

**DRAFT MEETING MINUTES
OCTOBER 25, 1995
PHASE II RI FOR NSB - NLON
BOSTON, MA., 9:00 a.m. - 4:00 p.m.**

ATTENDEES	AFFILIATION	PHONE NUMBER
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Karen Smecker	Brown & Root	412-921-8893
Kathy Trapp	Sciences International	703-684-0123
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Susan Stoloff	TRC	508-970-5600

OVERVIEW OF DISCUSSION

I. Basewide Ecological Risk Assessment

Orphan Sites

- The Supplement to the Problem Formulation/Conceptual Model Report was discussed. A summary of old EPA comments on the Phase I and II Ecological studies not yet addressed by the NAVY were circulated. Orphan sites, which include the Rubble Fill, Torpedo shops, OBDANE, CBU Drum Storage area, were discussed and it was agreed that they would be addressed in the BERA. It was decided to not address the CBU Drum storage Area if the nature and extent is adequately addressed.

This site will be capped as part of the interim action at the Area A Landfill.

- Previous ecological screening efforts included comparisons of contaminant data with Human Health screening criteria. Contaminant concentrations in soil will be compared to ecological soil screening values for the BERA.

Data Summary

- Phase I and II data will be pooled into a comprehensive database and an overall evaluation will be performed. The database will be provided to the EPA, Navy, and Brown & Root's subcontractor (Sciences).
- UCLs will be calculated if there is sufficient data, otherwise maximum and arithmetic average concentrations will be used. Approach to data evaluation will be the same for both BERA and HHRA.

Assessment / Measurement Endpoints

- EPA agreed with the approach presented in the supplement; however, an initial screening should be done and then this issue will be revisited. Sciences will develop another supplement on screening within three weeks. A conference call will be conducted a week after the supplement is submitted to the EPA to discuss details. A focused evaluation will be performed after the initial screening is performed.
- The option of including a small carnivorous mammal (i.e., smokey shrew) was discussed. The EPA discussed their use of the software WETTHINGS from UMASS at Amherst for determining likely species based on habitat. EPA will provide information on the software to the Navy and its subcontractors. Dick Conant of NSB-NLON will be contacted to verify habitat at the base.

Benchmark Values

- Water benchmark values proposed were accepted by EPA. Benchmarks should be conservative and adjusted appropriately for site conditions.
- Marine (Long) and freshwater (Washington St. and Ontario) references for sediment screening values were discussed. NOAA data will be used for Thames River sediments. OMOE sediment screening values will be used for freshwater sediments. EPA and Sciences will exchange references and information will be distributed to the Navy and Brown & Root.
- Soil screening values for terrestrial plants and invertebrates were discussed. Some of the soil screening value references (Beyer) may be human health based and may not be applicable. EPA emphasized to use caution when developing soil screening values. BAFs and EQCs will be considered during screening development. It was agreed that literature values of BAFs will be provided in 3 weeks. The database ECOSAR which is useful for determining LC₅₀ values was also discussed.
- Vertebrate benchmarks and references (Opresko) for these values were discussed. EPA gave Sciences a copy of terrestrial wildlife uncertainty factors for reference. Uncertainty factors will be used and not body scaling factors. The term scaling factor on page 15 of the supplement will be renamed. Sciences will provide RfD equation to EPA for review. EPA indicated that we do not want to be overly conservative in our evaluation.

Screening to ID COPCs

- Screening of surface water and sediment data was discussed. Appropriate background values for both media were also discussed. Thames River background values for surface water and sediment will be determined based on review of new data and background values (Hem) in Draft RI. NOAA will be contacted to seek approval for appropriate background data. Sea Wolf dredging activities data will be reviewed and understood during screening process.

- Screening of soil data was discussed. A consensus agreement on the background report for inorganics (Atlantic, 1995) will be signed soon by the EPA, NAVY, and CTDEP. Values are acceptable and should be used in the current screening. Contaminants which are detected below background but may be bioaccumulated will not be directly dropped from further evaluation, but will be screened further to determine their impact. The decision process should include the following: take number of samples into account; area of concern should be evaluated; and the frequency of detection should be considered. Average or UCL values should be used for background values. Maximums from site-specific data should be used to screen with.

Receptor Organisms

- Receptors organisms were discussed. It was agreed that a final list of receptors will be developed by November 2, 1995. Addition of the shrew was discussed and the appropriate type of shrew. WETTINGS may be used as an aid to develop receptor organisms. Thames River waterfowl were discussed. Cormorants or mergansers may be added to list as Thames River waterfowl.

