

Reisch, Timothy A CIV NAVFAC MID ATLANTIC

From: Paul.Landin@ch2m.com
Sent: Thursday, May 25, 2006 4:42 PM
To: Reisch, Timothy A CIV NAVFAC MID ATLANTIC; Clifford, Peter J CIV 106.3, C106.3; damiller@deq.virginia.gov; Franklin.Greyson@epamail.epa.gov; daniel.holloway@ch2m.com; Host, Mike M CIV 106.3, C106.3
Cc: jamie.butler@ch2m.com
Subject: FW: Site 10 Corrections and PP for Review
Attachments: Site 10 Proposed Plan_Draft 052506.doc

PMT:

Attached is the updated version of the PP for Site 10 following discussion and edits made at the May PMT meeting. The areas where text was changed has been highlighted green to help find it. Of particular note was the re-work of the HHRA summary to aid in ease of reading.

Additionally, the proposed changes (by section) to the RI/HHRA/FFS are below that have been added to clarify the MCL exceedance yet no risk for antimony and cadmium, and provide closure per Debbie's comment on the human nutrient analysis. Pending agreement on the revised language below, we have consensus to finalize this document following the May PMT meeting. Please review and confirm your agreement so we may move forward with the Final RI/HHRA/FFS.

Let us know if you have any questions.

Paul

From: Butler, Jamie/VBO
Sent: Thursday, May 25, 2006 4:06 PM
To: Landin, Paul/VBO
Subject: FW: Site 10 Corrections and PP for Review

Hi Paul,
The Redline and Accepted redline changes to the Site 10 Proposed Plan are attached. Below are the suggested changes to the RI and the Human Health Risk Assessment Technical Memorandum.
Thanks
Jamie

RI Executive Summary, Risk Management, 2nd paragraph

"There are no potential human health risks due to exposure to soil and groundwater within the boundaries of Site 10 under current land use scenarios. Based on risk calculations, future residential use of the site may result in potential unacceptable risks due to ingestion of arsenic, iron, and manganese and dermal contact with manganese from site groundwater. Additionally, the future industrial use of the site may pose a slight risk due to ingestion of iron in site groundwater. Although antimony and cadmium were detected above the MCL, these exceedances occurred in isolated locations and individually pose no unacceptable risks to the construction worker, industrial worker, or potential future resident. The PMT determined that these potential risks are acceptable because no source area or discernable plume of groundwater contamination was identified, and there was no statistical difference in groundwater concentrations up- and down-gradient of Site 10. Therefore, no further

5/30/2006

CERCLA action for groundwater at Site 10 is warranted."

RI Section 7.7, 3rd paragraph

"Although arsenic, antimony, and cadmium were detected above the MCL, antimony and cadmium MCL exceedances occurred in isolated locations and the results of the HHRA indicated that the individual concentrations present in groundwater do not pose unacceptable risks to the construction worker, industrial worker, or potential future resident (Individual HI/target organ effects are equal to or less than 1). The MCL exceedances for antimony (2 sampling locations) and cadmium (1 sampling location) are not co-located with soil samples that have concentrations of these metals above screening levels; therefore, it appears that the primary contaminant mechanism identified at this site, leaching from soil/fill to groundwater, is not occurring for these metals. Arsenic was detected above the MCL in groundwater throughout the site, but there are no statistical differences in concentrations upgradient, downgradient, and around the locations of elevated soil arsenic concentrations. Therefore, it is recommended that no further action for residential use of groundwater at Site 10 is recommended".

RI Section 8.2.2, 6th paragraph

"Although antimony, and cadmium were detected above the MCL, these exceedances occurred in isolated locations, and the results of the HHRA indicated that the individual concentrations present in groundwater do not pose unacceptable risks to the construction worker, industrial worker, or potential future resident. The data indicates that the antimony and cadmium in groundwater is not spatially consistent with the elevated soil concentrations of these metals, and therefore is not likely to be related to soil contamination.

