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C-49-02-5-120

February 10, 1995

Lieutenant Jim Conroy, Remedial Project Manager
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, Pennsylvania 19113

Reference: Contract No. N62472-90-D-1298 (CLEAN)
Contract Task Order No. 201

Subject: Off-Shore Corrective Measures/Feasibility Study
Portsmouth Naval Shipyard, Kittery, Maine
Minutes from 1/17/95 Kickoff Meeting

Dear Lt. Conroy:

Enclosed please find two (2) copies of the meeting minutes from the kickoff meeting held on January 17, 1995 at NSY Portsmouth. These minutes incorporate your telecopied comments of February 6, 1995 and February 10, 1995.

Please contact me at (412) 921-8650 if you have any additional questions or comments.

Sincerely,

A handwritten signature in cursive script that reads "Mark T. Perry for".

Linda Klink
Project Manager

cc: R. Boucher - NAVFAC NORTHDIV (w/o attachment)
J. Trepanowski, P.E. - HNUS Wayne
D. Wroblewski - HNUS Pittsburgh
M. Perry - HNUS Pittsburgh
File 5003, CTO 201

MINUTES OF MEETING

SUBJECT: Off-Shore Monitoring Kickoff Meeting
Portsmouth Naval Shipyard (NSY Portsmouth)

PURPOSE: The meeting was called to develop the NSY Portsmouth off-shore monitoring work plan and discuss implementation and reporting. Topics included Halliburton NUS (HNUS) and University of New Hampshire (UNH) division of work, scope of sampling, data quality objectives, standard operating procedures, schedule and other issues (eelgrass studies, ecological synthesis for Portsmouth Harbor, and data gap studies).

LOCATION: Portsmouth Naval Shipyard
Building 44 (Public Works)
Kittery, Maine

DATE: January 17, 1995

PREPARED BY: Halliburton NUS
Foster Plaza VII
661 Andersen Drive
Pittsburgh, PA 15220
(412) 921-7090

ATTENDEES:

U.S. Navy, NSY Portsmouth

Fran Endyke
Kenneth W. Plaisted

U.S. Navy, Northern Division, Philadelphia

Lt. Jim Conroy
Simeon Hahn

Naval Command, Control, & Ocean Surveillance Center (NCCOSC)

Bob Johnston

Halliburton NUS (HNUS)

Linda Klink
Mark Perry
Kathy Trapp

Jackson Estuarine Laboratory, University of New Hampshire (UNH)

Frederick Short
Larry Ward
David Burdick
Richard Langan
Steve Jones

Science Applications International Corporation (SAIC)

Wayne Munns

* The meeting sign-in sheet is attached.

BACKGROUND

The subject of the January 17, 1995 meeting at Building 44, Naval Shipyard (NSY) Portsmouth, Kittery, Maine was the off-shore monitoring work plan for NSY Portsmouth. Topics included Halliburton NUS and UNH division of work, scope of sampling, data quality objectives, standard operating procedures, schedule and other issues (eelgrass studies, ecological synthesis for Portsmouth Harbor, and data gap studies). Additionally, updating the existing data base system, which contains results of previous studies and revisions to the off-shore media protection standard documents were discussed. The meeting agenda which was distributed by the Navy prior to the meeting date is attached.

These meeting minutes also incorporate off-shore monitoring goals developed by the Navy following the meeting (see attached).

DISCUSSION AND SUMMARY

The meeting was opened at approximately 10:15 a.m. The Navy reported that Jim Tayon is leaving NSY Portsmouth and Fran Endyke (Code 121.10, Building 44) will be the new NSY Portsmouth contact.

Halliburton NUS requested that a list showing the off-shore work which has been performed to date along with the status of that work be prepared. It was agreed that Bob Johnston of NCCOSC would complete this "master document list".

Frederick Short distributed two handouts which outlined the meeting topics. These handouts, which are attached, were the basis for open discussions which took place until approximately 3:00 p.m. The discussions resulted in the realization that off-shore monitoring goals must be established before the sampling scope can be finalized. It was agreed that Halliburton NUS would prepare the subject meeting minutes which include action items required to proceed. At the same time the Navy will define off-shore monitoring goals. The Navy defined the monitoring goals following the meeting (see attached). The Navy has separated the off-shore sampling objectives into primary goals and secondary goals. The necessary work required to complete the primary goals sampling will proceed while the secondary goals sampling work will be postponed until after regulatory review of the ecological risk assessment and shellfish consumption risk assessment. The secondary goal sampling can be incorporated at a later date, possibly next year. Upon review of the Navy's goals, UNH will prepare a revised sampling scope which 1) addresses the Navy's primary off-shore monitoring goals and 2) incorporates suggestions made at this kickoff meeting. Once the sampling scope is agreed to by the Navy, it will be informally presented to the EPA/State during a meeting. The Navy is responsible for arranging this meeting. After the sampling scope is generally agreed upon by the EPA/State, Halliburton NUS will solicit a proposal from UNH to perform their subcontracted portion of the work. After receiving UNH's proposal, Halliburton NUS will prepare a cost impact letter for the work and submit it to the Navy. Following negotiation of the cost impact letter, the off-shore monitoring work plan will be prepared. It is not believed that an EPA/State approved work plan will be complete for the summer 1995 sampling event; therefore, it was agreed that 1995 sampling will be conducted based on a draft work plan prior to regulatory approval so that the monitoring completed to date is not disrupted. A final EPA/State approved work plan will be pursued concurrent with 1995 sampling.

Details of the meeting, organized according to the agenda, follow.

Refer to the "Off-Shore Monitoring Action Items" section of these meeting minutes for responsibilities and proposed completion dates.

Off-Shore Monitoring Division of Work

In general, the Navy will contract with Halliburton NUS to complete the work, and Halliburton NUS will subcontract with UNH and a NEESA-approved laboratory to perform portions of the work. Specifically, UNH will develop a revised sampling scope along with rationale for the sampling scope. After the sampling scope is generally agreed upon by the EPA/State, the work plan will be completed.

Halliburton NUS will prepare the work plan with technical input provided by UNH. UNH's main task will be to provide field SOPs which have been revised in accordance with EPA review comments which currently exist from another project in Rhode Island. Also, UNH will be responsible for the work plan text associated with rationale for the sampling scope. In addition, UNH will provide Halliburton NUS with a copy of their existing off-shore monitoring health and safety plan (HASP). The laboratory will provide a lab quality assurance project plan (Lab QAPP). Halliburton NUS will develop a quality assurance project plan (QAPP) and HASP (the existing UNH HASP will be used as a starting point) and review/incorporate the information provided by UNH and the analytical laboratory into the work plan. The work plan will then be reviewed by UNH. After UNH's comments have been incorporated, the work plan will be delivered to the Navy for review as a rough draft.