Food Chain Models

- Equations and parameters to be used for food chain models were discussed. It was agreed that adsorption factors of 1 will be used for screening. Less conservative values may be used if information is available to support decision. Beyer will be referenced for determining ingestion rates.

Sediment Triad Approach

- EPA will do initial multivariate analysis with SYSTAT software to determine appropriate parameters to be evaluated in triad approach. Sciences will begin triad approach after EPA's initial screening. Further discussions are needed between Sciences and EPA to finalize sediment triad approach.

Report Format

- Site-specific BERA information will be incorporated into individual sections of Draft Final RI report. An introductory section similar to HHRA introductory section (Section 3 in Draft Phase II RI) will also be needed.
- EPA emphasized that Area A Wetland data from past Menzie-Cura efforts should be included in the Draft Final RI BERA.

II. Human Health Risk Assessment

Introduction

- Brown & Root provided an overview of the activities that have been conducted to date and provided an overview of the approach to covering HHRA topics for the meeting.

Position Paper

- During the discussion of potential exposure routes to air, Brown & Root provided an overview of the approach to determining the SSLs. EPA emphasized that we need to follow the OSWER guidance and calculate SSLs for those chemicals where OSWER data is not available. Brown & Root agreed to do this. Brown & Root and EPA agreed to evaluate exposure to volatile emissions and fugitive dust only qualitatively, if maximum detected concentrations in soil are less than SSLs.
- In regards to ingestion of soil/sediment for the CTE scenario, a value of 0.5 will be used instead of a value of 1 for the fraction of soil ingested from the contaminated source (Fi).
- It was decided to perform a quantitative evaluation of dermal exposures to soils containing cadmium, PCBs, and dioxins. Dermal guidance (USEPA, January 1992) will be used. A qualitative evaluation of dermal exposure to other detected chemicals in soil will be performed.

- It was agreed upon that for groundwater exposures, the maximum concentration (RME) and average concentration (CTE) would be used to estimate risks. Risks for all other media would be calculated using the 95% UCL (RME and CTE).
- It was agreed upon that age-adjusted ingestion rates and dermal contact rates would be used to evaluate soil exposure for future residents.
- It was agreed that inhalation of VOCs in groundwater would be addressed qualitatively by assuming that the risks associated with VOCs (via inhalation) are equal to the risks associated with direct ingestion of VOCs.

Summary Tables

- Brown & Root distributed revised tables (Tables 3-10 through 3-14) summarizing information regarding the potential receptors, exposure pathways, and exposure parameters to be used in the HHRA. A systematic discussion of each site presented in Table 3-10 followed. Overall, the Occasional Visitor and Utility Worker receptors were deleted from the table; a Trespasser (older child/teenager) will be included, where appropriate; a construction worker was added for the Area A Downstream & OBDANE; and a Future Residential receptor will be added for the DRMO. It was agreed that corrections will be made to the table and it will be submitted with the meeting minutes for review.
- Table 3-11 was then discussed. It was agreed that dermal contact with groundwater should be evaluated for the construction worker since residential ingestion of groundwater would not be evaluated for all sites. It was also agreed that the occasional visitor scenario be eliminated from the table and a trespasser be included at some sites along with the Recreational User at the Thames River and North Lake only. It was discussed that it may be possible to qualitatively evaluate Thames River for surface water ingestion and dermal contact instead of quantitatively, depending on detected concentrations. No final decision was made on this topic since the data needs to be reviewed. EPA suggested that groundwater ingestion and dermal contact be evaluated for the Future

Resident in areas where a well may be installed (i.e., Area A Weapons Center, Area A Torpedo Shops, and Spent Acid Storage/Disposal Area). Brown & Root indicated that it would not be appropriate to evaluate groundwater ingestion and dermal contact for the Future Resident scenarios for DRMO, Lower Base, and Goss Cove because of the high salinity conditions in the groundwater due to the proximity of the Thames River; therefore, a drinking water well is not likely to be installed. The EPA agreed with this approach. EPA suggested that both surface and subsurface soils be evaluated for the future residential scenarios. Brown & Root said they did not think this was typical, as it is not expected that the land would be totally regraded as a result of residential development, but Brown & Root agreed to the evaluation. Further discussions were held on the appropriateness of grouping groundwater plumes together for evaluating exposure to groundwater under the Future Resident scenario. It was determined that this may be appropriate to evaluate for only those sites where contaminant migration from one to the other may occur. Brown & Root agreed to evaluate the approach by reviewing potentiometric surface maps to determine the migration potential between sites. Brown & Root will make the appropriate corrections to Table 3-11, as a result of the items mentioned above.

