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MINUTES FROM PROJECT TEAM MEETING ON 16 SEPTEMBER 1993 NS MAYPORT FL
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MEETING MINUTES

NAVAL STATION MAYPORT
PROJECT REVIEW MEETING

16 SEPTEMBER 1993
ATLANTA GA

Attendees

Navy	Jim Reed, Southern Division Naval Facilities Engineering Command Cheryl Mitchell, Naval Station Mayport
USEPA	Mickey Hartnett (Introduction/Welcome only) Doyle Brittain James Hudson Elmer Aiken (risk assessment discussion only)
FDEP	Jim Crane Eric Nuzie David Clowes
ABB-ES	Peggy Layne Greg Brown (morning only) Frank Lesesne Marland Dulaney

The meeting began at 10:00 am. An agenda is attached.

Introduction

Mickey Hartnett noted that James Hudson will taking over as EPA RPM for Mayport for the time being since Doyle Brittain is being transferred to BRAC sites in Charleston, but Doyle will still be available to support Mayport if necessary. Responsibilities may be reassigned in the future as the workload for BRAC becomes clearer.

Corrective Action Management Plan (CAMP)

Greg Brown presented the proposed CAMP for Mayport. Doyle commented that the Phase/Group terminology can be confusing and should be clarified. Doyle asked that the risk assessment activities be identified separately in the CAMP instead of rolled up into the RFI, but that it is acceptable to include the risk assessment as a section in the RFI report rather than a stand alone report. He also recommended starting CMS activities earlier in conjunction with the RFI rather than following completion of the RFI. FDEP representatives also encouraged initiation of CMS activities early in the RFI process.

James Hudson stated that the CAMP must include deliverable dates for primary documents. Greg Brown replied that the CAMP provides an overall strategy for implementation of RCRA Corrective Action activities at Mayport. Deliverable dates will be provided in the CAMP, however scheduled dates may be subsequently modified by workplans or CAMP revisions. The modified deliverable dates may be earlier or later than the dates specified in the CAMP.

All parties agreed that in order for RFI activities to proceed in a timely manner regular communication and feedback are required. Changes to the schedule will be necessary as new information is discovered and conditions change. As required by the HSWA permit, the Navy will submit schedule changes to the regulatory agencies for their review and approval on an as needed basis.

Action Items

Revise CAMP by October 1 to address comments as follows:

1) clarify Phase/Group terminology;
2) add milestone delivery dates for primary documents for FY94;
3) accelerate schedule for CMS activities;
4) identify risk assessment activities in schedule; and
5) add statement addressing how changes to the schedule will be handled.

Background Characterization

Frank Lesesne presented data collected at Mayport characterizing the modifications to the shoreline and soils as a result of dredge and fill activities, groundwater flow regime, tidal influence, and chemical analysis results of sampling of surface soil, surface water, sediment, and groundwater in areas believed to represent background conditions, that is areas not influenced by previous waste disposal activities.

Additional background data needs include surface water and sediment sampling in the St. Johns River and the Mayport Turning Basin, sampling of subsurface soil at depths of two to three feet bls and at the water table, variablity of groundwater characteristics over time, and characterization of groundwater flow and chemistry in the deeper regions of the surficial aquifer and in the Hawthorn (intermediate) aquifer. Collection of this data will be included in the next field event at Mayport.

Risk Assessment Discussion

Elmer Aiken responded to a variety of questions regarding the approach to risk assessment prefered by Region IV. Specific questions and answers are presented in an attachment and summarized in the following paragraphs.

RCRA vs CERCLA risk assessment

In general, Level III data is acceptable for risk assessment. Doyle likes to see 10% Level IV data for confirmation. Elmer Aiken indicated that in some cases Level II data may be acceptable with proper QA. It would be a good idea to get Region IV approval in advance for data collection procedures prior to using Level II data for risk assessment.

In order to evaluate all exposure pathways for risk assessment, source characterization must be included (not just release characterization, as required by RCRA).

Elmer prefers CLP TAL/TCL analytes over the RCRA Appendix IX list. Tentatively Identified Compounds (TICs) should be included in analysis.

SWMUs may be grouped for risk assessment as long as appropriate justification is provided and "hot spots" are not overlooked.

Interim review of Preliminary Remediation Goals, Contaminants of Potential Concern, Exposure Pathways, and Ecological Assessment is acceptable to Region IV in the interest of facilitating ultimate approval of a risk assessment.

Contaminants of Potential Concern

Proposed RCRA Subpart S action levels are not considered appropriate screening values by Region IV.

