



DEPARTMENT OF THE NAVY  
PORTSMOUTH NAVAL SHIPYARD  
PORTSMOUTH, N. H. 03804-5000

N00102.AR.000752  
NSY PORTSMOUTH  
5090.3a

IN REPLY REFER TO:

November 9, 1999

MEMORANDUM

FOR THE MEMBERS OF THE RESTORATION ADVISORY BOARD (RAB) CERCLA  
REMEDIAL ACTION PROGRAM, PORTSMOUTH NAVAL SHIPYARD, KITTERY, MAINE

The next RAB meeting will be held on Thursday, November 18, 1999 at 7 p.m. at the Courtyard Marriott in Portsmouth, NH. There will be presentations on the Federal Facility Agreement and the Feasibility Study for Operable Unit #3 (Jamaica Island Landfill, former Waste Oil Tanks and Mercury Burial Vaults I and II).

Your participation is greatly appreciated. If you are unable to attend the meeting, please call me at (207) 438-3830. I look forward to seeing you at the RAB meeting.

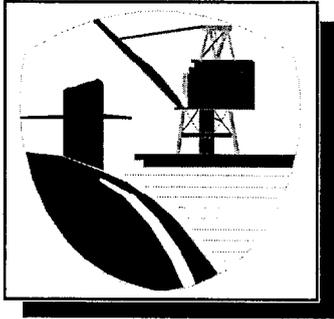
Sincerely,

*Marty Raymond*  
for

Ken Plaisted  
Navy Co-Chairman  
Restoration Advisory Board

Distribution:

Doug Bogen	Jeff Clifford	Mary Menconi
Michele Dionne	Eileen Foley	Mary Marshall
Phil McCarthy	Jack McKenna	Onil Roy
Roger Wells	Carolyn Lepage	Johanna Lyons
EPA Region I (M. Cassidy)		
MEDEP (Iver MacLeod)		
NOAA (K. Finkelstein)		
MEDMR (D. Card)		
NHFG (C. McBane)		
USFWS (K. Munney)		
North Div (F. Evans)		
COMSUBGRU TWO (R. Jones)		
Portsmouth Naval Shipyard (Codes 106, 106.3, 106.3R, 100PAO, 105, 105.5, NRRO)		



**PORTSMOUTH NAVAL SHIPYARD  
RESTORATION ADVISORY BOARD  
AGENDA**

**Date - November 18, 1999**

**Place - Marriott Courtyard, Portsmouth, NH**

**Time - 7 p.m. - 9 p.m.**

**Introductions**

**Status of Work**

**Regulator Updates**

**Federal Facility Agreement**

**Draft Feasibility Study for Operable Unit 3**

**Other Issues as Required**

## **FEDERAL FACILITY AGREEMENT PORTSMOUTH NAVAL SHIPYARD**

- **Section 120 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) requires that the lead agency (Navy in the case of PNS) enter into a Federal Facility Agreement (FFA) with the EPA.**
- **FFA formally establishes that the Navy will investigate and control the releases and threatened releases of hazardous substances at Portsmouth Naval Shipyard (PNS).**
- **FFA ensures that EPA will have a formal oversight role in the investigation and cleanup.**
- **The Maine Department of Environmental Protection will continue to oversee the investigation and cleanup at PNS, but chose not to be a party to the FFA.**

## **FEDERAL FACILITY AGREEMENT PORTSMOUTH NAVAL SHIPYARD**

### **The PNS FFA:**

- **Requires compliance with CERCLA and the National Contingency Plan, and other applicable and relevant and appropriate federal and state laws/ regulations.**
- **Establishes enforceable schedules and deadlines for the performance of work at PNS by the Navy.**
- **Allows EPA to assess penalties for missed deadlines.**
- **Establishes a mechanism for the resolution of any disputes that may arise between EPA and the Navy regarding the CERCLA cleanup of PNS.**
- **Contains specific requirements for delivery of major reports and design documents.**

## **FEDERAL FACILITY AGREEMENT PORTSMOUTH NAVAL SHIPYARD**

- **PNS FFA was signed by the Navy on September 29 1999, and by EPA Region 1 on September 30, 1999.**
- **Public comment period on PNS FFA runs from October 27 to December 11, 1999.**
- **Written comments on the PNS FFA should be mailed or faxed to:**

**Mr. Alan Robinson  
Code 100PAO  
Portsmouth Naval Shipyard  
Portsmouth, NH 03804-1140**

- **Navy must forward all comments received to EPA by January 3, 1999 (21 days following end of comment period).**
- **EPA and Navy have 30 days to jointly review comments, compile a response to any comments received, and determine whether the FFA requires modification based on comments received.**