- Table 3-12 was then discussed. EPA indicated that the exposure frequency for the child trespasser exposed to contaminated media at the wetland was low. Due to the changes needed for Tables 3-10 and 3-11, Brown & Root agreed to submit revised Tables 3-12 through 3-14 for review and they will be discussed in the upcoming conference call (November 2, 1995).

Response to Comment Letter

- Each of the Navy's responses to EPA's September 6, 1995 Response to Comment Letter were reviewed.
- It was agreed that redlining and striking out were not necessary for all revisions to the RI Report.
- The EPA requested a 60 day review period for the Draft Final Phase II RI Report because it will be almost a complete rewrite.

- The Navy will contact its radiological data group to determine how to handle presentation of the radiological data in the Draft Final Phase II RI.
- Brown & Root will revise its response to Comment on Response #64. It was wrongly believed that this was a human health question however it was really a comment regarding ecological issues.
- The use of duplicate sample results was also discussed. TRC indicated that EPA had guidance concerning data quality objectives for the evaluation of field duplicates which could be used for risk assessment. Brown & Root indicated that the referenced guidance was appropriate for data validation purposes only. Brown & Root will contact the appropriate EPA contact (Charlie Porfort) to confirm if guidance is available for use in the risk assessment and will evaluate the duplicate pairs appropriately. Information will be discussed in the conference call on November 2, 1995.
- Brown & Root will evaluate the high level of lead detected at the OBDANE. If appropriate a recommendation for further investigation will be given in the Draft Final Phase II RI.

Database Components

- Brown & Root discussed all reports to be included in the Phase II RI database. It was agreed that due to time constraints additional reports for studies in the Lower Base will not be included in the database but information included in the reports will be qualitatively discussed in the Draft Final Phase II RI as part of the Nature and Extent section. The Navy discussed tentative plans for an additional RI (Phase III) for the Lower Base.

Draft Final Report Schedule

- The Draft Final Phase II RI will be delivered to the EPA in the middle of January 1996. The EPA will have 60 days to review the report. The Navy will respond to EPA's comments within 30 days of receipt of the comments. The Navy will prepare a revised schedule and distribute it to its contractors and the EPA. A Site Management Plan will be developed which covers deliverable dates.

This document will be used when revisions are made to the schedule.

III. Action Items

- Brown & Root will forward as soon as possible a copy of the existing database to EPA, Sciences and the Navy.
- EPA will forward information on WETTHINGS software to Navy and its contractors.
- Sciences will submit screening values supplement in three weeks. Teleconference call will be conducted one week after, BAFs will also be discussed during the teleconference. RfD equation will also be included in submittal.
- Sciences will identify version of Washington State sediment criteria to be used for EPA and will get copy of reference on soil impacts for terrestrial plants.
- EPA will get a copy of OMOE information to Navy and its contractors.
- EPA will get BAFs information to Navy and its contractors.
- Sciences will get ECOSAR database information to EPA.
- EPA and Sciences will discuss Thames River background values with NOAA (Ken Finklestein). A conference call will be conducted on Thursday November 2 to discuss details.
- EPA will get Long Island Sound background data.
- Navy will provide copy of Sea Wolf report to Brown & Root to identify which areas may be impacted by dredging.

- Sciences will investigate Thames River waterfowl (cormorants and mergansers) for Thursday November 2, 1995 discussion.
- Sciences will see if Thames River is a viable source of drinking water for ecological receptors.
- EPA will perform a preliminary evaluation of Downstream Investigation results to help focus on appropriate sediment triad approach. Results will be discussed Thursday November 2, 1995.
- Brown & Root will revise tables summarizing HHRA information (Tables 3-10 through 3-14) for submittal with the meeting minutes.
- Brown & Root will revise its response to Comment on Response #64 which EPA provided in their September 6, 1995 letter.
- Brown & Root will check into EPA guidance regarding duplicate samples. Charlie Porfort of the EPA will be contacted about guidance at 860 - 4300. Brown & Root will also spot check database duplicates and summarized findings. Discussions will be held on Thursday November 2, 1995 with EPA and Navy to determine appropriate approach for use in BERA and HHRA.
- The Navy will provide its contractors and the EPA with correspondence regarding schedules.