Identification of Contaminants of Potential Concern should be conservative, with screening at the 10E-6 risk level and a hazard index of 0.1.

When screening against background levels, twice the arithmetic mean of detected concentrations of contaminants in background samples should be used.

Chemicals not identified as COPCs need not be addressed in the risk assessment.

Exposure Scenarios

No agency wide guidance is available for future use scenarios. The conservative approach is to evaluate the residential scenario in the risk assessment. That does not necessarily mean that the residential scenario will be used to set cleanup levels. The risk management decision must be separate from the risk assessment.

Institutional controls may not be invoked to avoid evaluating certain exposure routes.

Presumptive remedies are being developed by EPA for some types of sites (e.g. landfills) and thus exposure scenarios may be limited in the future for these types of sites.

Toxicity Assessment

Elmer is open to review of derived toxicity values when agency developed values are not available or are open to reevaluation.

Risk Characterization

Elmer is open to consideration of a Monte Carlo analysis if appropriate, but notes that in most cases the actual distribution ranges of most of the parameters are not well defined.

Region IV likes to see a section in the risk assessment addressing "Remedial Goal Options" (RGOs) by presenting a matrix of risk ranges for various exposure scenarios (typically trespass, industrial, and residential exposure and 10E-4, 10E-5, and 10E-6 risk levels). This gives the risk manager a range of options for decision making.

AGENDA

NAVSTA Mayport Project Review Meeting
September 16-17, 1993
Atlanta GA

10:00 am Corrective Action Management Plan

- Background
  - Previous CAMP
    - Grouping and Naming of SWMUs
    - Schedule
  - Revised HSWA permit
- Major Tasks
  - Present RFI Status
  - Planned Future Activities
- Assumptions
  - Funding availability
  - Regulatory review
  - Meetings
- Questions/Discussion

1:00 pm Background Characterization

- Shoreline evolution
- Dredge and fill areas
- Geology
- Groundwater flow direction
- Tidal influence
- Chemical data
- Risk
- Additional data needs
- Use of background data

3:00 pm Risk Assessment Discussion

- RCRA vs CERCLA methodology
- Identification of Contaminants of Potential Concern
- Exposure Assessment
- Toxicity Assessment
- Risk Characterization
- Preliminary Remediation Goals

DRAFT FOR COMMENT

Risk Assessment Questions and Answers

GENERAL

Question: Are Baseline Risk Assessments to be conducted at Navy RCRA facility sites in USEPA Region IV?

Answer: Baseline risk assessments following the methodology described in RAGS are to be conducted for Navy RCRA facilities in Region IV.

Question: The data collected in a RCRA-type field investigation may not be sufficient to support a CERCLA-type baseline risk assessment. Does Region IV suggest modifying present and future RCRA Sampling and Analyses Plans to collect data sufficient to support a CERCLA-type baseline risk assessment?

Answer: Yes. RCRA Sampling and Analysis Plans should be modified to provide data sufficient to support a CERCLA-type baseline risk assessment.

Question: Is Level III data (NEESA Level C) acceptable for RCRA baseline risk assessments?

Answer: Level III data is satisfactory to support a RCRA baseline risk assessment. In addition Level II data, with adequate and appropriate QA that is approved by Region IV, can be used quantitatively in the baseline risk assessment. However, some data must be collected with at least Level III QA and an acceptable correlation (starting suggestions ranged in the $r = 0.8$ range) must be documented to Region IV.

[Note: ABB-ES agreed to help establish the requirements for elevating QA/QC for Level II data to similar QA/QC for Level III data. Region IV agreed to appoint a contact point to work with us in establishing these QA objectives. ABB-ES, Navy and Region IV all agreed that successful elevation of QA/QC for Level II data to Level III QA/QC criteria would both speed up field sampling and decrease the overall cost.]

Question: What analytes must be included in the Sampling and Analysis Plan?

Answer: Region IV would prefer TAL/TCL analytes rather than the Appendix IX list. However, SW846 methods and Appendix IX analytes are acceptable and Region

IV indicated that this data should be complimented by including High/Medium/Low values such as provided by CLP methods for TAL/TCL analytes. TICs should be included in some of these analyses.

Question: We suggest using the Guidance for Data Usability in Risk Assessment (Part A) to set Data Quality Objectives for a RCRA baseline risk assessment. Does USEPA Region IV agree?

Answer: Region IV agrees.

Question: Does Region IV have any additional guidance for Data Usability?

