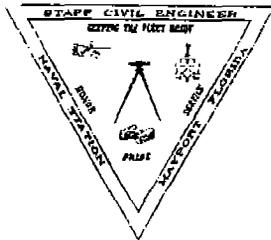


N60201.AR.000271
NS MAYPORT
5090.3a

MINUTES AND AGENDA FOR RESTORATION ADVISORY BOARD MEETING HELD 21
SEPTEMBER 1995 WITH TRANSMITTAL NS MAYPORT FL
10/16/1995
NAVAL STATION MAYPORT

32228-000

13.03.00.0064



STAFF CIVIL ENGINEER DEPARTMENT
NAVAL STATION
MAYPORT, FLORIDA 32228-0067

IN REPLY REFER TO:

5090.15

N4E4

16 Oct 95

MEMORANDUM

From: Cheryl Mitchell, Navy Co-Chair
To: RAB Members

Subj: MINUTES OF SEPTEMBER MEETING

1. As you will soon read for yourselves, I'm trying a new format for the minutes. A more "formal" format, I should say. Please let me know if you like this format better or any other comments/suggestions you may have on the format.
2. I have also included the agenda for our next meeting. See you then,

Cheryl Mitchell

Copy to:
NAVSTA N004, N4E, N4A, N4, 00
SOUTHNAVFACENCOM (Code 1852)
ABB-ES (T. Hansen/P. Layne/F. Lesesne/A. Power)
FDEP Tallahassee (J. Cason)
USEPA (J. Bassett/M. Berry)
COMNAVBASE Jacksonville (N3)

NAVSTA MAYPORT RESTORATION ADVISORY BOARD

ORIENTATION MEETING SEPTEMBER 21, 1995

MINUTES

MEMBERS PRESENT

Jay Carver
Jim Cason
Edwin Cordes
David Driggers
Patricia Lauderdale
Cheryl Mitchell (Navy Co-Chair)
Paul Perez

MEMBERS EXCUSED

Bob Weiss (Community Co-Chair), Excused

I. CALL TO ORDER The meeting, part of an on-going orientation series, was called to order at 6:35 p.m.

II. APPROVAL OF AUGUST MEETING MINUTES The meeting minutes were approved.

III. PRESENTATIONS

1. Janet Burris of ABB-ES gave a presentation on Ecological Risk Assessment. This was the second presentation of Risk Assessment, Human Risk was discussed at the last meeting. Handouts on the presentation were available to the members and audience. The decision to take corrective action at a site is based on both Human and Ecological Risk at the site.

2. Terry Hansen of ABB-ES, Peggy Layne's replacement, presented information on the 10 Human Carcinogens which had been requested by the members during the previous meeting's discussion on human risk assessment.

3. Frank Lesesne of ABB-ES gave an overview of the RFI Group II SWMUs, how Risk Assessment enters into the recommendations/conclusions in the report and how this will all lead into the forthcoming Corrective Measures Study (CMS). The CMS discusses what methods are appropriate for cleaning-up a site, if required, and recommends the best method based on several factors. The majority of the Group II sites are primarily along the river in the northwest portion of the base. Petroleum contamination is the primary contaminant at SWMUs 6,7,11. Corrective Measures will be implemented at these SWMUs. If the site should ever become a residential site, there is a potential human health risk associated with arsenic and lead in the groundwater. There is currently no ecological risk at these sites. There is a recently discovered Area of Concern near SWMU 12 that requires further investigation, separate from SWMU 12, which is planned for FY96. There is pesticide contamination at SWMU 15 near the lighthouse. There is an ecological risk associated with this site due to the levels of pesticides in the soils. Corrective Measures will be implemented at

this SWMU. The other SWMUs in Group II are recommended for No Further Action at this time.