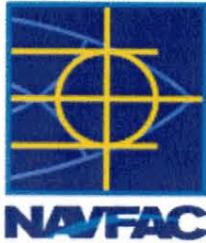
RI Section 8.3.2, 1st paragraph

"Although antimony, and cadmium were detected above the MCL, these exceedances occurred in isolated locations, and the results of the HHRA indicated that the individual concentrations present in groundwater do not pose unacceptable risks to the construction worker, industrial worker, or potential future resident. The data indicates that the antimony and cadmium in groundwater is not spatially consistent with the elevated soil concentrations of these metals, and therefore is not likely to be related to soil contamination.

In response to Debbie's comments on the technical memorandum for Site 10, the RI will be revised (Section 7.7) to clarify with these ending sentences of the essential human nutrient discussion:

"Therefore, it was determined that exposure to iron in groundwater does not pose an unacceptable risk to the future resident based on the essential human nutrient analysis."

"Therefore, it was determined that exposure to manganese in groundwater does not pose an unacceptable risk to the future resident based on the essential human nutrient analysis."



Proposed Plan

Site 10: Norfolk Naval Shipyard Portsmouth, Virginia

MAY 2006

1 Introduction

This **Proposed Plan** identifies the Preferred Alternative and rationale for this preference for addressing historical releases at **Site 10** at the Norfolk Naval Shipyard (NNSY), Portsmouth, Virginia. Three alternatives were evaluated under the **Focused Feasibility Study (FFS)** for Site 10. These alternatives are: (1) **No Action**, (2) **Land Use Controls (LUCs)**, and (3) Excavation, Backfill, and Site Restoration. The U.S. Department of the Navy (Navy) proposes LUCs at Site 10 as the Preferred Alternative based on current site conditions, future anticipated land and resource uses, and the results of the environmental investigations at the site, which are summarized in this document and detailed in the Administrative Record for the site.

The Preferred Alternative is jointly selected by the Navy, the lead agency for site activities, and the **United States Environmental Protection Agency (EPA)** Region 3 in consultation with the **Virginia Department of Environmental Quality (VDEQ)**, the support agency. The Navy and EPA, in consultation with VDEQ, will make the final decision on the remedial approach for Site 10 after reviewing and considering all information submitted during the 30-day **public comment period**. The Navy and EPA, along with the VDEQ, may modify the Preferred Alternative or select another **remedial action** based on new information or public comments. Therefore, public comment on the Preferred Alternative is invited and encouraged.

The Navy developed this Proposed Plan as part of public participation responsibilities required under Section 117(a) of the **Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA)** and Section 300.430(f) (2) of the **National Oil and Hazardous Substances Pollution Contingency Plan (NCP)**. This Proposed Plan summarizes information that can be found in greater detail in the Final NNSY Site 10 **Remedial Investigation, Human Health Risk Assessment, and Focused Feasibility Study (RI/HHRA/FFS)** Report, dated **May 2006**, and previous site investigation documents available in the **Administrative Record** file and Information Repository for NNSY.

Mark Your Calendar for the Public Comment Period

May XX, 2006–June XX, 2006

The Navy will accept written comments on the Proposed Plan during the public comment period.

Public Meeting: May XX, 2006

The Navy will hold a public meeting to explain the Proposed Plan and all of the alternatives presented in the Site 10 FFS report. Verbal and written comments will also be accepted at this meeting. The meeting will be held at the Portsmouth Public Library from 5:00 P.M. to 6:00 P.M.

Location of Information Repository
Portsmouth Main Branch Public Library
601 Court Street
Portsmouth, Virginia 23704
Phone: (757) 393-8501

2 Site Description and Summary of Previous Investigations

2.1 Site Description

The NNSY, one of the largest shipyards in the world devoted exclusively to ship repair and overhaul, is located in Portsmouth, Virginia, on the Southern Branch of the Elizabeth River (Figure 1). It is the oldest continuously operated shipyard in the United States, with origins dating back to 1767, when it was a merchant shipyard under British rule. The NNSY is located in the Hampton Roads Region of southeastern Virginia, approximately 15 miles from the Chesapeake Bay.