# OPERABLE UNIT 3 (OU3) FEASIBILITY STUDY (FS)

Restoration Advisory Board (RAB) Meeting

PORTSMOUTH NAVAL SHIPYARD

NOVEMBER 18, 1999

Presented by

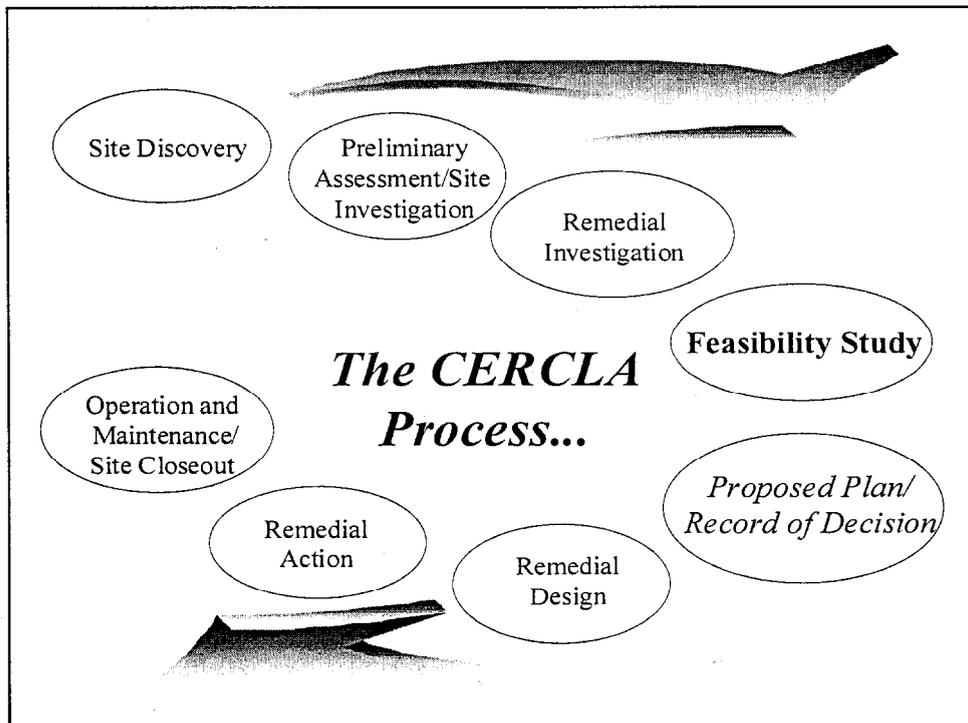
Fred Evans, Navy

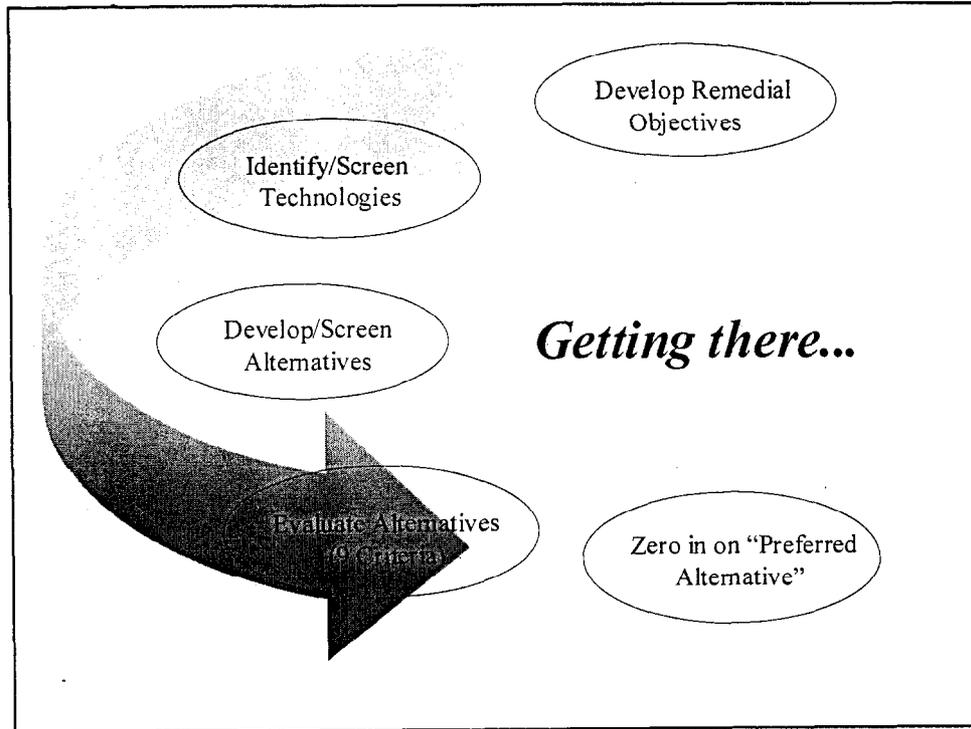
Debbie Cohen, TtNUS

## Purpose and Scope of OU3 Feasibility Study

- Describes the formulation and evaluation of soil and groundwater remedial alternatives to address the chemicals at OU3
- Fulfills the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

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## Operable Unit 3 (OU3)

- Located in the eastern portion of PNS
- Used for vehicle parking, equipment storage, and limited recreational activities
- Includes 3 Sites
  - Site 8 - Jamaica Island Landfill (JILF) (including JILF Impact Area)
  - Site 9 - Mercury Burial Sites (MBI and MBII)
  - Site 11 - Former Waste Oil Tanks Nos. 6 and 7

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## OU3 History

- Site 8, Jamaica Island Landfill (JILF)
  - Covers approx. 25 acres of former tidal mudflat filled from approx. 1945 to 1978
  - Wastes disposed of include general refuse, trash, construction rubble, incinerator ash, plating sludges, asbestos insulation, waste oil and solvents, spent sand blasting grit, and dredge spoils
- JILF Impact Area (Former Child Development Center)
  - Area potentially impacted by wind dispersal of chemicals from the JILF

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## OU3 History (cont'd)

- Site 9, Mercury Burial Vaults MBI and MBII
  - Mercury contaminated waste was buried in two locations within JILF between 1973 and 1975 reportedly under 8 to 10 feet of fill
  - Waste included fluorescent bulbs, thermometers, manometers, mercury switches, rags, brooms, dust pans, and misc. mercury contaminated waste
  - MBI - Concrete pipe removed in 1994. Remaining 3 concrete blocks removed in 1997
  - MBII has not been located

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## OU3 History (cont'd)

- Site 11, Waste Oil Tank (WOT) Nos. 6 and 7
  - Two 8,000 gallon steel tanks (former railroad cars) in use from 1943 to 1989
  - Stored waste oils from shops prior to offsite disposal
  - Tanks excavated, inspected, and reburied in 1979
  - Passed tightness testing in 1986
  - Removed in 1989 in accordance with State of Maine Regulations. 332 tons of soil also removed in 1989.