IV. DISTRIBUTION OF DOCUMENTS A discussion was initiated on whether the community members still wanted the upcoming documents in their entirety since they are several hundred pages long and bulky. Possible alternatives to the entire documents are to send the Executive Summary, Table of Contents, and each SWMU's recommendation and conclusion. **WE WILL REVISIT THIS DISCUSSION AT THE NEXT MEETING TO ENSURE THAT EACH MEMBER RECEIVES EXACTLY WHAT THEY NEED.**

V. QUESTIONS AND ANSWERS Regarding the *RFA Group I and II Report* - seven sites were included in this report and 2 of those, SWMUs 49 and 50, were recommended to undergo a "focused ecological risk assessment" to further delineate the ecological risk at these sites. The other 5 SWMUs were recommended for No Further Action at this time. Jay Carver had a question relating to the referencing of analytical methods by number and not by name. He thought that it was somewhat confusing to use the numbers and not the names of the methods. **TO UNDERSTAND THE NUMERICAL REFERENCES YOU MUST REFER BACK TO THE GIR REPORT. ON PAGES 2-25 THROUGH 2-31 THERE ARE TABLES WHICH LIST THE ANALYTES AND THE METHODS USED. FOR EXAMPLE, TABLE 2-5 LISTS INORGANIC ANALYTES WHICH HAVE SEVERAL DIFFERENT METHODS DEPENDING UPON THE TARGET ANALYTE. METHOD 6010 COVERS MOST OF THE INORGANICS, HOWEVER THERE ARE OTHER METHODS THAT ARE USED TO TEST FOR CYANIDE, MERCURY, TIN, ETC., AS SHOWN. TO UNDERSTAND WHY THE NUMBERS ARE REFERENCED AND NOT THE METHOD NAME YOU MUST REMEMBER THE INTENT OF PUBLISHING THE GENERAL INFORMATION REPORT (GIR) AS A PREDECESSOR TO ALL REPORTS. THE GIR SERVES AS A REFERENCE AND BACKGROUND GUIDE FOR THE ENVIRONMENTAL INVESTIGATION PROGRAM AT NAVSTA. FOR THOSE PEOPLE WHO ARE NOT FAMILIAR WITH ALL THE TERMINOLOGY OF THE PROGRAM THEY WILL HAVE TO USE THE GIR AS A REFERENCE COMPANION WHILE READING THROUGH ANY LATER REPORTS. BY COMPILING THE OFTEN REPEATED TERMS, METHODOLOGY, BACKGROUND GEOLOGY AND HYDROGEOLOGY IN ONE REPORT, VERSUS EVERY REPORT, IT REDUCES THE AMOUNT OF TIME FOR REGULATORY REVIEWERS TO SORT THROUGH EACH REPORT.** Another question Mr. Carver had was in regard to the tables and the lists of data with no apparent quality control ^{shown} within the tables themselves except for a duplicate sample once and a while. He was also concerned that the duplicates didn't look like they were related due to the variability of the sample results. Mr. Carver would like to see a little more of the control data along with the tables to show that the analyses are in control. A lengthy discussion was held about some of the possibilities for the variances and why monitoring well samples are inherently variable. Mr. Carver requested that the QC data be presented along with the tables. **THE QC DATA THAT MR. CARVER IS REQUESTING IS PRESENTED AS APPENDIX D, THE 1994 PARCCS REPORT, IN THE RFI GROUP II REPORT WHICH HAS NOT YET BEEN PROVIDED TO THE MEMBERS BUT IS IN THE PUBLIC REPOSITORY. I WILL BE PROVIDING A COPY OF THIS REPORT TO MR. CARVER AT OUR OCTOBER MEETING. BECAUSE THIS TOPIC IS SUCH A CRITICAL PART OF THE INVESTIGATION PROGRAM, WE WILL HAVE A PRESENTATION BY ABB-ES PERSONNEL ON QC SAMPLING, ANALYSIS AND VALIDATION PROCEDURES AT THIS MEETING AS WELL. BECAUSE THIS TYPE OF INFORMATION IS SO LENGTHY, IT IS NOT PROVIDED IN ITS ENTIRETY WITHIN THE BODY OF THE REPORT BUT AS AN APPENDIX TO THE REPORTS. IN THIS CASE, THE MEMBERS DID NOT HAVE A COPY OF THE REPORT. IT SHOULD ALSO BE NOTED THAT THE INTENDED READERS OF THESE REPORTS ARE THE TECHNICAL MANAGERS IN THE REGULATORY AGENCIES WHICH OVERSEE THE ENVIRONMENTAL PROGRAM AT NAVSTA. THE REPORTS HAVE BEEN ORGANIZED SUCH THAT THE MANAGERS CAN QUICKLY REVIEW THE REPORTS AND THE RECOMMENDATIONS/CONCLUSIONS AND THEN FORWARD THE REPORTS ON TO SPECIALIZED TEAMS TO REVIEW THE RELEVANT APPENDICES IN THE REPORTS - THE QC DATA, THE RISK ASSESSMENT DATA, THE BORING LOGS, ETC. IT IS JUST NOT FEASIBLE TO INCLUDE THIS TYPE OF DATA IN THE BODY OF THE REPORT.**