Once the Navy's comments have been addressed, a draft work plan will be issued and the summer (1995) off-shore sampling event will be conducted. UNH will collect the biota samples with 100 percent field oversight by Halliburton NUS. Due to requirements for OSHA health and safety training, Halliburton NUS will collect seep and sediment samples with assistance (e.g., locating sampling stations) from UNH. Halliburton NUS will be responsible for sample paperwork and shipping. UNH and Halliburton NUS will both maintain field log books.

UNH will provide interpretation and evaluation of the analytical results. Halliburton NUS will incorporate UNH's data interpretation and evaluation into a monitoring report. Once the report has been reviewed by UNH, it will be submitted to the Navy for review as a rough draft.

UNH will also be responsible for maintaining and updating the existing off-shore monitoring database system. UNH will provide Halliburton NUS with a specification that explains how the sample data must be formatted for entry into the existing database, in terms of sample number identification and electronic deliverables from the analytical laboratory.

The division of work is summarized below.

DELIVERABLE	HNUS	UNH	LAB	NAVY
Work Plan				
Sampling Scope & Rationale		X		
Presentation of Sampling Scope to EPA/State		X		X
Updated Field SOPs		X		
Analytical SOPs			X	
HASP	X	X		
QAPP	X			
Lab QAPP			X	
Coordination/Work Plan Preparation	X			
Work Plan Review		X		X
Sampling & Analysis				
Lab Selection/Coordination	X			X
Sample Data Specification for Database Entry		X		
Sample Collection	X	X		
Sample Logging & Shipping	X			
Field Logbook	X	X		
Sample Analysis			X	
Monitoring Report				
Analytical Results			X	
Data Interpretation & Evaluation		X		
Coordination/Report Preparation	X			
Report Review		X		X
Database Update		X		

Scope of Sampling

A preliminary sampling scope was provided by UNH (see attached UNH handouts). This sampling scope differed from the scope which Halliburton NUS had received from the Navy in the request for change dated December 12, 1994.

There were numerous open discussions on the preliminary sampling scope. These discussions included, but were not limited to, the following:

- Sampling in the immediate vicinity of the shipyard and analysis of contaminants linked to the shipyard versus sampling throughout the estuary and analysis of estuary wide contaminants of concern
- Monitoring to support the findings/recommendations of the off-shore human health and ecological risk assessments
- Addition of media, biota, analytes and sampling stations in accordance with the media protection standards
- Whether or not all contaminants of concern been addressed
- Whether or not a rigorous preliminary sampling and analysis program was conducted to determine the appropriate suite of analytes, the appropriate media and biota to be sampled, and the appropriate sampling stations
- Analytical detection limits appropriate for established data quality objectives
- Reduction of sampling scope over time if supported by monitoring data
- The correlation between eelgrass and contaminants was confirmed
- A sampling frequency of greater than one year for certain media and biota or sampling stations
- Addition of sediment sampling and analysis
- Addition of seep sampling and analysis
- Seep sampling technique (sophisticated effort versus grab samples)
- Addition of reference stations
- Addition of lobster (juvenile versus adult) and flounder sampling and analysis
- Metals speciation

Concerning terminology, it was agreed upon that:

- "Long term" should not be used to describe this monitoring program since "long term" monitoring is generally associated with monitoring which follows a record of decision; instead the term "interim monitoring" will be employed

- Control sampling stations should be referred to as reference sampling stations

It was agreed that UNH will revise the sampling scope based on the Navy's off-shore monitoring goals. Media, biota, analytes, number of sampling stations (including reference stations), and frequency of sampling will be re-evaluated.

Data Quality Objectives

The monitoring program will be conducted in accordance with Superfund standards to meet EPA/State requirements. It was stated that particular CLP analytical methods must not necessarily be followed, but rather that the performing laboratory demonstrates that the methods used are equivalent to CLP methods. This is the approach which has been taken to date. The EPA/State comments on the Rhode Island project will identify the acceptability of this approach by the EPA/State. Bob Johnston distributed copies of a document ("Compendium of QA/QC and Analytical Procedures for Meeting Data Quality Objectives for Ecological Risk Assessments") which includes the QA/QC and analytical procedures used for off-shore monitoring conducted previously at NSY Portsmouth. Bob Johnston also distributed the following EPA document: "Monitoring Trace Metals at Ambient Water Quality Criteria Levels: Issues, Plans, and Schedule". The cover sheets from these documents are attached.

Halliburton NUS stated that Ceimic Laboratory has been proposed to the Navy for NEESA approval. Others stated that they had been told by Ceimic in the past that they were not interested in performing this type of work. Bob Johnston recommended that Battelle or A.D. Little also be considered. The capabilities of the Shipyard's lab were discussed briefly, and it was recommended that they not be considered at the present time.

After the meeting, Halliburton NUS determined that the selected laboratory's analytical SOPs would be followed and the SOPs would not be subject to revision.

Standard Operating Procedures

UNH has sample collection SOPs from past work. However, these are the same SOPs which were used for off-shore monitoring work being conducted in Rhode Island, and these SOPs will require revision based on extensive comments received from the EPA. The Navy will provide UNH with EPA's comments, and UNH will revise the SOPs accordingly.

After the meeting, Halliburton NUS determined that OSHA training is required for personnel conducting the seep and sediment sampling. A memo on this issue from Halliburton NUS' health and safety manager for the Navy Clean Program is attached.

Schedule

It is believed that an EPA-approved work plan will not be in place for the 1995 sampling event. It was agreed that 1995 sampling will be conducted based on a draft work plan prior to regulatory approval so that monitoring completed to date is not disrupted.

Secondary goals monitoring will be postponed until after regulatory review of the ecological risk assessment and shellfish risk assessment and can be incorporated at a later date, possibly next year.

Other Issues

There were a number of additional studies requested by UNH. These include the continuation of the remediation feasibility study for eelgrass; compilation and analysis of data gathered during Phase I and II research; seep study; point source identification study; sedimentation and resuspension study; and a study to identify the effects of stressors on biota. The Navy will determine which of these studies will be funded. The Navy indicated that the data gap seep and point source identification studies are included in the current scope of work. Separate work plans and implementation were preliminarily suggested. Since that time, the Navy has decided on a combined work plan. A schedule for completion of this work plan will be developed after the Navy determines which studies will be funded.