P119901

## Field Investigations at OU3

- Geophysical Investigations
  - Magnetometer Surveys
  - Ground Penetrating Radar (GPR)
  - Seismic Refraction Survey
  - Multi-Sensor Towed Array Detection System (MTADS) Survey
- Soil Gas Survey
- Test Pits, Soil Borings, and Monitoring Well Installations
- Soil and Groundwater Sampling
- Air Monitoring

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## Previous Activities at OU3

- Removal of MBI
- Removal of tanks at Site 11
- Removal of 332 tons of soil at Site 11
- Hydromulching along shoreline in Clark Cove

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## Contaminant Fate and Transport Modeling

- Phase I and Phase II modeling
- Conclusions
  - Surface water would not be impacted by continued migration from onshore sources.
  - Assuming steady state conditions, sediment would not be significantly impacted by continued migration from onshore sources (conservatively predicted concentrations near ER-M values).
  - Steady state conditions are likely, based on history and use of OU3 and comparison of groundwater data from the early 1990's and 1996/1997.

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## Risk Assessments

- Ecological Risk Assessments
  - No onshore ecological risks attributed to JILF
  - Low ecological risk off shore of OU3
  
- Human Health Risk Assessments
  - Onshore: Current use risks acceptable based on EPA target risk range, some exceedances of MEDEP guidance risk levels
  - Offshore: no unacceptable risk from exposure to surface water and sediment; potential risks from seafood ingestion in Lower Piscataqua River

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## Media of Concern

- Based on nature and extent of contamination at OU3, soil and groundwater at Sites 8, 9, and 11 can be addressed together
- JILF boundary used as boundary of OU3
- JILF Impact Area no longer included within OU3
  - Contamination differs from OU3 sites
  - Playground equipment and building removed; site regraded
  - Potential lead hot spot to be addressed separately

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## Remedial Action Objectives (RAOs)

- RAO 1: Prevent human exposure to contaminated soil/waste material
- RAO 2: Prevent human exposure to contaminated groundwater
- RAO 3: Prevent erosion of soil/waste material to offshore
- RAO 4: Ensure migration of groundwater contaminants does not adversely impact offshore
- RAO 5: Provide for PNS current/future land use
- RAO 6: Comply with regulations and guidance

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## Detailed Analysis Criteria

- **Threshold Criteria...** Must Satisfy Requirements
  - Overall Protection of Human Health and the Environment
  - Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)
- **Balancing Criteria...** Used to Identify Major Tradeoffs
  - Reduction of Toxicity, Mobility, or Volume Through Treatment
  - Short-term Effectiveness
  - Long-term Effectiveness and Permanence
  - Implementability
  - Cost

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## Detailed Analysis Criteria (con't)

- **Modifying Criteria**... Assess after the public comment period as part of the Proposed Plan
  - Regulatory Acceptance
  - Community Acceptance

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## Alternative 1

- **No Action**
  - Only 5-year site review
  - Included as CERCLA requirement
  
- **Concerns**
  - Does not meet RAOs

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## Alternative 2

### ■ Institutional Controls and Erosion Controls

- Land use restrictions
- Monitoring
- 5-year review
- Erosion controls

### ■ Concerns

- Current use meets EPA risk range, some exceedances of MEDEP risk guidelines

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## Alternative 3

### ■ Non-hazardous Waste Cover, Institutional Controls and Erosion Controls

- Includes Alternative 2 components
- Provides barrier between landfill materials and potential receptors
- Reduces infiltration of rainwater from approximately 22 gallons per minute (gpm) to 9 gpm

### ■ Concerns

- Offers some reduction in infiltration of rainwater
- Worker safety for minor excavation in landfill
- Some disruption of industrial activities at JILF

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## Alternative 4

- Hazardous Waste Cover, Institutional Controls and Erosion Controls
  - Includes Alternative 2 components
  - Provides barrier between landfill materials and potential receptors
  - Minimizes infiltration of rainwater (less than 1 gallon per minute)
- Concerns
  - May be difficult to obtain cap materials
  - Worker safety for some excavation in landfill
  - Disruption of industrial activities at JILF

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## Alternative 5

- Hazardous Waste Cover, Cut-Off Barriers, Groundwater Collection/Treatment, Institutional Controls and Erosion Controls
  - Same as Alternative 4 and provides barrier for groundwater migration offsite
- Concerns
  - Same concerns as Alternative 4
  - Worker safety and environmental concerns for installation of cut-off barrier
  - Long-term effectiveness concerns for cut-off barrier

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## Alternative 6

- Complete Excavation, Offsite Disposal, Institutional Controls on Groundwater
  - All waste materials excavated and disposed offsite
  - Land use restrictions for groundwater until remediation complete
- Concerns
  - Major short-term effectiveness concerns including worker safety and environment (during excavation activities)
  - Long time frame for remediation

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## Current Actions

- Finalize Risk Assessment and Phase II Modeling
- Perform Test Pitting at OU3
  - Investigate selected anomalies suspected to be drums
  - Determine whether encountered drums contain hazardous materials
- Continue Interim Offshore Monitoring (OU4)

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## Future Actions

- Finalize OU3 Feasibility Study (without test pitting results)
- Develop Proposed Plan for OU3 (with test pitting results)
- Investigate location of MBII and remove MBII (if located)