Site 10 is an industrial area located in the southern portion of the main shipyard. The physical setting of the site consists of paved roads, buildings, and parking lots (Figure 2). The east side the site is adjacent to Slip 5 and dry dock 8 along the Southern Branch of the Elizabeth River. Site 10, known as the 1927 Landfill in previous documents, was reportedly used from before 1927 until 1942 as a waste disposal area. However, no design information is available and no specific information exists as to the types of waste disposed at the site. Soil borings collected during investigation activities indicated the site consists primarily of dredge fill material and a small amount of construction debris rather than waste consistent with an industrial landfill. Therefore, the Navy, in consultation with the EPA and VDEQ, agreed that Site 10 is more likely a "filling operation to reclaim land" rather than a "landfill".

2.2 Summary of Previous Investigations

Site 10 has been characterized by numerous investigations that occurred base wide at NNSY and/or specific to the site. The following summarize previous investigations completed to date.

Initial Assessment Study (1983)

In 1983, the Navy conducted an **Initial Assessment Study (IAS)** as part of the **Naval Assessment and Control of Installation Pollutants (NACIP)** Program. The purpose was to qualitatively identify and assess sites that posed a potential threat to human health or the environment as a result of contamination from past handling or operations involving hazardous materials. The IAS concluded that Site 10 warranted further investigation to assess long term impacts of the reported site activities.

Final Interim RCRA Facilities Assessment (RFA) Report (1986) and Supplemental RFA (RFA-S) Report (1987)

The RFA and RFA-S consisted of reviewing existing EPA and VDEQ files and included a visual inspection to assess potential site releases at the facility. Because no groundwater or soil sampling were conducted at Site 10 at the time of the RFA, there was no direct evidence of a release. However, the RFA and RFA-S stated the potential for a release to soil, groundwater, and possibly surface water was high due to the lack of release controls at the site. The RFA and RFA-S recommended a confirmation study to assess the potential impacts to groundwater and the underlying soils in the area.

Review of the Aerial Photographic Site Analysis for Norfolk Naval Shipyard, EPA Photographic Interpretation Center (EPIC) (1994)

Historical photographs compiled in the EPA's EPIC Study of the NNSY indicated the Site 10 area was a tidal tributary (Back Creek) to the Southern Branch of the Elizabeth River until at least 1937, and by 1949 filling operations had established a shoreline at Site 10 similar to what exists today.

Site Screening Assessment (2000)

The Site Screening Assessment (SSA) consisted of reviewing sites identified in the Final RFA and the RFA-S. The EPA EPIC Study and documents from NNSY, NAVFAC Mid-Atlantic, and VDEQ were evaluated to identify additional sites. After an evaluation of data, site-specific summaries and agency summaries, 105 sites were identified for site verification as part of the SSA. The site verification identified 15 solid waste management units 10 drum storage areas, 2 open storage areas, and 4 areas of concern that warranted additional data/information or investigation to make an action determination.

Site Screening Process (2003)

The Site Screening Process (SSP) was conducted at Site 10 to delineate the extent of waste, assess potential contaminant releases, and identify potential human health and ecological risks. The extent of landfilling at Site 10 was determined, and a qualitative risk evaluation concluded potential unacceptable human health risk was possible.

from unlimited use and unrestricted exposure to site soil and groundwater. The SSP also concluded that there were no unacceptable potential ecological risks to terrestrial receptors because there is no viable pathway for exposure, and that there were no unacceptable potential ecological risks to aquatic receptors from groundwater discharge to surface water and sediment of the Southern Branch of the Elizabeth River. Additionally, there is no evidence indicating a CERCLA release to groundwater at Site 10.

Remedial Investigation/Human Health Risk Assessment/Focused Feasibility Study (2006)

The SSP investigation determined that further investigation of Site 10 was warranted; therefore, a Supplemental Site Investigation (SSI) was scoped to further assess potential contaminant releases to soil and groundwater and evaluate potential human health risks. The draft HHRA was prepared and concluded there is potential unacceptable human health risk associated with unlimited use and unrestricted exposure (residential) to site soil and groundwater. Because potential unacceptable human health risks were identified, an RI report was developed in lieu of an SSI report.