Database Update

It was agreed that UNH would maintain the existing database and incorporate data from the planned off-shore monitoring into the database. Microsoft Access is featured. Data formatting requirements were only briefly discussed.

Off-Shore Monitoring Action Items

ACTION ITEM	RESPONSIBILITY	PROPOSED COMPLETION DATE
Provide UNH with Regulatory Comments on Rhode Island SOPs	Navy	02/10/95
Issue Decision on Seep Sampling Technique	Navy	02/17/95
Issue Updated Sampling Scope with Brief Rationale for Interim Monitoring and for Data Gap Seep/Point Source Identification Studies	UNH	02/17/95
Provide HNUS with Copy of Existing HASP	UNH	02/17/95
Issue Off-Shore Study Master Document List/Status	NCCOSC	02/17/95
Issue Data Specification for Database Entry	NCCOSC	02/17/95
Schedule Sampling Scope Meeting with EPA/State	Navy	02/20/95
Obtain Lab Quals./Costs from Ceimic, Battelle, and A.D. Little and recommend lab; Pursue Achievable Detection Limits	HNUS	02/20/95
Provide UNH with Request for Proposal	HNUS	03/06/95
Provide HNUS with Proposal	UNH	03/20/95
Provide Navy with Cost Impact Letter	HNUS	04/03/95
Issue Decision on "Other Monitoring Studies"	Navy	None Established

Revision of the Off-Shore Media Protection Standard Documents

This work is separate from the off-shore monitoring, and it was agreed that revision of the MPS documents would be addressed by Halliburton NUS in a separate cost impact letter.

Halliburton NUS requested that the Navy provide a copy of the Combined Off-Shore Human Health and Ecological Media Protection Standards along with a copy of the EPA/MEDEP comments on this document and the Off-Shore Human Health Media Protection Standards so that costs for this portion of the Navy's scope of work can be prepared by Halliburton NUS.

It was noted that off-shore risk assessment documents might require extensive revision since the documents are "research oriented" vs. "CLP EPA Region I".

Seafood Ingestion Advisory Meeting

On January 26, 1995 the Navy met with the EPA/State to present off-shore work in support of the potential upcoming seafood ingestion advisory.

Enclosures:

- Meeting Sign-In Sheet
- Meeting Agenda Issued Prior to Meeting Date
- UNH Meeting Handouts (2)
- Navy Goals for Off-Shore Monitoring
- Cover Sheets from Documents Distributed by Bob Johnston
- Health and Safety Requirements for Off-Shore Monitoring

PORTSMOUTH NAVAL SHIPYARD
 OFF-SHORE MONITORING KICKOFF MEETING
 JANUARY 17TH 1995

NAME	COMPANY	PHONE #
MARK PERRY	HALLIBURTON	412-921-7217
David Burdick	UNH ^{unh.edu} dburdick@christa.unh.edu	603 862 2175
Bob Johnston	NCCOSC ROTE DIV	(401) 782-3128
Larry Ward	UNH JEL	(603) 862-2177
Frederick Short	UNH JEL	603 862-2177
Fran Endyke	PNS	207- 438 -202
Simeon Hahn	NORTH DIV	610-595-0567
LT Jim Conroy	NORTHNAVFACENGCOM	(610) 595-0567 (11)
WAYNE MUNDUS	SAIC	(401) 782-3017
RICHARD LANGAN	JACKSON LAB/UNH	(603) 862-2175
Steve Jones	"	"
KENNETH W. PLASTED	PNS	(202) 438-3830
LINDA KLINK	HALLIBURTON NUS	(412) 921-8650
KATHY KAPP	HALLIBURTON NUS	803-644-796

OFF-SHORE MONITORING

WORK PLAN DEVELOPMENT MEETING

DATE: 17 Jan 94

LOCATION: Portsmouth NSY, Env. Affairs Conference Room

TIME: 10:00 AM

AGENDA:

- HNUS and UNH division of work; workplan, sampling and report
- Scope of sampling; objectives, media, biota, location, time
- Data Quality Objectives: analytical requirements, lab selection
- Workplan Development: SOPs for sampling, sample prep, etc.
- Schedule:
- Other Issues: Eelgrass studies

From: LT Jim Conroy, NORTHDIV
(610) 595-0567 ext 117
(610) 595-0555 (FAX)

To: Linda Klink (HNUS)
Fran Endyke (PNS)
Bob Johnston (NCCOSC)
Fred Short/Larry Ward (UNH)

GOALS FOR OFF-SHORE MONITORING

The interim monitoring and data gap sampling plans will be combined and result in a single work plan rather than two separate work plans. Sampling will be conducted once this fiscal year.

PRIMARY GOALS

INTERIM MONITORING/VERIFICATION

- Monitor contaminant concentrations in sediments, seeps, and bioaccumulator organisms (mussels, eelgrass at stations around PNS). The data will be added to existing databases and evaluated for trends (i.e. Are contaminant concentrations increasing or decreasing?)

DATA GAPS

- Provide information to be used in estimating the volume of contaminated sediment (particularly for Clarks Cove) which may need to be remediated. The estimate will be developed during completion of the off-shore CMS and used to evaluate remedial alternatives in the off-shore CMS.

- Provide information to be used in fate and transport analysis of COC's from specific SWMU's; seep water contaminant levels and uptake by biota. The information will be used to further quantify the risk assessments and evaluate remedial alternatives in CMSs.

SECONDARY GOALS (These will have to wait on regulatory review of the ecological risk assessment and shellfish consumption risk assessment and can be incorporated at a later date, possibly next year. This work, if necessary, will require an addendum to the work plan completed for this year.)

- Address comments and support findings, interpretations, and recommendations from the ecological risk assessment. Tasks may include laboratory studies to identify effects of identified COC's on specific assessment endpoints/receptors and conducting field studies to monitor for these effects.

- Address comments and recommendations on the shellfish consumption risk assessments, focusing on the potential relationship to PNS.

- NOTE: These goals were developed after the meeting. Also attached is a revised (proposed) sampling plan which combines portions of the interim monitoring and the data gap sampling efforts. This will be done with a single work-plan.