VI. ALTERNATE MEMBERS Community members received the 10 applications of previous potential alternates. I reminded everyone that when reviewing the applications they should keep in mind that the RAB is supposed to represent a diversity of the community. There are now 2 "technical" members on the RAB. In losing Bronson Lamb and John Meserve we lost the local business representation as well as religious representation (Mr. Lamb). It was suggested that the members should choose their top 3 choices and then rank the remainder in order of preference. Because Mr. Cordes will not be at the next meeting he wrote down his 3 choices for me to bring to the next meeting.

VII. DATE SCHEDULED FOR NEXT MEETING The next regularly scheduled RAB meeting is 19 October 1995 at 6:30 p.m. in the Atlantic Beach City Hall Council Chambers at 800 Seminole Road.

VIII. ADJOURNMENT The meeting was adjourned at 8:50 p.m.

AGENDA
RAB Orientation Meeting
September 21, 1995, 6:30 p.m.

- ▶ Welcome Cheryl Mitchell

- ▶ Overhead Presentation Janet A. Burris
INTRODUCTION TO ECOLOGICAL RISK ASSESSMENT

- ▶ Overhead Presentation Terry Hansen
TOP TEN CLASS A HUMAN CARCINOGENS

- ▶ Overhead Presentation Frank Lesesne
RFI Group II SWMUs Report

- ▶ Questions & Answers NAVSTA Mayport RAB Members
RFA Group I and II SWMUs Report

- ▶ General Discussion NAVSTA Mayport RAB Members
 - Alternate RAB Member Discussion
 - Documents Requiring Review
 - Other Topics

An Overview of the
RCRA Facility Investigation (RFI)
Group II Solid Waste Management Units

September 21, 1995

Naval Station Mayport
Restoration Advisory Board

**What is the purpose of a RCRA
Facility Investigation (RFI)?**

- An RFI is conducted to:
 - determine the nature, extent, and fate of environmental releases
 - provide information to conduct a human health and ecological risk assessment
 - recommend corrective measures, if required, for solid waste management units (SWMUs) evaluated in the RFI

Naval Station Mayport
Restoration Advisory Board

How will the RFI be used?

- The RFI represents the second step in the cleanup process.
- The report identifies SWMUs needing cleanup, which is assessed in a corrective measures study (CMS).
- A corrective measure study identifies different technologies which could be used to clean up contamination which poses a threat to human or ecological receptors.

Naval Station Mayport
Restoration Advisory Board

Map of SWMUs
See attached

Naval Station Mayport
Restoration Advisory Board

**SWMUs 6, 7, 8, 9, 10, and 11
Oily Waste Treatment Plant (OWTP) Area**

- Petroleum-related compounds have been released from the former Waste Oil Pit, the Sludge Drying Bed, and the Fuel Spill Area (SWMUs 6, 7, and 11).
- Risk associated with groundwater for a hypothetical residential future land use scenario were identified and attributed to arsenic and lead.

Naval Station Mayport
Restoration Advisory Board

**SWMUs 6, 7, 8, 9, 10, and 11
OWTP Area (cont.)**

- Groundwater naturally discharging into the St. Johns River is not expected to pose a risk for aquatic receptors.
- No further investigation is recommended for SWMU 8 (OWTP Percolation Pond), SWMU 9 (OWTP), and SWMU 10 (Hazardous Waste Storage Area).
- A CMS is recommended for free-phase hydrocarbons and subsurface soil at SWMUs 6 and 7.

