

The intent of the reviewer's comments will be reflected in the Risk Assessment. With regard to summing ECPCs for individual receptors, it is agreed that only that only those that have similar toxic mechanisms or effects should be summed, however, there is limited capability to do so effectively and sufficient information is frequently unavailable in the literature. These uncertainties will be discussed in the Risk Assessment.

Editorial Comments:

1. **Figure 5-1. Please make this figure more legible. The copy in the draft workplan, as submitted, is so dark that some of the words in the figure are unreadable.**

   Copy of the figure will be lightened in order to make it more legible.

2. **Section 5.1, last paragraph. - Please spell out TIC the first time it is used. It is assumed that TIC stands for Tentatively Identified Compound.**

   "Tentatively Identified Compound" will be spelled out in the paragraph.

3. **Section 5.2.1. In the first paragraph, fifth sentence, change "ephemeral" to "intermittent", which better describes the hydrology of a drainage ditch. Insert the word "review" at the end of the next to last sentence of the second paragraph. In the fifth paragraph, change the first sentence to read "At those sites with complete exposure pathways, qualitative belt...". In the sixth paragraph, third sentence, delete the word "other". In the last paragraph, first sentence, change "species" to "populations". In the second sentence, add "threatened".**

   The suggested word changes will be made.

4. **Section 5.2.3. Change the last sentence on page 5-12 to read "Statistical analyses shall be performed to assess...sediment samples."**

   The suggested word changes will be made.

5. Section 5.3.1 and Table 5.3. **Ensure that assessment and measurement endpoints agree between the text and table.**

The section and table under discussion will be reviewed and adjusted if necessary for consistency.

6. Section 5.4. **In the second paragraph, first sentence, capitalize "hazard index" and add (HI) after "Hazard Index". Same paragraph, third sentence, spell out Hazard Quotient, and follow with (HQ). In the bullets on pages 5-17 and 5-18, use the acronym ECPC rather than CPC.**

The suggested word changes will be made.

Response to FDEP Comments

FDEP Jim Cason

1. Figure 2-2 **would be improved by the addition of the Operable Units boundaries, which are not shown elsewhere in the report but are discussed throughput the report.**

Agree, the final report will contain the Operable Unit (OU) boundaries on figure 2-2.

2. **Please use the updated soil cleanup guidance, Cleanup Goals for the Military Sites, April, 1995, by Ms Ligia Mora-Applegate. The reference list should also be updated.**

Screening values will be obtained from "Soil Cleanup Goals for Florida," dated September 29, 1995. The Baseline Risk Assessment will calculate risk and remedial goal objectives based on the assumptions used in the risk assessment.

3. **For clarity, we should have a statement correlating the site numbers that formerly were used for site designation with the present numbers (the numbers that, for a while, replaced the numbers that we have now again used to designate the sites). It remains confusing, but for someone referring to other recent documents, it will lessen the confusion.**

A statement identifying the nomenclature as a potential problem will be included in the text. The text will also direct the reader to a cross reference table located in the appendices.