**OFF-SHORE MONITORING
WORK PLAN DEVELOPMENT MEETING**

TOPICS:

HNUS and UNH division of work:

Workplan: developed jointly
Sampling: UNH collection and interpretation
Sample analysis: third party laboratory agreed on by all groups
Report: UNH to HNUS, HNUS to Navy

Scope of sampling:

Objectives: see Monitoring Goals
Analytes: metals (important elements only)
Media: biota and sediments
Biota: mussels and eelgrass (others as needed to meet objectives)
Locations: Clark Cove, DRMO, Dry Dock area, and Back Channel
(4 stations plus 1 reference, others as needed to meet objectives)
3 replicates per station, 15 samples per year
Time: once per year (summer/fall, others as needed to meet objectives)

Data Quality Objectives:

Analytical requirements: EPA Standards
Lab. Selection: Battelle, URI, or other approved Lab
Metals only @ \$380/ sample
(eg. 5 samples x 3 replicates x 3 biota x \$380/sample
= \$17,100 per year)
Total cost \$70,000

Workplan development:

SOPs: see Mueller et al. 1992
Sample prep.: UNH sample processing and delivery
Data interpretation: UNH process and plot data to HNUS specs.
Reporting: UNH report to HNUS on predetermined schedule

Schedule:

Workplan: asap
Contracts: asap
Start monitoring: summer 1995

Other Issues

- Eelgrass studies: Continue Remediation Feasibility Study for eelgrass
-Analysis of 1994 samples (309 samples; \$117,420)
-Complete experiments in 1995 (experiments with 150 samples, total cost of \$ 139,000)

Ecological
Synthesis for
Portsmouth

- Harbor: Compilation and analysis of Phase I and II research
-Linking on-shore and off-shore studies
-UNH 1.5 year study (\$180,000)
-Product includes glossy publication and peer review papers

Data Gap Studies: Seep study

- Sample seeps and adjacent biota
- UNH one year study (~\$200,000)

Point source identification study

- Survey biota around Shipyard
- UNH one year study (~\$150,000)

Sedimentation and resuspension study

- Identify sediment-associated contaminant movement around PNS
- UNH two year study (~\$90,000)

Effects study

- Identify the effects of stressors on biota
- UNH two year study

PORTSMOUTH NAVAL SHIPYARD

Long-term Monitoring Program -- Samples collected for chemical analysis

Media to sample:

- Mussels (1 sample / station)
- Eelgrass (2 samples / station, leaves & roots)
- Deployed Mussels (4 samples / station)
- Deployed Eelgrass (4 samples / station, leaves)
- Each sample represents 3 replicate collections

What to measure:

Metals (All stations)

When to sample:

Summer

Where to sample:

(X =one sample/ season)

Station	Seep Water	Mussels	Deployed Mussel	Eelgrass lvs&roots	Deployed Eelgrass	Lobster	Flounder
Clark Cove 3		X		X			
Back Channel 19		X		X			
DRMO 10.5		X			X		
Dry Dock 12.5		X		X			
Controls 1		X		X			
Total	0	5	0	8	2	0	0
Total Annual Chemical Analyses (including replicates)							45

PORTSMOUTH NAVAL SHIPYARD

Data Gap Seep and Point Source -- Sample collected for chemical analysis

Media to sample:

- Seeps (1 sample / station)
- Mussels (1 sample / station)
- Eelgrass (2 samples / station, leaves & roots)
- Lobster (1 sample / station)
- Flounder (1 sample / station)
- Deployed Mussels (4 samples / station)
- Deployed Eelgrass (4 samples / station, leaves)
- Each sample represents / replicate collections

What to measure:

- Metals (All stations)
- tPBC (Mussels, Lobster, and Flounder only)
- tDDT (Mussels, Lobster, and Flounder only)
- PAH (Mussels, Lobster, and Flounder only)

When to sample:

- Fall
- Winter
- Spring
- Summer

Where to sample:

(X =one sample/ season)

Station	Seep Water	Mussels	Deployed Mussel	Eelgrass lvs&roots	Deployed Eelgrass	Lobster	Flounder
Clark Cove 3	4/y	4/y		4/y			
" 7	4/y	4/y	X		4/y		
" 9	4/y	4/y		4/y			
" 1004	4/y	4/y	X		4/y		
Back Channel 18		X		X			
" 19	4/y	4/y		4/y			
" 1007	4/y	4/y	X		4/y		
DRMO 10.5		X	X		4/y		
Dry Dock 12.5		X		X			
" 17		X		X			
Controls 1		X		X			
" 23		X		X			
Total	24	30	16	34	16	0	0
					Annual Total		120

LONG TERM MONITORING FOR PORTSMOUTH NAVAL SHIPYARD

Goals:

- 1) To identify changes in contaminant concentration around PNS over time.
- 2) To identify possible sources of contaminant discharge from PNS.
- 3) To identify any changes in the natural resources around PNS.
- 4) To identify the effects of heavy metals, PAHs, and PCBs on marine ecosystems around PNS.

Sampling Required to meet the above goals:

- 1) Annually monitor heavy metals (Ag, As, Cr, Cu, Hg, Ni, Pb, Zn) in bioaccumulator organisms (mussels and eelgrass) in Clark Cove, DRMO, Dry Dock area, and Back Channel (minimum of 1 station per site). Minimum 4 stations plus 1 reference.
- 2) Periodic surveys of bioaccumulator organisms (mussels and eelgrass) for contaminants
 - around the Jamaica Island Landfill
 - 1 sta. in Jamaica Cove
 - 2 sta. in Clark Cove,
 - 1 sta. off Sullivan Point
 - off the DRMO
 - 2 sta. along the Piscataqua River
 - in the Dry Dock areas
 - 1 sta. between Dry Docks 1 and 2
 - 1 sta. near Dry Dock 3
 - in the Back Channel near the newly identified landfill
 - 1-2 sta.Total of 10 stations plus 1 reference.
- 3) Monitor biota distribution and population characteristics (mussels, eelgrass, salt marsh, benthic invertebrates, fish, etc.). Minimum 4 stations plus 1 reference.
- 4) Process studies of stressor effects on biota physiology and reproduction (mussels, eelgrass, salt marsh plants, algae, benthic invertebrates, fish).