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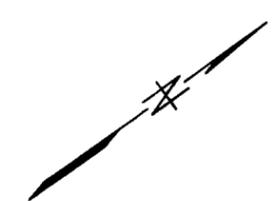
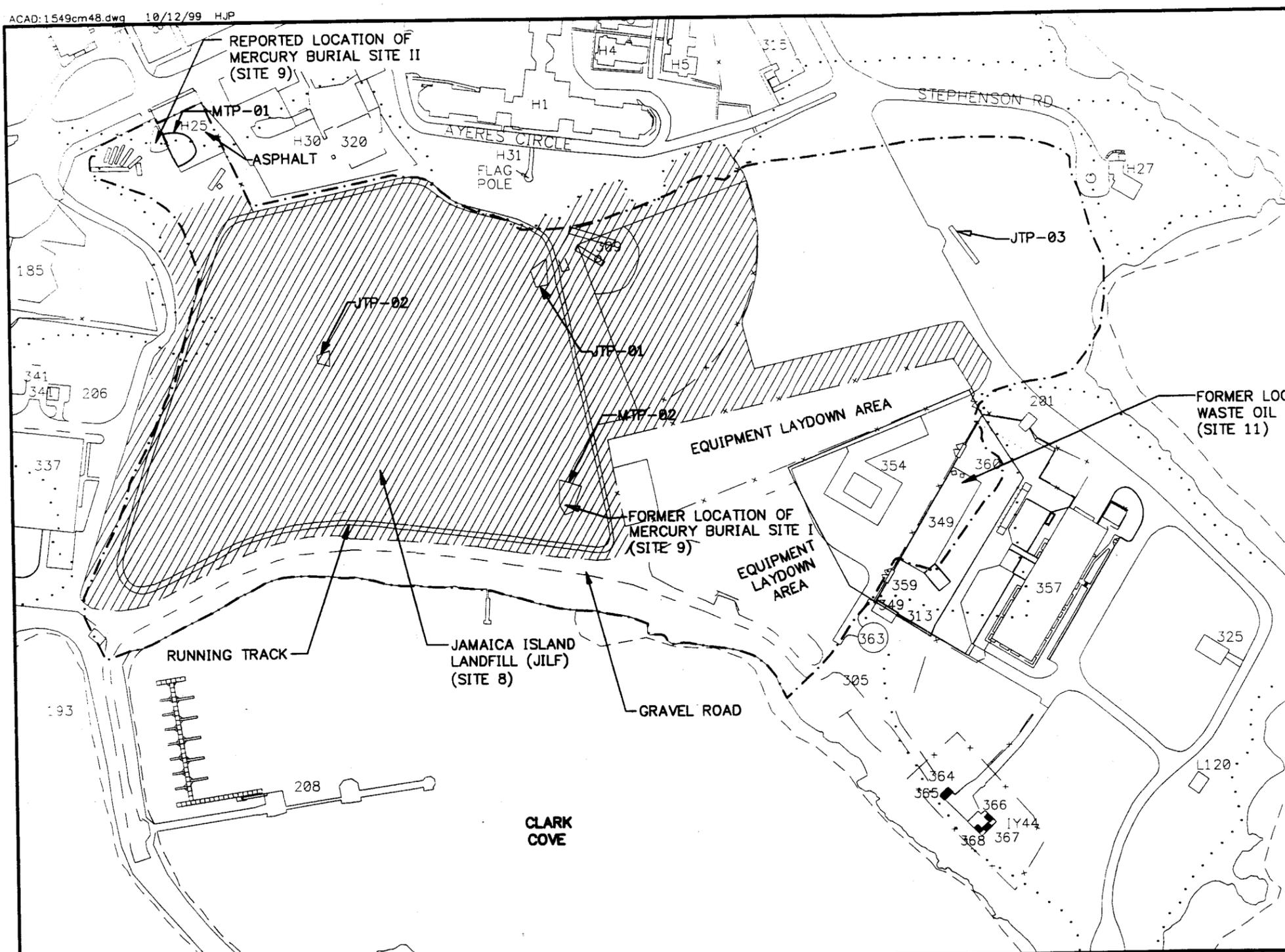
**SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES  
PORTSMOUTH NAVAL SHIPYARD, KITTEERY, MAINE**

<b>Alternative</b>	<b>Overall Protection</b>	<b>Compliance with ARARs</b>	<b>Long-term Effectiveness</b>	<b>Reduction of Toxicity, Mobility or Volume</b>	<b>Short-term Effectiveness</b>	<b>Implementability</b>	<b>Cost (Present-worth \$)</b>
Alternative 1	Low	Does not comply	Low	None	NA	Very easy	21,560
Alternative 2	High	Complies	Moderate	None	High	Very easy	1,040,000
Alternative 3	High	Complies	Moderate	None	Moderate/High	Easy	6,196,000
Alternative 4	High	Complies	Moderate	None	Moderate	A few concerns	10,751,000
Alternative 5	Moderate	Complies	Low	Minor reduction in toxicity	Low	More concerns	15,286,000
Alternative 6	Low	Complies	High	High reduction in toxicity and mobility	Very Low	Most difficult to implement	More than 1,000,000,000

- Alternative 1: No Action
- Alternative 2: Institutional Controls and Erosion Controls
- Alternative 3: Non-hazardous Waste Cover, Institutional Controls and Erosion Controls
- Alternative 4: Hazardous Waste Cover, Institutional Controls and Erosion Controls
- Alternative 5: Hazardous Waste Cover, Cut-Off Barrier, Groundwater Extraction/Disposal, Institutional Controls and Erosion Controls
- Alternative 6: Complete Excavation, Offsite Disposal, Institutional Controls for Groundwater