The RI/HHRA/FFS was prepared at Site 10 to characterize the nature and extent of contamination, quantify human health risk, and evaluate remedial alternatives to address potential unacceptable risk at Site 10. The analytical results of the data collected during the SSP and SSI were the basis of the RI/HHRA/FFS report. The RI/HHRA concluded that soil and groundwater did not pose unacceptable human health risks based on current land use. However, there were potential unacceptable risks associated with exposure to lead in soil by future residents.

The remedial alternatives evaluated to address potential unacceptable risks to the future resident due to exposure to lead in soil were 1) No Action, 2) LUCs, and 3) Excavation, Backfill, and Site Restoration. Alternative 1, No Action, was considered for baseline comparison purposes. Although soil contamination would remain in place, LUCs (Alternative 2) can be implemented at a reasonable cost to prohibit development of the land for residential use. The cost and implementability associated with excavation, backfill, and site restoration (Alternative 3) were determined to be prohibitive.

3 Site Characteristics and Nature and Extent of Contamination

3.1 Site Characteristics

Based on historical photographs and subsurface soil borings, Site 10 consists of primarily dredge fill with some inert construction debris (concrete, wood, glass, ceramic fragments, brick, and slag) in an area of approximately 40 acres, and to depths of 5 to 12 feet below ground surface. Site 10 is adjacent to dry dock 8 (Figure 2) with surface features that include buildings 260, 297, and 510, and paved roads and parking lots. The site topography is relatively flat and vegetation consists mainly of horticultural landscape features. The soil beneath the asphalt consists primarily of the landfilled dredge fill material and a small amount of construction debris.

Groundwater occurs at depths from approximately 2 to 6 ft below ground surface (bgs) and flows east-northeast toward wet slip 5 and dry dock 8 (Figure 2). Hydrogeologic characteristics of Site 10 are detailed in the RI (May, 2006). Surface water runoff flows into catch basins that connect to the NNSY storm water system, which discharges into the Southern Branch of the Elizabeth River.

3.2 Nature and Extent of Contamination

The nature and extent of contamination at Site 10 is based on the analysis of soil and groundwater samples and comparison of site chemical concentrations to background concentrations as determined by the **upper tolerance limits** (UTLs) for background data, and EPA risk based screening criteria. Soil and groundwater samples were analyzed for volatile organic compounds, semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls, and metals. The metals antimony, arsenic, and cadmium were detected in site groundwater above the **maximum contaminant levels** (MCLs). Polyaromatic hydrocarbons (PAHs), a subset of SVOCs, and the metals arsenic and lead were detected above the background UTLs and risk based screening criteria in Site 10 soil.

3.3 Contaminant Fate and Transport

Because a majority of the site is covered by asphalt paving and buildings with few landscaped areas, mechanisms such as precipitation runoff, infiltration and leaching, erosion and deposition, and entrainment of contaminated media via wind erosion do not play a major role in contaminant transport. The primary mechanism for contaminant transport from Site 10 is leaching from soil/fill as groundwater migrates through the site.

4 Scope and Role of Response Action

NNSY was placed on EPA's **National Priorities List (NPL)** in July 1999. As a result of the NPL listing and pursuant to CERCLA, the Navy, EPA, and VDEQ entered into a **Federal Facility Agreement (FFA)** to ensure that the environmental impacts associated with past and present activities at the NNSY are thoroughly investigated and appropriate remedial action taken, as necessary, to protect public health, welfare, and the environment. The NNSY FFA identifies and categorizes every area that has been identified as having, or suspected to have had, a release of a hazardous substance. The FFA also establishes a procedural framework and schedule for developing, implementing and monitoring appropriate response actions at the NNSY in accordance with CERCLA, as amended, and the NCP.