Monitoring Candidates:

Interval

1. Chemical Contaminant Concentrations

A. Sampling biota from around Seavey Island and control

- a) Mussel sampling
 - Natural populations
 - Deployments

annual
2-3 yrs

- b) Eelgrass sampling
 - Natural populations
 - Deployments

annual
2-3 yrs

- c) Juvenile lobster sampling

2-3 yrs

- d) Benthic invertebrate sampling

annual

- e) Seaweed sampling (data gap) reproductive receptacles

as needed

B. Modelling of estuarine processes

- a) Dispersion model for Portsmouth Harbor

as needed

- b) Prediction of contaminant accumulation in Great Bay Estuary

as needed

C. Sediment analysis from Clark Cove, Back Channel, and control

- a) Surface sampling

2-4 yrs

- b) Sediment trap sampling

2-4 yrs

2. Potential Contaminant Release Pathways

- | | |
|--------------------------------------------------------|-----------------|
| a) Seeps: (all new and old sites around Seavey Island) | as needed |
| Flow rate | |
| Concentrations | |
| b) Groundwater flow: (Seavey Island) | one time effort |
| Model water movement | |
| c) Surface water runoff: (Seavey Island) | annual |

3. Natural Resources

- | | |
|------------------------------------------------------------------|---------------------|
| a) Benthic invertebrates: (Clark Cove, Back Channel, control) | annual |
| Total abundance | |
| Species diversity | |
| b) Mussels, natural populations: (around Seavey Island, control) | annual |
| Condition index | |
| Population characteristics | |
| c) Eelgrass: (around Seavey Island, control) | annual |
| Plant vigor | |
| Spatial distribution | |
| d) Salt marsh: (Clark Cove, Back Channel, control) | annual |
| Plant vigor and spatial distribution | |
| Animal diversity | |
| e) Seaweeds: (around Seavey Island, control) | 3-5 yrs |
| Plant vigor | |
| Age structure | |
| f) Lobster, juvenile: (eelgrass beds around Seavey Island) | 2-3 yrs |
| Population survey | |
| g) Water column | |
| Nutrients | monthly to annually |
| Physical parameters | monthly to annually |

Compendium of QA/QC and Analytical Procedures for Meeting Data Quality Objectives for Ecological Risk Assessments

August 1994

Compiled by

Marine Environmental Support Office - East Detachment Code 5221
Naval Command, Control, and Ocean Surveillance Center, RDT&E Division
27 Tarzwell Dr., Narragansett, RI 02882

Contents:

Statement of Work for Marine Chemistry Analysis
QA/QC Protocols
Data Deliverable Specification
Ceimic Corp. SOPs
ERLN SOPs
Citation for NOAA Status and Trends Methods

**Monitoring Trace Metals at
Ambient Water Quality Criteria Levels:**
Issues, Plans, and Schedule

Briefing Book
April 1994

William A. Telliard, Chief
Analytical Methods Staff
Engineering and Analysis Division
Office of Science and Technology
Office of Water



**HEALTH AND SAFETY REQUIREMENTS
FOR OFF-SHORE MONITORING AT
THE PORTSMOUTH NAVAL SHIPYARD**

The selected subcontractor will be expected to perform all of their activities in a manner that complies with all applicable federal, state and local standards and regulations pertinent to health and safety. These include, but are not limited to, federal Occupational Safety and Health Administration (OSHA) standards, U.S. Coast Guard requirements, and other such related requirements.

The selected subcontractor must understand that all of their involved personnel are restricted and prohibited from participating in any activities that could be construed as hazardous waste site or emergency response activities (e.g., the collection of seep and/or sediment samples). As such, the requirements of OSHA standard 1910.120 ("Hazardous Waste Operations and Emergency Response") are considered to be not applicable to the desired work. This does not preclude the applicability of other OSHA standards.



ENVIRONMENTAL

DEPARTMENT OF THE NAVY

NORTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
10 INDUSTRIAL HIGHWAY
MAIL STOP, #82
LESTER, PA 19113-2000



Phone #: Commercial (610) 595-0567
Autovon 443-0567
FAX #: Commercial (610) 595-0555

17 Feb 95

(B) Simeon will develop cost estimate for this work to give us a better idea of \$ necessary.

FROM:

NAME: LT Jim Conroy
PHONE: _____

TO: F. Endyke
ACTIVITY: _____
FAX NUMBER: B. Johnston

REMARKS:

(A) Fred Short called yesterday and we discussed the proposed sampling plan and goals. Specifically:

- 1) sediment coring to support Feasibility Study volume estimates. in Clark Cove
- 20 gravity cores for visual inspection and then choose 3 locations for vibratory coring w/ 3 chemical analyses per core (w/ \$45K for effort)
- 2) Soap samples @ high flow (late spring) and low flow (late summer) instead of only once.
- 3) Use 3 replicates versus single sample at mussel and eelgrass sample collection sites to enhance ability to detect statistical trends before, during and after remedial actions.
- 4) If necessary to meet budget limitations he recommended deleting the deployed mussel/eelgrass work as it is labor intensive and we will have mussel samples at all those locations

DEX TRANSMITTED

BY: _____
DATE: _____
TIME: _____

DRAFT

Portsmouth Naval Shipyard -- Off-shore Monitoring Program Interim Monitoring -- Goals, Rationale, and Sampling Plan -- 1995

Primary Goals:

1. Monitor trends in contaminant concentrations in indicator organisms (mussels and eelgrass)
2. Maintain and update the PNS existing data base
3. Assess volume of contaminated sediments in Clark Cove.
4. Verify elevated contaminant concentrations in mussel and eelgrass tissue from around PNS
5. Identify sources of contamination around PNS by sampling seeps and biota.
6. Monitor the health of critical estuarine habitats around PNS (mussel beds, eelgrass beds, and salt marsh)

Rationale

Media:

Additional seep sampling is necessary to verify the metal concentrations determined previously and to provide samples with simultaneous measurements of seep flow rates. Seeps must be sampled at a minimum of seven sites under two different flow conditions (periods of high and low seep flow) in order to determine if the seeps constitute a significant pathway of contaminant transport to the estuary.

Mussels are selected for additional sampling as an animal that bioaccumulates both metal and organic contaminants and can be easily collected or deployed in the estuary around the Shipyard.

Eelgrass leaf and root tissues are selected for additional sampling as a plant that bioaccumulates metals from the water through leaf tissue and from the sediment through roots (2 tissue samples per station) and because eelgrass can be easily collected or deployed in the estuary around the Shipyard. Eelgrass may also prove useful in the assessment of some organic contaminants and a screening of a few eelgrass tissue samples will be analyzed.

Sediment cores are chosen for additional sampling because they provide the opportunity to measure the sediment contaminant concentrations at different depths in the sediment (3 depth levels). Sediment samples will be analyzed for metals and selected organic contaminants.