## ACRONYM LIST

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
EPA	U.S. Environmental Protection Agency
ER-M	Effects Range - Median
GPR	Ground Penetrating Radar
JILF	Jamaica Island Landfill
MBI	Mercury Burial Site I
MBII	Mercury Burial Site II
MEDEP	Maine Department of Environmental Protection
MTADS	Multi-Sensor Towed Array Detection System
OU	Operable Unit
PNS	Portsmouth Naval Shipyard
RAB	Restoration Advisory Board
RAO	Remedial Action Objective
WOT	Waste Oil Tank



**LEGEND:**

- BOUNDARY OF SITE 8 (JILF)
- ... HISTORICAL SHORELINE
- /// GRASS

**NOTES**

1. THE 1880 HISTORICAL SHORELINE OF JAMAICA ISLAND IS PROVIDED AS A GENERAL REFERENCE ONLY. SINCE THE ISLAND WAS PRIVATE PROPERTY AT THAT TIME, THE 1880 SHORELINE CANNOT BE DETERMINED WITH A HIGH DEGREE OF PRECISION.
2. THE JILF BOUNDARY IS BASED ON EXTENT OF LANDFILLING OPERATIONS AFTER 1945. FROM A HISTORICAL CONTOUR LINE MAP INDICATING DATES OF FILLING OPERATIONS.

0 200 400  
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES	DRAWN BY HJP 10/12/99	DATE 10/12/99	Tetra Tech NUS, Inc.	CONTRACT NO. 1549	OWNER NO. 0166
							CHECKED BY DJC 10/15/99 <td></td> <td rowspan="3">SITE LAYOUT MAP PORTSMOUTH NAVAL SHIPYARD KITTEERY, MAINE</td> <td>APPROVED BY</td> <td>DATE</td>		SITE LAYOUT MAP PORTSMOUTH NAVAL SHIPYARD KITTEERY, MAINE	APPROVED BY	DATE
							COST/SCHED-AREA			APPROVED BY	DATE
							SCALE AS NOTED			DRAWING NO. FIGURE 1-3	REV. 0

PORTSMOUTH NAVAL SHIPYARD  
INSTALLATION RESTORATION PROGRAM  
STATUS OF WORK  
18 November, 1999

**SITE STATUS**

**OU 1** (SITES 10, Battery Acid Tank, & 21, Acid/Alkaline Tank #28)

A field work report on for the Battery Acid Tank (Site 10) , is undergoing review and comment.

**OU 2** (SITES 6, DRMO, & 29, Incinerator Site)

Fate and transport modeling is being performed at Site 6 to assist in making remedial decisions.

A field work report for the Incinerator Site (Site 29) is undergoing review and comment.

A removal action is nearing completion for Site 6 for slope stabilization along the shoreline. Closeout report and Action Memorandum to be issued.

**OU 3** (SITES 8, Jamaica Island Landfill, 9, Mercury Burial Vaults, & 11, Waste Oil Tanks)

Fate and transport modeling is being performed at this site to assist in making remedial actions.

The Multi-Sensor Towed Array Detection System report is undergoing review and comment.

A work plan for test pitting at the Jamaica Island Landfill, Site 8, is undergoing review and comment.

**OU 4** (Areas off-shore that were potentially impacted by on-shore IRP sites and Sites 5 and 26)

The first round of interim off-shore monitoring was conducted in September.

Consensus statement to address Site 26 is more appropriately managed under other regulations will be prepared. The draft consensus statement will be submitted to the RAB for review and comment.

**OU 5** (SITE 27, Berth 6 Industrial Area (formerly Fuel Oil Spill Area)

Fate and transport modeling is being performed at this site to assist in making remedial action decisions.

Consensus statement to address that Site 27 is more appropriately managed under the State of Maine's Petroleum Program will be prepared. The draft consensus statement will be submitted to the RAB for review and comment.

PORTSMOUTH NAVAL SHIPYARD  
INSTALLATION RESTORATION PROGRAM  
STATUS OF WORK  
18 November, 1999

**Site Screening Areas:**

SITES 30, Galvanizing Plant (Building 184): 31, West Timber Basin; 32, Topeka Pier.

A report on the field work completed at Sites 30, 31 and 32 was submitted on February 23, 1999.

SITE 34, Galvanizing Plant (Building 62)

The ash pile was covered with geotextile liner, top soil and grass mat to prevent erosion.

DOCUMENT STATUS

**FATE AND TRANSPORT MODELING**

PURPOSE - To evaluate current onshore contaminant migration to the offshore environment. Results will assist in determining the need for remediation and the type of remediation required for OU 2, OU 3, and Site 27.

STATUS - Received comments on draft final Phase II Fate and Transport Modeling Report.

NEXT ACTION - Respond to comments on the draft final Phase II Fate and Transport Modeling Report.

**ECOLOGICAL RISK ASSESSMENT (ERA) - OFFSHORE**

PURPOSE - Evaluate the potential for adverse effects from contaminants that may have migrated from Shipyard IR Sites to the offshore.

STATUS - Received comments on revised executive summary for Revised Draft Final ERA.

NEXT ACTION - Respond to comments.

**FEDERAL FACILITY AGREEMENT**

PURPOSE - To establish the roles and responsibilities of the Navy, and EPA and serve as an Interagency Agreement (IAG) for the completion of all necessary remedial actions at PNS. Includes development of a Site Management Plan to be used as the schedule for the IR Program at the Shipyard. CERCLA requires an IAG to be in place within 180 days after a Record of Decision (ROD) is signed.