Naval Station Mayport
Restoration Advisory Board

SWMU 12 Neutralization Basin

- Indications of a release from the neutralization basin were not observed.
- Risk associated with a hypothetical use of groundwater has been identified and is attributed to concentrations of arsenic.
- Groundwater naturally discharging into the St. Johns River is not expected to pose a risk to ecological receptors.

*Naval Station Mayport
Restoration Advisory Board*

SWMU 12 Neutralization Basin (cont.)

- RFI data indicate that a release of sodium hydroxide from a building near SWMU 12 may have affected soils and/or groundwater. It is recommended that this area be investigated.
- No further investigation is recommended for SWMU 12.

*Naval Station Mayport
Restoration Advisory Board*

SWMU 15 Old Pesticide Handling Area

- Data suggest that pesticides were released into this area.
- Risks attributed to 4,4'-DDT concentrations were identified for small mammals and birds.
- Concentrations of chromium, mercury, and zinc may be harmful to plant life, based on a comparison of concentrations detected to values in literature.

*Naval Station Mayport
Restoration Advisory Board*

SWMU 15 Old Pesticide Handling Area (cont.)

- Risk associated with surface soil ingestion, dermal contact, dust inhalation, and a hypothetical future use of groundwater were identified and are attributed to concentrations of:
 - arsenic: soil, dermal, dust, groundwater
 - chlordane, 4,4'-DDT: soil, dermal, dust
 - BHCs, bis(2-ethylhexyl)phthalate: groundwater
- A CMS to remediate soil and groundwater is recommended for SWMU 15.

*Naval Station Mayport
Restoration Advisory Board*

SWMU 16 Old Transformer Storage Yard

- No human health or ecological risks were identified for soil or groundwater.
- Ecological risks associated with groundwater naturally discharging to the St. Johns River are not expected.
- No further investigation is recommended for SWMU 16.

*Naval Station Mayport
Restoration Advisory Board*

Summary

- No further investigation is recommended for SWMUs 9, 10, 12, and 16.
- CMSs are recommended for SWMU 6 (Waste Oil Pit), 7 (OWTP Sludge Drying Beds), and SWMU 15 (Old Pesticide Handling Area).
- The CMS process has begun, and final reports should be completed by the end of 1995.

*Naval Station Mayport
Restoration Advisory Board*

***The Top Ten:* Class A Human Carcinogens**

September 21, 1995

*Naval Station Mayport
Restoration Advisory Board*

Carcinogens

- Carcinogens are chemicals that have been determined to cause cancer in humans.
- There are 10 chemicals that are listed as Class A Human Carcinogens.
- Chemicals are identified by their Chemical Abstracts Registry Number (CASRN), which is unique to each chemical.

*Naval Station Mayport
Restoration Advisory Board*

Arsenic 7440-38-2

Arsenic is produced primarily as a by-product from the operation of smelters, glass manufacturing, pesticide production and application, and burning of fossil fuels. The major uses of arsenic are as wood preservatives and agricultural pesticides.

*Naval Station Mayport
Restoration Advisory Board*

Asbestos 1332-21-4

Asbestos is the name used for a group of six different minerals that occur naturally in the environment. These minerals are made up of long thin fibers that are very strong and resistant to heat and chemicals. This has led to their use in building materials, friction products and heat-resistant fabrics.

*Naval Station Mayport
Restoration Advisory Board*

Benzene 71-43-2

Benzene occurs naturally in coal and crude oil, and is found in gasoline. It has been used in the past in the production of rubber and certain inks and dyes. Benzene evaporates rapidly allowing rubbers to harden and inks to dry quickly. Benzene generally occurs as a liquid, but can evaporate readily into a gas.

*Naval Station Mayport
Restoration Advisory Board*

Benzidine 92-87-5

Benzidine is a man-made organic chemical that was once widely produced in the U.S. Dyes, cloth, paper, and leather were manufactured using this substance. Benzidine is white, grayish-yellow, or slightly red and occurs in a sugar-like solid or powder form.