PORTSMOUTH NAVAL SHIPYARD -- OFF-SHORE MONITORING PROGRAM

Interim Monitoring -- Sampling Plan for collection for chemical analysis

Media to sample:

- Seeps (2 sample / station, high and low flow)
- Mussels (1 sample / station), each sample represents 3 replicate collection
- Eelgrass (2 samples / station, leaves & roots), each sample represents 3 replicate collection
- Deployed Mussels (4 samples / station)
- Deployed Eelgrass (4 samples / station, leaves)
- Sediment Cores (3 samples / core)

What to measure:

- Metals (All stations)
- tPBC (Mussels only)
- tDDT (Mussels only)
- PAH (Mussels only)

When to sample:

- Summer (as needed for chemical analysis)
- Variable for seep measurements

Where to sample:

	Station Number	Seep Water	Mussels	Deployed Mussel	Eelgrass lvs&roots	Deployed Eelgrass	Sediment Cores
Clark Cove	3		X				X
"	7						X
"	8	X	X	X		X	X
"	9	X	X		X		
"	1004	X	X	X		X	X
"	new	X					X
"	new						X
Back Channel	18		X		X		
"	19	X	X		X		
"	167	X	X		X		
"	new	X	X	X		X	
DRMO	10a		X				
"	157		X				
Dry Dock	12a		X		X		
"	151		X	X		X	
Reference	1		X		X		
Reference	11		X		X		
	Total	14	42	16	42	16	18

Totals	14	seep water
	116	biota
	18	sediment
	148	

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To Lt Jim Conroy	From F.T. Short
Co. Northern Div.	Co. UNH
Dept. Environmental	Phone # 603 862 2175
Fax # 603 862 1555	Fax # 603 862 1111

Goals will be added as an attachment to the mtg. minutes

GOALS FOR OFF-SHORE MONITORING

PRIMARY GOALS

INTERIM MONITORING/VERIFICATION

- Monitor contaminant concentrations in sediments, seeps, and bi accumulator organisms (mussels, eelgrass at stations around PNS. The data will added to existing databases and evaluated for trends (i.e. Are contaminant concentrations increasing or decreasing?)

CANNOT BE DETERMINED. AT THIS TIME BECAUSE ACTION LEVELS HAVE NOT BEEN ESTABLISHED.

DATA GAPS

- Estimate the volume of contaminated sediment (particularly for Clarks Cove) which may need to be remediated. The estimate will b used to evaluate remedial alternatives in the off-shore CMS.

- Provide information to be used in fate and transport analysis of COC's from specific SWMU's; seep water contaminant levels and uptake by biota. The information will be used to further quantify the risk assessments and evaluate remedial alternatives in CMS's.

SECONDARY GOALS (these will have to wait on regulatory review of the ecological risk assessment and shellfish consumption risk assessment and can be incorporated at a later date, possibly next year)

- Address comments and support findings, interpretations, and r commendations from the ecological risk assessment. Tasks may include laboratory studies to identify effects of identified COC's on specific assessment endpoints/receptors and conducting field studies to monitor for these effects.

- Address comments and recommendations on the shellfish consumption risk assessments, focusing on the potential relationship to PNS.

Would require an addendum to the work plan completed for this year.

Post-It® Fax Note	7671	Date	2/8/95	# of pages	11
To	LT CONROY	From	LINDA KLINK		
Co./Dept	NORTHDIV	Co.	HNVS		
Phone #		Phone #			
Fax #	(610) 595-0555	Fax #			

Encl (1)

PORTSMOUTH NAVAL SHIPYARD

Data Gap Seep and Point Source -- Sample collected for chemical analysis

Media to sample:

Sediment (1 sample / station)

SOPHISTICATED OR GRAB SAMPLING?

- Seeps (1 sample / station)
 - Mussels (1 sample / station)
 - Eelgrass (2 samples / station, leaves & roots)
 - ~~Lobster (1 sample / station)~~
 - ~~Flounder (1 sample / station)~~
 - Deployed Mussels (2 samples / station)
 - ~~Deployed Eelgrass (1 sample / station, leaves)~~
- Each sample represents 1 replicate collection

NEED THESE ADDITIONAL SEDIMENT SAMPLES OR RELY ON RFI ?? SEDIMENT DATA ??

What to measure:

- Metals (All stations)
- ~~IPBC (Mussels, Lobster, and Flounder only)~~
- ~~DDT (Mussels, Lobster, and Flounder only)~~
- PAH (Mussels, Lobster, and Flounder only)

When to sample:

- ~~Fall~~
- Winter
- Spring
- Summer

ONLY ONE TIME SAMPLING EVENT?

Where to sample:

Station	Seep Water	Mussels	Deployed Mussel	Eelgrass lvs&roots	Deployed Eelgrass	Lobster	Flounder
Clark Cove 3	1/y	1/y		1/y			
" 7	1/y	1/y	X				
" 9	1/y	1/y		1/y			
" 1004	1/y	1/y	X				
Back Channel 18		X		X			
" 19	1/y	1/y		1/y			
" 1007	1/y	1/y	X				
DRMO 10.5		X	X				
Dry Dock 12.5		X		X			
" 17		X		X			
Controls 1		X		X			
" 23		X		X			
Total		36	18	36	18	0	0

Station	Seep Water	Mussels	Deployed Mussel	Eelgrass lvs&roots	Deployed Eelgrass	Lobster	Flounder
Clark Cove 3	1/y	1/y		1/y			
" 7	1/y	1/y	X				
" 9	1/y	1/y		1/y			
" 1004	1/y	1/y	X				
Back Channel 18		X		X			
" 19	1/y	1/y		1/y			
" 1007	1/y	1/y	X				
DRMO 10.5		X	X				
Dry Dock 12.5		X		X			
" 17		X		X			
Controls 1		X		X			
" 23		X		X			
Total		36	18	36	18	0	0

Annual Total 120

TO BE DETERMINED BY UNH BASED ON NAVY GOALS AND KICKOFF MEETING DISCUSSIONS

Encl (2)

FOR YOUR REVIEW 2/28/95

REVISED DRAFT MINUTES OF MEETING

SUBJECT: Off-Shore Monitoring Kickoff Meeting
Portsmouth Naval Shipyard (NSY Portsmouth)

PURPOSE: The meeting was called to develop the NSY Portsmouth off-shore monitoring work plan and discuss implementation and reporting. Topics included Halliburton NUS (HNUS) and University of New Hampshire (UNH) division of work, scope of sampling, data quality objectives, standard operating procedures, schedule and other issues (eelgrass studies, ecological synthesis for Portsmouth Harbor, and data gap studies).

LOCATION: Portsmouth Naval Shipyard
Building 44 (Public Works)
Kittery, Maine

DATE: January 17, 1995

PREPARED BY: Halliburton NUS
Foster Plaza VII
661 Andersen Drive
Pittsburgh, PA 15220
(412) 821-7080

Post-It® Fax Note	7871	Date	2/28/95	# of pages	9
To	Lt. Conroy	From	Linda Klink.		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #	(610) 595-0555	Fax #			

cc: LINDA KLINK
MARK PERRY
FTL 503, CT. # 201

ATTENDEES:

U.S. Navy, NSY Portsmouth

Fran Endyke
Kenneth W. Plaisted

U.S. Navy, Northern Division, Philadelphia

Lt. Jim Conroy
Simeon Hahn

Naval Command, Control, & Ocean Surveillance Center (NCCOSC)

Bob Johnston

Halliburton NUS (HNUS)

Linda Klink
Mark Perry
Kathy Trapp

Jackson Estuarine Laboratory, University of New Hampshire (UNH)

Frederick Short
Larry Ward
David Burdick
Richard Langan
Steve Jones

Science Applications International Corporation (SAIC)

Wayne Munns

* The meeting sign-in sheet is attached.