STATUS - Public comment period on FFA until December 11, 1999.

NEXT ACTION - Receive comments on FFA.

PORTSMOUTH NAVAL SHIPYARD  
INSTALLATION RESTORATION PROGRAM  
STATUS OF WORK  
18 November, 1999

**Interim Monitoring Plan**

PURPOSE - To establish monitoring methods to determine whether the remedial action objectives of the interim record of decision are being met.

STATUS -Conducted first round of monitoring in September. Received comments on the draft final interim monitoring plan.

Next Action: Respond to comments on draft final interim monitoring plan.

**Seep/Sediment Report**

PURPOSE - To evaluate whether seeps may be a current source of chemical migration from onshore sources.

STATUS -Preparing draft report.

Next Action: Submit draft report.

PORTSMOUTH NAVAL SHIPYARD  
INSTALLATION RESTORATION PROGRAM  
STATUS OF WORK  
June 24, 1999

DOCUMENT SCHEDULE

Offshore Ecological Risk Assessment Issue Final Report	January 2000
Phase II Fate and Transport Modeling Report Respond to Comments on draft final report	November 1999
Lead IEUBK Modeling Report for DRMO Impact Area Respond to Comments on draft final report	December 1999
OU 3 Risk Assessment Update/ Background Report Respond to comments on Draft Final	December 1999
MTADS Survey Receive comments on Navy responses	December 1999
OU3 Testpitting Workplan Technical meeting	November 30, 1999
OU4 Interim Monitoring Plan Respond to comments on final report	December 1999
Seep/Sediment Report Submit draft report	December 1999
Site Screening Report (Sites 30, 31, and 32) Issue response to comments	January 2000
Field Investigation Report (Sites 10 & 29) Issue Draft Final	December 1999
Federal Facility Agreement Receive comments	December 1999



DEPARTMENT OF THE NAVY  
PORTSMOUTH NAVAL SHIPYARD  
PORTSMOUTH, N. H. 03804-5000

IN REPLY REFER TO:

December 29, 1999

MEMORANDUM

FOR THE MEMBERS OF THE RESTORATION ADVISORY BOARD CERCLA REMEDIAL  
ACTION PROGRAM, PORTSMOUTH NAVAL SHIPYARD, KITTERY, MAINE

Enclosed please find the draft minutes from the November 24, 1999, Restoration Advisory Board meeting for your review and comment. Comments are requested by January 19, 2000. You may provide your comments to me at (207) 438-3830.

Sincerely,

A handwritten signature in cursive script that reads "Marty Raymond".

Ken Plaisted  
Navy Co-Chairman  
Restoration Advisory Board

Distribution:

Doug Bogen  
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NORTHDIV (F. Evans)  
COMSUBGRU TWO (R. Jones)  
Tetra tech NUS (L. Klink, D. Cohen)  
PNS (Codes 106, 106.3, 106.3R, 100PAO, 105, 105.5, NRRO)

**RESTORATION ADVISORY BOARD MEETING  
PORTSMOUTH NAVAL SHIPYARD  
MARRIOTT COURTYARD, PORTSMOUTH, NH  
NOVEMBER 18, 1999**

The meeting began at 7:10 p.m. and ended at 9:45 p.m. Community members attending were: Doug Bogen, Jeff Clifford, Mary Menconi, and Michele Dionne; regulatory members Meghan Cassidy (EPA) and Denise Messier (MEDEP); and Navy members Ken Plaisted and Fred Evans. Others attending were Carolyn Lepage, the Seacoast Anti-Pollution League's (SAPL) technical advisor; Johanna Lyons and Steve Haberman of SAPL; Marty Raymond, Alan Robinson, and Tom DeVaney from the Portsmouth Naval Shipyard (PNS). Among the guests were Linda Klink and Debra Cohen from Tetra Tech NUS, Kristen Wandland from ENSR, and Don Card. Community members Roger Wells, Phil McCarthy, Onil Roy, Eileen Foley and Mary Marshall were absent.

### **INTRODUCTION**

Doug Bogen, community co-chair, welcomed the Restoration Advisory Board (RAB) and introduced the primary topics of the evening; an explanation of the Federal Facility Agreement (FFA) and a review of the Draft Feasibility Study (FS) for Operable Unit 3 (OU 3).

### **STATUS OF WORK**

Fred Evans provided a handout summarizing the work status. Recent activities by the Navy have focused on the stabilization of the shoreline at the Defense Reutilization and Marketing Office (DRMO). The slope stabilization is complete, with a slope of 1.5:1. The fence is still being completed. Photographs of the operation were presented to the RAB. A letter that presents the results of Round I of interim monitoring of sediment, mussel and juvenile lobsters for lead at the DRMO as well as the monitoring stations up and down river of DRMO has been sent out to the RAB.

The Navy is planning to remove, if found, the Mercury Burial Vault II (MBII) in early summer, 2000. Comments were received by the Navy on the draft final Phase II Fate and Transport Modeling Report and the executive summary of the Revised Draft Final Ecological Risk Assessment - Offshore. The Navy is working on the response to these comments. The FFA has been released for public comments. All comments are due to the Navy by December 11, 1999.

The first round of monitoring under the Interim Monitoring Plan was conducted in September, and the Navy received comments on the Draft Final Interim Monitoring Plan. The Navy is working on the response to these comments. The Navy is also preparing the Draft Seep/Sediment Report.

In addition, the Navy is holding a technical meeting on Tuesday November 30, 1999 regarding the Jamaica Island Landfill (JILF) test pitting. *Note the meeting was subsequently rescheduled until December 15, 1999.*

### **REGULATOR UPDATES**

EPA --- Meghan Cassidy told the RAB that EPA's geotechnical engineer had visited the DRMO during the slope stabilization, and was pleased with the process. EPA is currently reviewing the offshore sediment data and the FS for OU3.