Answer: Region IV strongly urges timely inclusion of the risk assessor in the review of the field sampling analytical results. This is especially true if Level II data is being collected with the intention of elevating it to Level III QA/QC criteria when used for risk assessment purposes or if there is evidence of a "hot spot." Failure to adequately characterize a "hot spot" may place the conclusions of the baseline risk assessment in jeopardy, since a "hot spot" must be treated separately; "hotspots" may also require further field sampling to meet the data quality objectives for both the "hot spot" and the surrounding area.

Question: Does Region IV require a baseline risk assessment for each SWMU or can SWMUs be grouped together?

Answer: This is a site-specific question. There was agreement that SWMUs with similar contaminants, for example PAHs and fuel-related contaminants, might be grouped together. However, Region IV should be consulted for confirmation prior to grouping any SWMUs together.

Question: Would submission to Region IV of the methodology and assumptions to be used in the baseline risk assessment be helpful in speeding up the review of the baseline risk assessment?

Answer: Yes. Region IV's experience is that such early communication between the risk assessor and the reviewer can greatly speed up the review process. It brings the reviewer into the risk assessment process earlier and helps provide both the risk assessor and the reviewer with an opportunity to ask questions, propose approaches, and provide input prior to completion of the baseline risk assessment rather than after the fact.

SELECTION OF CONTAMINANTS OF POTENTIAL CONCERN

Question: In screening potential contaminants of concern, what exactly does Region IV mean in its reference to "twice background?"

Answer: Twice background means two times the arithmetic mean target analytes detected in background samples.

Question: Does Region IV accept the concept of media "action levels" as described in the 1990 Proposed Rule of July 27, 1990?

Answer: The proposed RCRA Subpart S methodology is not to be used for RCRA baseline risk assessments.

Question: Which screening levels should be used for RCRA baseline risk assessments?

Answer: The current USEPA Region III Risk-Based Concentration Tables from USEPA Region III toxicologist Dr. Roy Smith are acceptable.

Question: What risk level or hazard quotient is considered sufficiently low to exclude a contaminant as a contaminant of potential concern?

Answer: Screening for Contaminants of Potential Concern should used residential exposure values set at a lifetime excess cancer risk of $1x10^{-6}$ or a hazard quotient of **0.1**.

Question: Does Region IV have criteria for the point at which TICs become sufficiently important to include in risk assessment?

Answer: When the number or the potential toxicity of the TICs are sufficient to cause to the lifetime excess cancer risk to be greater than $1x10^{-6}$ or the hazard index to be greater than 1.0, then TICs must be included. For other guidance, consult with Region IV prior to conducting the baseline risk assessment.

Question: The Region III Risk-Based Concentration Table (July 9, 1993) screening values for non-carcinogens are calculated for adult exposure while the most sensitive receptor for soil-ingestion route non-carcinogenic effects is the 6-year old child. Is this a problem?

Answer: Region IV does not know why Dr. Smith's Risk-Based Concentration Table uses an adult exposure rather than a child. This one of the reasons for screening against a hazard quotient of 0.1 rather than 1. The other reason is the potential for potentiation between closely related non-carcinogenic contaminants.

Question: The 1990 Proposed Rule uses a $1x10^{-5}$ risk cutoff for USEPA weight-of-evidence Class C carcinogens. Is this acceptable?

Answer: No. An acceptable risk level for USEPA weight-of-evidence Class C carcinogens is $1x10^{-6}$.

Question: The 30-year adult soil exposure was re-defined in "Standard Default Exposure Factors" as a 6-year childhood exposure plus 24-year adult exposure. Different sources have come up with different values for average intake values. What value is acceptable to Region IV?

Answer: 120 mg/day for a 30 year exposure. The average body weight of an adult is 59 kg. The occupation exposure soil ingestion rate for an adult worker with no direct soil contact, for example an office worker, is 50 mg/day.

Question: Does Region IV have any difficulties with the idea of screening to identify chemicals for inclusion in main text with minor chemical risks presented in an Appendix and added to total risks in the main text conclusion?

Answer: No. While it is acceptable for the baseline risk assessment to be conducted only on the contaminants of potential concern, this practice may not be well received by a knowledgeable public when the results of the baseline risk assessment are disclosed in a public meeting. In an atmosphere of low public trust, it may be advisable to conduct a risk assessment on all detected contaminants rather than just the contaminants of potential concern. Those contaminants that do not qualify as Contaminants of Potential Concern may be presented in an Appendix.

EXPOSURE ASSESSMENT

Question: Region IV guidance indicates that a residential exposure scenario be used in the risk assessment unless a "strong justification" is provided. However, many Navy RCRA sites are industrial and will remain so for the foreseeable future. What

criteria does Region IV use to determine if an industrial exposure scenario is applicable and how does this decision affect target clean-up levels?