Halliburton NUS will solicit a proposal from UNH subcontracted portion of the work. After receiving UNH's proposal, Halliburton NUS will prepare a cost impact letter for the work and submit it to the Navy. Following the Navy's funding of the cost impact letter, the off-shore monitoring work plan will be prepared.

negotiation

BACKGROUND
The subject of the January 17, 1995 meeting at Building 44, Naval Shipyard (NSY) Portsmouth, Kittery, Maine was the off-shore monitoring work plan for NSY Portsmouth. Topics included Halliburton NUS and UNH division of work, scope of sampling, data quality objectives, standard operating procedures, schedule and other issues (eelgrass studies, ecological synthesis for Portsmouth Harbor, and data gap studies). Additionally, updating the existing data base system, which contains results of previous studies and revisions to the off-shore media protection standard documents were discussed. The meeting agenda which was distributed by the Navy prior to the meeting date is attached.

These meeting minutes also incorporate off-shore monitoring goals developed by the Navy following the meeting (see attached)

X

DISCUSSION AND SUMMARY
The meeting was opened at approximately 10:15 a.m. The Navy reported that Jim Tayon is leaving NSY Portsmouth and Fran Endyke (Code 121.10, Building 44) will be the new NSY Portsmouth contact.

Halliburton NUS requested that a list showing the off-shore work which has been performed to date along with the status of that work be prepared. It was agreed that Bob Johnston of NCCOSC would complete this "master document list".

Frederick Short distributed two handouts which outlined the meeting topics. These handouts, which are attached, were the basis for open discussions which took place until approximately 3:00 p.m. The discussions resulted in the realization that off-shore monitoring goals must be established before the sampling scope can be finalized. It was agreed that Halliburton NUS would prepare the subject meeting minutes which include action items required to proceed. At the same time the Navy will define off-shore monitoring goals. ~~These goals will be provided to UNH. Halliburton NUS will then solicit a proposal from UNH to perform their subcontracted portion of the work. UNH's proposal will include a revised sampling scope which 1) addresses the Navy's off-shore monitoring goals and 2) incorporates suggestions made at this kickoff meeting. Once the sampling scope is agreed to by the Navy, it will be informally presented to the EPA/State during a meeting. The Navy is responsible for arranging this meeting. After the sampling scope is generally agreed upon by the EPA/State, the work plan will be completed. The work will be divided into interim monitoring (identified in the UNH handouts as Long-term Monitoring Program) and monitoring related to additional studies requested by UNH (identified in the UNH handouts as Other Issues). Separate work plans will be prepared for the interim monitoring and the other issues monitoring. Interim sampling will take precedence over the other issues work. Interim monitoring is scheduled to begin in the summer of 1995. A schedule for the other work issues will be determined after the Navy decides which of the other work issues will be funded. It is not believed that an EPA/State approved work plan will be complete for the summer 1995 interim monitoring sampling event; therefore, it was agreed that 1995 sampling will be conducted based on a draft work plan prior to regulatory approval so that the monitoring completed to date is not disrupted. A final EPA/State approved work plan will be pursued concurrent with 1995 sampling.~~

upon review of the Navy's goals, UNH will prepare

Details of the meeting, organized according to the agenda, follow.

Refer to the "Off-Shore Monitoring Action Items" section of these meeting minutes for responsibilities and proposed completion dates.

The Navy defined the monitoring goals and they are attached. The Navy has separated the off-shore sampling objectives into primary goals and secondary goals. The necessary work required to complete the primary goal sampling will proceed while the secondary goal sampling work will be postponed until after regulatory review of the ecological risk assessment and shellfish consumption risk assessment. The secondary goal sampling can be incorporated at a later date, probably next year.

Off-Shore Monitoring Division of Work

In general, the Navy will contract with Halliburton NUS to complete the work, and Halliburton NUS will subcontract with UNH and a NEESA-approved laboratory to perform portions of the work. Specifically, ~~once the Navy establishes the off-shore monitoring goals UNH will develop a revised sampling scope along with rationale for the sampling scope. After the sampling scope is generally agreed upon by the EPA/State, the work plan will be completed. A schedule for the other items work plan will be prepared after the Navy determines what studies will be funded.~~

X

Halliburton NUS will prepare the work plan with technical input provided by UNH. UNH's main task will be to provide field SOPs which have been revised in accordance with EPA review comments which currently exist from another project in Rhode Island. Also, UNH will be responsible for the work plan text associated with rationale for the sampling scope. In addition, UNH will provide Halliburton NUS with a copy of their existing off-shore monitoring health and safety plan (HASP). The laboratory will provide a lab quality assurance project plan (Lab QAPP). Halliburton NUS will develop a quality assurance project plan (QAPP) and HASP (the existing UNH HASP will be used as a starting point) and review/incorporate the information provided by UNH and the analytical laboratory into the work plan. The work plan will then be reviewed by UNH. After UNH's comments have been incorporated, the work plan will be delivered to the Navy for review as a rough draft.

summer (1995)

Once the Navy's comments have been addressed, a draft work plan will be issued and the ~~rest~~ off-shore sampling event will be conducted. UNH will collect the biota samples with 100 percent field oversight by Halliburton NUS. ~~Responsibility for seep and sediment sample collection is dependent on Halliburton NUS. Navy evaluation of health and safety requirements.~~ Halliburton NUS will be responsible for sample paperwork and shipping. UNH and Halliburton NUS will both maintain field log books.

X

X

UNH will provide interpretation and evaluation of the analytical results. Halliburton NUS will incorporate UNH's data interpretation and evaluation into a monitoring report. Once the report has been reviewed by UNH, it will be submitted to the Navy for review as a rough draft.

UNH will also be responsible for maintaining and updating the existing off-shore monitoring database system. UNH will provide Halliburton NUS with a specification that explains how the sample data must be formatted for entry into the existing database, in terms of sample number identification and electronic deliverables from the analytical laboratory.

The division of work is summarized below.

Due to requirements for OSHA health and safety training, Halliburton NUS will collect seep and sediment samples with assistance (e.g., locating sampling stations) from UNH.