**MEDEP** --- Denise Messier summarized recent activities by the state. The state's visited the DRMO during the slope stabilization and found nothing of concern. The state is currently working on comments on the OU3 FS and FFA. The state may or may not comment on the FFA. Iver MacLeod (MEDEP) is compiling comments on the OU3 FS, and expressed concerns through Denise Messier to the RAB over the Applicable and Relevant and Appropriate Regulations (ARARs). The state was not able to comment formally to the RAB on these concerns.

### **FEDERAL FACILITY AGREEMENT**

Meghan Cassidy of EPA presented the draft FFA to the RAB. The FFA was forwarded to the RAB in mid-October for review. The Site Management Plan, an appendix to the FFA, was not included with the FFA. The Navy had sent the Site Management Plan to the RAB at an earlier date, and any members without a copy should contact the Navy.

Section 120 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) requires a lead agency (the Navy) to enter into Federal Facility Agreement with EPA. The FFA establishes that the Navy will investigate and control releases at the Shipyard, and that EPA will have a formal oversight role in the investigation and cleanup. Although the state chose to not be a formal party to the FFA, the MEDEP will continue to oversee investigation and cleanup.

The Shipyard FFA requires compliance with CERCLA, the National Contingency Plan (NCP), and all other federal and state ARARs. The FFA establishes schedules and deadlines for the work performed by the Navy, and the FFA contains specific requirements for delivery of major reports and design documents. The deadlines are enforceable by EPA, and penalties may include fines. The FFA establishes a mechanism for the resolution of any disputes that may arise between EPA and the Navy regarding the CERCLA cleanup at the Shipyard.

The FFA for the Portsmouth Naval Shipyard was signed by the Navy on September 29, 1999 and by EPA Region 1 on September 30, 1999. Public comment period runs from October 27 through December 11, 1999. Written comments should be sent to Alan Robinson in the Public Affairs Office at the Shipyard. Once the public comment period ends, the Navy has until January 3, 2000 to forward all comments to EPA. EPA and Navy have 30 days to jointly review the comments, compile any needed responses, and determine whether the FFA requires modification based on the comments. If no modifications are required, the FFA may be effective in February 2000.

### **FEASIBILITY STUDY FOR OU 3**

Fred Evans of the Navy and Deborah Cohen of Tetra Tech NUS presented the Feasibility Study (FS) for OU 3 to the RAB. Fred Evans presented the history and current conditions at OU 3; Debra Cohen explained the six remedial alternatives presented in the FS. The FS is in review and upon completion of response to comments by the Navy, a Draft Final version will be issued for review. As outlined in the FFA, the proposed plan for remediation of soils and groundwater at OU 3 will be submitted 30 days after the FS is finalized.

Operable Unit 3, located on the eastern portion of the Portsmouth Naval Shipyard, includes three sites: Site 8 (the Jamaica Island Landfill and JILF Impact Area); Site 9 (MBI and MBII); and Site 11 (Former Waste Oil Tanks Nos. 6 and 7). Field investigations at OU 3 have included geophysical investigations, soil gas survey, test pits, soil borings, monitoring well installations, air monitoring, and soil and groundwater sampling. Actions occurring at OU 3

include the removal of MBI, removal of tanks at Site 11, removal of 332 tons of soil at Site 11, and hydromulching along the Clark Cove shoreline to prevent erosion.

Phase I and II Contaminant Fate and Transport Modeling concluded that a steady state condition is likely for groundwater, and surface water and sediment would not be significantly impacted by any continuous migration of contaminants from OU 3. Steady state was defined as no increase in chemical concentration, but potential for some transport. The modeling was conservative and based on a continuous supply of contaminant to the system (i.e., no loss from the source even with migration). The RAB raised concerns about the potential of additional contaminant release from storm events, rise in sea level due to global warming, and from possible drum caches in the landfill. The Navy noted that approximately 50% of the JILF is above the high tide level, and test pits performed to date have produced no evidence of possible drum caches. If drums are found in the future (additional test pitting at JILF is scheduled), to the extent possible they would be removed intact to prevent additional contamination.

The RAB raised additional concerns over habitat loss. The EPA explained that any investigation under National Resource Damage Assessment (NRDA) would be needed only if the JILF violated laws were in place at that time. Meghan Cassidy added that there is currently no precedent in Region 1 for NRDA, as no NRDA has been required to date.

Ecological risk assessment conducted at OU 3 reveal no onshore ecological risks from JILF, and low risk offshore. Human health risk assessment offshore indicated no unacceptable risks from exposure to surface water and sediment, and some potential risk from seafood ingestion in the Lower Piscataqua River. The risk levels onshore to human health exceeded MEDEP risk guidelines for some contaminants and some receptors. The media of concern at OU 3 are soil and groundwater which, due to the nature and extent of contamination, can be evaluated across all three sites in OU 3. The contamination at the JILF Impact Area differs from the rest of OU 3 and will therefore be addressed separately.

The Remedial Action Objectives (RAOs) for OU3 were defined by the Navy as follows:

- RAO 1. Prevent human exposure to contaminated soil/waste material;
- RAO 2. Prevent human exposure to contaminated groundwater;
- RAO 3. Prevent erosion of soil/waste material to offshore;
- RAO 4. Ensure migration of groundwater contaminants does not adversely impact offshore;
- RAO 5. Provide for PNS current/future land use; and
- RAO 6. Comply with regulations and guidance (ARARs).