Answer: This is a site-specific question that can not be completely answered at this time and includes both risk assessment and risk management issues. Important points to consider include the likelihood of the area remaining industrial; the additional environmental work that would be required if use of an industrial site were to be altered or closed allowing for potential residential uses of the site; and the likelihood of the entire base closing.

In some cases it may be appropriate to assess the risk of a residential exposure scenario, but base the risk management decision on an industrial exposure scenario. The interim guidance is to calculate the risks for both a reasonable industrial exposure scenario and a potential future residential use scenario and then propose the exposure scenario to be used to base clean-up goals. This should be part of the risk assessment methodology document that will be submitted to Region IV prior the conducting the baseline risk assessment.

Question: What models does Region IV suggest with regard to predicting transport of groundwater contaminants, volatile organic compounds in air, and particulates?

Answer: This is a site- and contaminant-specific question. There are several acceptable groundwater models. Selection of the most appropriate model should be discussed with Region IV prior to conducting the baseline risk assessment.

Region IV has accepted results from the Cowherd model for airborne particles in baseline risk assessments but site-specific particulate data may also exist, especially in Florida. Selection of the most appropriate model or data should be discussed with Region IV prior to conducting the baseline risk assessment.

TOXICITY ASSESSMENT

Question: What sources of toxicology data are acceptable to Region IV, in order of preference?

Answer: IRIS, Current HEAST Tables, Region IV specific guidance (e.g. Polycyclic Aromatic Hydrocarbon TEFs), approved toxicity values from previous HEASTs, and ECAO values, ABB-ES self-derived values reviewed by Region IV.

Region IV strongly recommends submitting derived toxicity values to the agency prior to conducting the baseline risk assessment. This can be part of the risk assessment methodology document.

Region IV also suggests submitting full documentation, including a copy of the actual paper, if reasonable, that is used to support ABB-ES self-derived toxicity values or RAGS Appendix A-type transformations of cancer slope factors or reference doses. This addition will verify the validity of the information used to support the toxicity value change and aid Region IV in reviewing and confirming the change.

The concurrence of Region IV is also required when surrogates are used in place of detected contaminants or TICs. Full documentation is required when Structure Activity Relationships are used to support surrogate selection as is a discussion of the relevance of the selection of the surrogate. This is best done as part of the risk assessment methodology document submitted prior to conducting the baseline risk assessment.

Question: Is Region IV going to require toxicity profiles for site chemicals within the risk assessment?

Answer: Not necessarily. However, toxicity profiles are helpful when assessing potentiation between non-carcinogens and, if not included in the document, should be included as an Appendix.

RISK CHARACTERIZATION

Question: Does Region IV have any experience with risk assessments incorporating the results of a Monte Carlo analysis and does it have any overall policy guidelines for use of Monte Carlo analysis in risk assessment?

Answer: The use of Monte Carlo analysis to circumvent or replace reasonable maximal exposure factors is not acceptable. Monte Carlo analysis is a powerful tool to help provide additional information or support additional viewpoints to the risk manager. However, in many cases - the example provided in this discussion was differences between fish consumption in various studies - the mean of an exposure factor and its distribution (required for use in a Monte Carlo analysis) are not well understood and are usually no better than those used to calculate the reasonable maximal exposure. Region IV stressed that the reasonable maximal exposure was a balanced mix of upper confidence limits and mean values resulting in a conservative, yet realistic, estimate of maximal exposure.

Any documentation used in a Monte Carlo analysis should be provided to Region IV along with the analysis.

Question: How does Region IV want possible potentiation of non-carcinogenic toxic effects to be addressed?

Answer: Region IV has not yet established guidelines to cover potentiation of non-carcinogenic toxic effects. The methodology to deal with this potential problem should be covered in the risk assessment methodology document submitted to Region IV prior to conducting the baseline risk assessment.

REMEDIAL GOAL OPTIONS

Question: What are remedial goal options and how should they be used?

Answer: The remedial goal options section, presented at the end of the baseline risk assessment report, provides concentrations of the potential contaminants of concern (or in some cases the contaminants of concern) corresponding the lifetime excess cancer risks of $1x10^{-6}$, $1x10^{-5}$, and $1x10^{-4}$ as well as Hazard Indices of 0.1, 1.0, and 10. This matrix should be constructed for each of the exposure scenarios examined in the baseline risk assessment.

Region IV indicated this may be the section where the results of the Monte Carlo analysis are best presented.