*Naval Station Mayport
Restoration Advisory Board*

**Bis(chloromethyl)ether
or BCME
542-88-1**

BCME is a man-made chemical used in the production of polymers, resins, and textiles. Vulcanized rubbers and flame-retardant fabrics often contained BCME. It is a liquid at room temperature with a strong unpleasant odor.

*Naval Station Mayport
Restoration Advisory Board*

**Chloromethyl methyl ether
or CMME
107-30-2**

CMME is a colorless liquid that is used in the manufacture of irritant gases and usually occurs as an intermediate product. CMME almost always contains BCME as an impurity.

*Naval Station Mayport
Restoration Advisory Board*

**Chromium VI
7440-47-3**

Chromium VI, hexavalent chromium, is generally produced in industrial processes, and is used mainly for making steel and other alloys. Chromium compounds are used for chrome plating, the manufacture of pigments, leather tanning, and wood treatment.

*Naval Station Mayport
Restoration Advisory Board*

**Coke Oven Emissions
8007-45-2**

Coke Oven Emissions are substances that are released to the air during the process of creating coke, which is used in the production of steel. During this process coal is burned in the absence of oxygen.

*Naval Station Mayport
Restoration Advisory Board*

**Nickel Refinery Dust
no CASRN**

Nickel Refinery Dust (fumes, dust, and emissions) is released into the air as by-products of processing and smelting of nickel. The dust often contains elemental nickel and nickel compounds.

*Naval Station Mayport
Restoration Advisory Board*

**Nickel Subsulfide
12035-72-2**

Nickel Subsulfide is a naturally occurring bronze-colored metal. It is used to make stainless steel, batteries, coins, paints, and electronic parts. Nickel Subsulfide releases sulfur oxides when heated and can cause asthma and skin itching in some people.

*Naval Station Mayport
Restoration Advisory Board*

Introduction to Ecological Risk Assessment

Janet A. Burris
ABB Environmental Services

Introduction to Ecological Risk Assessment

- Definitions
- Review of basic components
 - problem formulation
 - exposure assessment
 - ecological effects assessment
 - risk characterization
 - uncertainty analyses
- Comparison of human health & ecological assessments

Definitions of Ecological Risk

- Risk: The likelihood of an undesired effect
- CERCLA: "a qualitative and/or quantitative appraisal of the actual or potential effects of a hazardous waste site on plants and animals other than people or domesticated species."
- NRC: "...the characterization of the adverse ecological effects of environmental exposures to hazards imposed by human activities."
- Ecological: having to do with non-human organisms, populations, and ecosystems.
- Ecological risk is not defined in RCRA, therefore the CERCLA Base line Risk Assessment methodology is used to evaluate releases from SWMUs.

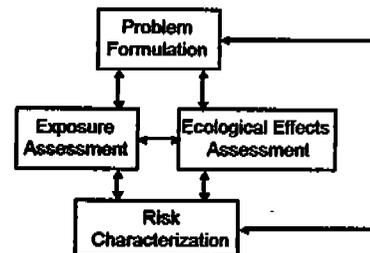
Purpose of Ecological Assessment

To assess the extent of risks associated with chemical contamination in order to direct remediation efforts where they will be most effective.

Ecological Assessments Can Be:

- Predictive
 - describes potential adverse effects in present or future that are likely to occur as a result of exposure to a stressor
- Retrospective
 - assessment of present or future effects of contamination that began in the past (waste sites, existing pesticides)
 - contaminated environment is available for study
 - source driven - source identified, extent of ecological exposure or effects unknown (oil spill)
 - effects driven - effects on individuals, populations, or ecosystem observed, cause unknown (tumors in fish)
 - exposure driven - environmental contamination found, source and effects unknown

Ecological Assessment of RCRA and Superfund Sites: An Overview



Problem Formulation



- Specify objectives and scope
- Qualitatively evaluate release, migration and fate of contaminants
 - Select ecological contaminants of potential concern (ECPCs)
- Identify:
 - ecological exposure pathways
 - ecological receptors (aquatic and terrestrial)
 - endpoints