The following three **Operable Units (OUs)**, comprised of seven individual IRP sites, are being investigated following the CERCLA process, with ultimate closure performed pursuant to a **Record of Decision (ROD)**.

- OU 1 (Installation Restoration [IR] Site 2: the Scott Center Landfill) – No Action ROD, signed October 2005
- OU 2 (IR Sites 3 through 7: the Paradise Creek Disposal Area), which has been investigated and will be remediated as one OU because these five individual IR sites are close to one another.
 - IR Site 3, the Sanitary Landfill
 - IR Site 4, the Chemical Holding Pits
 - IR Site 5, the Oil Reclamation Area
 - IR Site 6, the East Dump
 - IR Site 7, the Bermed Chemical Pits
- OU 4 (IR Site 17: Building 195—Plating Shop) – ROD for LUCs, signed **?????2006**

Two OUs have been resolved by removal actions:

- OU 3 (IR Site 9: the former Acetylene Waste Lagoon) was remediated by a non-time critical removal action (NTCRA) undertaken from December 2002 through November 2003.
- OU 5 (Site 1: the former New Gosport Landfill) was remediated by an NTCRA undertaken from August 2000 through June 2001.

The NNSY FFA identifies two SSP areas: IR Site 10-1927 Landfill, subject of this Proposed Plan, and IR Site 15-Past Pier-Side Industrial Operations, which is under investigation following the site screening process. Additionally, the NNSY FFA includes a listing of 154 sites for which no further action under CERCLA is required.

The response action for Site 10 does not include or affect any other sites at the facility. The role of the Preferred Alternative presented in this Proposed Plan is to address all potential threats posed by Site 10 and eliminate current exposure pathways that may pose unacceptable human health risk from contamination.

5 Summary of Site Risks

This section examines the current risks associated with Site 10. The environmental **media** evaluated for human health and ecological risk include surface soil, subsurface soil and groundwater. A more detailed discussion of site risk assessment and the results are contained in the RI/HHRA/FFS.

5.1 Human Health Risk Summary

The HHRA was conducted to evaluate the potential human health risks associated with exposure to soil and shallow groundwater at Site 10. Exposure scenarios evaluated for the Site 10 HHRA include: current/future on site worker, future construction workers, and future residents (adult/child). Health risks are based on a conservative estimate of the potential **carcinogenic risk** or the potential to cause other **non-cancer** health effects expressed as a **hazard index (HI)**. Potential human health risks associated with exposure to lead in soil were determined using the **Integrated Exposure Uptake Biokinetic (IEUBK)** Model developed by EPA.

Groundwater

Groundwater is not currently used as a potable water supply at Site 10. The noncarcinogenic hazard and carcinogenic risks associated with a future construction worker exposed to shallow groundwater are less than EPA's target risk levels and therefore are considered acceptable. Based on reasonable maximum exposure concentrations,

potable use of groundwater by a current/future on-site worker may result in a noncancer hazard or cancer risk due to ingestion of iron and arsenic. However, these potential risks are within EPA's acceptable risk range based on central tendency exposure concentrations, and are therefore considered acceptable. Future residential use of Site 10 groundwater poses a noncancer hazard due to ingestion of arsenic, iron, and ingestion and dermal contact with manganese. Additionally, there is a potential cancer risk associated with ingestion of arsenic in groundwater. A human nutrient analysis conducted as part of the HHRA concluded that the exposure to iron and manganese in groundwater is not expected to present a health concern to future residents because they are essential human nutrients. The Navy completed a statistical analysis of the Site 10 groundwater data, comparing the arsenic concentrations in 2001 and 2004 sampling rounds and as well as arsenic concentrations in groundwater from monitoring wells upgradient of, downgradient of, and within the site. The statistical analysis concluded that there is no significant difference between groundwater data collected in 2001 and 2004, and there is no statistical difference in groundwater concentrations upgradient and downgradient of the site. Although antimony, and cadmium were detected above the MCL, these exceedances occurred in isolated locations, and individually pose no unacceptable risk to the future construction worker, current/future on-site worker, or potential future resident.