The six alternatives, developed to meet the RAOs, were screened against the nine FS criteria. All but one alternative (#1) met RAOs. The alternatives were:

Alternative 1. No Action. Only a 5-year review would be conducted. The inclusion of this alternative is a requirement of CERCLA, but it does not meet RAOs.

Alternative 2. Institutional Controls and Erosion Controls. Land use restrictions, monitoring, a 5-year review, and erosion controls would be implemented. Although current use meets EPA risk range, there were exceedances of MEDEP risk guidelines.

Alternative 3. Non-hazardous Waste Cover, Institutional Controls, and Erosion Control. This includes all components of Alternative 2, and provides a barrier between landfill materials and receptors. The barrier also reduces rainfall infiltration from 22 gallons per

minute (gpm) to 9 gpm. This alternative offers some reduction in rainfall infiltration, but does not minimize it, which is a requirement of a hazardous waste cap. Other concerns with this alternative include disruption of industrial activities at JILF and concern for worker safety during the minor excavation of the JILF.

Alternative 4. Hazardous Waste Cover, Institutional Controls, and Erosion Controls. This includes all components of Alternative 2, provides a barrier between landfill materials and receptors, and minimizes rainfall infiltration (from 22 gpm to <1 gpm). Concerns include that implementing this alternative would disrupt activities at JILF and could cause potential worker safety issues during excavation at JILF. Additionally, the sheer volume of cap materials required may be difficult to obtain.

Alternative 5. Hazardous Waste Cover, Cut-off Barriers, Institutional Controls, Erosion Controls, and Groundwater Collection/Treatment. This alternative includes all the components of Alternative 4, and provides a barrier for groundwater migration offsite. Alternative 5 includes all the concerns of Alternative 4, and additional concerns. During installation of the cut-off barrier, worker safety and the potential for environmental impacts exist as trenches to bedrock are dug. Since the slurry barrier has not been tested in saline waters, there are concerns over the long-term effectiveness of the barrier. Moreover, any breaches in the cutoff wall could result in buildup of tidal water, presenting a long-term effectiveness concern with extraction and treatment. The RAB was interested in the potential for the installation of a partial barrier, to prevent tidal influence, which is approximately 400 gpm. The Navy noted that this alternative would meet the objective of protecting the offshore environment from migration of groundwater contaminants, as necessary. The need for the cutoff wall is not currently evident based on corresponding low offshore risks for OU3. The RAB asked for an explanation of low ecological risk. The Navy and EPA explained that the results of the PNS ecological risk assessment, which were determined using an approach of weight of evidence, where each piece of data are weighted for relevance and result. The EPA, MEDEP, and trustees were involved in the final decision of the risk assessment results. The ecological risk assessment is currently in Revised Draft Final stage.

Alternative 6. Complete Excavation, Offsite Disposal, and Institutional Controls on Groundwater. This alternative, which includes the excavation and disposal of all waste materials and land use restrictions for groundwater until the remediation is complete, was developed under the request of the Assistant Secretary of the Navy. While this alternative is a permanent solution, there are major concerns with worker safety and impacts on environmentally sensitive areas during the remediation. Additionally, the remediation itself would take a very long time.

The RAB asked if these alternatives were the only options, and were informed that any comments or suggestions should be forwarded to the Navy for review by the end of the document review period. The Navy reminded the RAB that additional alternatives were developed as part of the OU3 FS but were screened from further consideration upon scrutiny. As needed, the Navy could add remedial alternatives in order to address the comments. The Navy cautioned that ARARs partially define what could be considered as an alternative; for instance capping alternatives are typical for landfill sites. The Navy is not currently considering Alternative 1 or 6 as viable options, and welcome comments that could produce a hybrid of ideas.

In summary, Fred Evans reiterated the current actions; finalize OU 3 risk assessment and phase II modeling, perform test pitting at OU 3 to investigate whether selected anomalies in the subsurface survey are drums, and continue the interim offshore monitoring at OU 4.

Future actions include finalization of OU 3 FS (without test pitting results), develop a proposed plan for OU 3 (with test pitting results), and, if located, remove MBII.

The schedule is as follows: Final FS in May 2000, Draft Proposed Plan 30 days after the Final FS, Final Record of Decision (ROD) 6 months after the Proposed Plan, and submit the Design after the ROD. There will be a public meeting for the Draft Final Proposed Plan, which may occur in September or October 2000, depending on schedule.

### **OTHER ISSUES**

Carolyn Lepage (SAPL) expressed concerns that some of the supporting documents to the FS were not received by the RAB. She expressed an interest in formally requesting an extension to the comment period. Meghan Cassidy explained that there is no formal process for extending comment periods. The public can send a letter request to EPA. EPA will review on a document-specific basis stressing the potential impact and extension would have on the document schedule.

The RAB raised concerns about contaminant levels in lobsters off the DRMO (part of OU 2) in light of the recent shoreline erosion. The Navy explained that juvenile lobsters were collected instead of adult (legal size for consumption) lobsters due to life history. During their adult stage, lobsters have a home range that may extend dozens of miles. The juvenile lobsters, estimated to be 3 years old, have a very limited range. Collection and analysis of juvenile lobsters is a more conservative estimate of ingestion.

Questions were raised regarding the status of the shoreline inspection program. The written program is not complete, but the Shipyard plan is to check the shoreline of the IR sites quarterly and after any large rain event.

### **FUTURE MEETINGS**

The next RAB meeting is scheduled for **January 27, 2000** at a location to be determined. The topic for the January 27, 2000 meeting are as follows:

- The draft Seep/Sediment Summary Report.

The RAB was asked if they had additional topics they wished to discuss, and was silent.