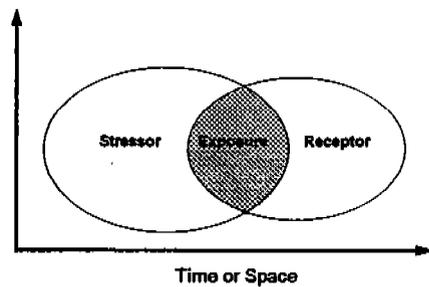
Exposure Assessment



A set of facts, assumptions and inferences about how ecological receptors are exposed to contamination

- characterize release, migration and fate of contaminants in environment
- characterize link between contaminants and receptors
- measure or estimate contaminant exposures for receptors

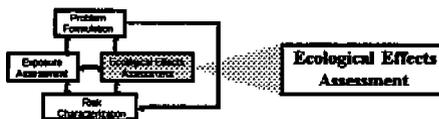
Exposure



Exposure Assessment Questions

- Which ecological receptors are exposed?
 - qualitative and quantitative field investigations
 - interviews with resource trustees
 - literature sources
- How are they exposed?
- What are concentrations or doses of contaminants to which they are exposed?

Ecological Effects Assessment



Describes potential adverse effects of contaminants to receptors

- reflects endpoints selected
- based on:
 - toxicity testing
 - literature information
 - field studies

Effects Assessment Questions

- Does the contaminant cause an adverse effect?
- What is the relationship between dose and adverse effects in ecological receptors?
- Which receptors are sensitive to the contaminant?

Effects Assessment

- Predict toxicity based on
 - chemical structure
 - toxicity test data
 - extrapolation models
- Measure response to contamination
 - measure observed exposures or effects in receptors at site
 - toxicity testing of contaminated media
- Prediction versus measurement of effects
 - measurement is an option in ecological assessment not available in human health
 - measurement reduces uncertainties
 - site specific judgment concerning methods for measurement

Risk Characterization



The process of integrating exposure and effects to estimate risks and summarize the results for the decision maker(s)

- estimation of adverse effects
 - current
 - future
- characterization of uncertainties
- interpretation of ecological significance
- recommendations - remedial goals to reduce ecological risk

Risk Characterization Questions

- What is the probability that an adverse effect will occur?
- What is the estimated magnitude of the impact?
- What is the temporal nature of each effect?
- What receptor populations or habitats will be affected?
- What uncertainties are associated with the risk conclusions?

Uncertainty

- The concept of risk is inherently probabilistic which implies uncertainties
 - uncertainty in parameters
 - uncertainty in estimates
 - uncertainty in models



Remedial Action Goals: Types

- Concentrations to be achieved
- Toxicity to be eliminated
- Area to be isolated or removed
- May include need for further definition
 - more soil samples to map contamination
 - toxicity testing to confirm toxicity
- Examples
 - limit concentrations of x to y mg/kg in top 18 inches of soil
 - prevent contaminants in groundwater from migrating and discharging into surface water.

Comparison of Human Health & Ecological Risk Assessment

	Human Health	Ecological
■ Receptors		
■ Endpoints		
■ Exposure Assessment		
■ Toxicity Assessment		
■ Risk Characterization		

AGENDA
NAVSTA Mayport
Restoration Advisory Board (RAB)
Orientation Meeting
October 19, 1995, 6:30 p.m.

- | | |
|--|-----------------------|
| ▶ Welcome | Cheryl Mitchell |
| ▶ Overhead Presentation
<i>INTRODUCTION TO DATA VALIDATION</i> | Richard Stevens |
| ▶ Overhead Presentation
<i>NAVY ENVIRONMENTAL LEADERSHIP PROGRAM (NELP)</i> | Cheryl Mitchell |
| ▶ Overhead Presentation
<i>RFI Group II Report</i> | Frank Lesesne |
| ▶ Alternate RAB Member Discussion | RAB Community Members |
| ▶ Other Topics <ul style="list-style-type: none">• Document Mailout• Availability Session | RAB Members |