DELIVERABLE	HNUS	UNH	LAB	NAVY
Work Plan				X
Goals		X		
Sampling Scope & Rationale		X		X
Presentation of Sampling Scope to EPA/State		X		
Updated Field SOPs			X	
Analytical SOPs	X	X		
HASP	X			
QAPP			X	
Lab QAPP	X			
Coordination/Work Plan Preparation		X		X
Work Plan Review				
Sampling & Analysis	X			X
Lab Selection/Coordination		X		
Sample Data Specification for Database Entry	X	X		
Sample Collection	X			
Sample Logging & Shipping	X	X		
Field Logbook			X	
Sample Analysis				
Monitoring Reports			X	
Analytical Results		X		
Data Interpretation & Evaluation	X			
Coordination/Report Preparation		X		X
Report Review		X		
Database Update				

X
X

X

X

Scope of Sampling

A preliminary sampling scope was provided by UNH (see attached UNH handouts). This sampling scope differed from the scope which Halliburton NUS had received from the Navy in the request for change dated December 12, 1994.

There were numerous open discussions on the preliminary sampling scope. These discussions included, but were not limited to, the following:

- Sampling in the immediate vicinity of the shipyard and analysis of contaminants linked to the shipyard versus sampling throughout the estuary and analysis of estuary wide contaminants of concern
- Monitoring to support the findings/recommendations of the off-shore human health and ecological risk assessments
- Addition of media, biota, analytes and sampling stations in accordance with the media protection standards
- Whether or not all contaminants of concern been addressed
- Whether or not a rigorous preliminary sampling and analysis program was conducted to determine the appropriate suite of analytes, the appropriate media and biota to be sampled, and the appropriate sampling stations
-  Analytical detection limits appropriate for established data quality objectives
- Reduction of sampling scope over time if supported by monitoring data
- The correlation between eelgrass and contaminants was confirmed
- A sampling frequency of greater than one year for certain media and biota or sampling stations
- Addition of sediment sampling and analysis
- Addition of seep sampling and analysis
- Seep sampling technique (sophisticated effort versus grab samples)
- Addition of reference stations
- Addition of lobster (juvenile versus adult) and flounder sampling and analysis
- Metals speciation

Concerning terminology, it was agreed upon that:

- "Long term" should not be used to describe this monitoring program since "long term" monitoring is generally associated with monitoring which follows a record of decision; instead the term "interim monitoring" will be employed

Control sampling stations should be referred to as reference sampling stations

It was agreed that UNH will revise the sampling scope ^{based on the Navy's} ~~after the Navy has provided input on the~~ off-shore monitoring goals. Media, biota, analytes, number of sampling stations (including reference stations), and frequency of sampling will be re-evaluated.

Data Quality Objectives

The monitoring program will be conducted in accordance with Superfund standards to meet EPA/State requirements. It was stated that particular CLP analytical methods must not necessarily be followed, but rather that the performing laboratory demonstrates that the methods used are equivalent to CLP methods. This is the approach which has been taken to date. The EPA/State comments on the Rhode Island project will identify the acceptability of this approach by the EPA/State. Bob Johnston distributed copies of a document ("Compendium of QA/QC and Analytical Procedures for Meeting Data Quality Objectives for Ecological Risk Assessments") which includes the QA/QC and analytical procedures used for off-shore monitoring conducted previously at NSY Portsmouth. Bob Johnston also distributed the following EPA document: "Monitoring Trace Metals at Ambient Water Quality Criteria Levels: Issues, Plans, and Schedule". The cover sheets from these documents are attached.

^{Bob Johnston} Halliburton NUS stated that Ceimic Laboratory has been proposed to the Navy for NEESA approval. Others stated that they had been told by Ceimic in the past that they were not interested in performing this type of work. ~~It~~ recommended that Battelle or A.D. Little also be considered. The capabilities of the Shipyard's lab were discussed briefly, and it was recommended that they not be considered at the present time.

After the meeting, Halliburton NUS determined that the selected laboratory's analytical SOPs would be followed and they would not be subject to revision.

Standard Operating Procedures

UNH has sample collection SOPs from past work. However, these are the same SOPs which were used for off-shore monitoring work being conducted in Rhode Island, and these SOPs will require revision based on extensive comments received from the EPA. The Navy will provide UNH with EPA's comments, and UNH will revise the SOPs accordingly.

After the meeting, [redacted] determined that the [redacted] OSHA training is required for personnel conducting [redacted] seep and sediment sampling. Since UNH personnel have not had OSHA training, Halliburton NUS personnel will collect the seep and sediment samples.

Schedule

It is believed that an EPA-approved work plan will not be in place for the 1995 sampling event. It was agreed that 1995 sampling will be conducted based on a draft work plan prior to regulatory approval so that monitoring completed to date is not disrupted. Scheduling for the other issues ~~will be addressed after the Navy has determined which studies will be funded.~~

~~The Navy is to present the status of the off-shore work to the EPA/State on January 20, 1995, in support of the potential upcoming seafood ingestion advisory. Secondary goal monitoring will be postponed until after regulatory review of the ecological risk assessment and shellfish risk assessment and can be incorporated at a later date, possibly next year.~~

Other Issues

There were a number of additional studies requested by UNH. These include the continuation of the remediation feasibility study for eelgrass; compilation and analysis of data gathered during Phase I and

Revision of the Off-Shore Media Protection Standard Documents

This work is separate from the off-shore monitoring, and it was agreed that revision of the MPS documents would be addressed by Halliburton NUS in a separate cost impact letter.

Halliburton NUS requested that the Navy provide a copy of the Combined Off-Shore Human Health and Ecological Media Protection Standards along with a copy of the EPA/MEDEP comments on this document and the Off-Shore Human Health Media Protection Standards so that costs for this portion of the Navy's scope of work can be prepared by Halliburton NUS.

It was noted that off-shore risk assessment documents might require extensive revision since the documents are "research oriented" vs. "CLP EPA Region I".

Seafood Ingestion Advisory Meeting

the Navy met

~~The Navy noted at the close of the kickoff meeting that a meeting was scheduled for January 28, 1995 with the EPA/State to present off-shore work in support of the potential upcoming seafood ingestion advisory.~~

On

X

Enclosures:

- Meeting Sign-In Sheet
- Meeting Agenda Issued Prior to Meeting Date
- UNH Meeting Handouts (2)
- Cover Sheets from Documents Distributed by Bob Johnston
- Health and Safety Requirements for Off-Shore Monitoring*
- Navy Goals for Off-Shore Monitoring*