Therefore, the Navy, EPA, and VDEQ agree that no further action for groundwater at Site 10 is warranted.

Soils

The noncarcinogenic hazard is above EPA's target HI of 1 for exposure to soil by a future construction worker; however, there are no individual target organs/effects that contribute to an HI greater than 1, and there are no unacceptable risks based on central tendency exposure concentrations. While the IEUBK model indicated a slight risk to fetuses of female current/future on-site worker workers based on the site wide mean concentration of lead in surface soil at 741 mg/kg, this concentration is below EPA's action level guidance criteria of 1,000 mg/kg for industrial use and is therefore considered acceptable. Future residential use of the site may result in unacceptable risks from unrestricted exposure to lead in soil. The results of EPA's IEUBK lead model indicated a blood level greater than 10 µg/dL for 12% of the population, which is unacceptable based on EPA's threshold criteria for a blood lead population level of 5%.

The Navy, in partnership with the EPA and VDEQ, agree that no further action is warranted for exposure to Site 10 soil by a future construction worker and current/future on-site worker, and lead is retained as a **chemical of concern (COC)** in Site 10 soil under a future residential land use.

TABLE 1				
Site 10 –Risk Assessment Summary				
Media	Human Health Risk			Ecological Risk
	Current/Future On-Site Workers	Future Construction Workers	Future Residential Child and Adult	
Surface Soil	Acceptable	Acceptable	Unacceptable	No Exposure Pathway
Subsurface Soil	Acceptable	Acceptable	Unacceptable	No Exposure Pathway
Groundwater	Acceptable	Acceptable	Acceptable	No adverse effect to potential receptors

5.2 Ecological Risk Summary

Site 10 is an industrial site and provides no viable ecological habitat. As a result, there is no exposure pathway for ecological receptors at the Site. In addition, ecological receptors are not adversely affected by groundwater through chemical exposure routes from groundwater to surface water and/or sediment. Site 10 poses no unacceptable ecological risk.

6 Remedial Action Objectives

The RI/HHRA/FFS Report concluded that the only risk to human health or the environment posed by Site 10 is to a future resident exposed to lead in site soils. Therefore, the site-specific **Remedial Action Objective (RAO)** for Site

10 is to prevent unlimited use and unrestricted exposure to surface and subsurface soil until lead concentrations meet acceptable levels.

7 Summary of Remedial Alternatives

To achieve the site-specific RAO to prevent unrestricted exposure to lead in soil, the Navy evaluated the following Remedial Alternatives in the RI/HHRA/FFS:

- Alternative 1: No Action
- Alternative 2: LUCs
- Alternative 3: Soil Excavation, Backfill, and Site Restoration

A summary of the remedial alternatives is presented in [Table 2](#). The No Action alternative involves no remedial action and was included as a baseline for comparison. The LUCs alternative will effectively prevent future land use from becoming residential and will, therefore, restrict residential receptor exposure, eliminating the potential for adverse health effects. The Soil Excavation, Backfill, and Site Restoration alternative will eliminate potential risk from Site 10 and completely reduce the surface and subsurface soil toxicity, mobility, and volume of lead in soil. By comparison, remedial alternatives intended to treat or remove contamination would be more costly and unnecessary because the current and reasonably anticipated future land use for the site is industrial. A comparative analysis of the remedial alternatives is provided in [Table 3](#). The, the Navy, in consultation with VDEQ and EPA, has determined that LUCs can be reasonably relied upon to protect human health and the environment and are warranted for Site 10.

8 Preferred Alternative

LUCs can be reasonably relied upon to protect human health because Site 10 is located in the Controlled Industrial Area of the NNSY, the area is not reasonably anticipated to change from industrial use in the foreseeable future, and the Navy can effectively implement measures/controls to maintain this land use. The Navy would complete additional risk determination for any future land use that allows for unlimited use and unrestricted exposure at Site 10. Although soil excavation would eliminate the toxicity, mobility, and volume of lead in soil, this alternative has a prohibitively high cost and would require significant disruption of the mission of NNSY in the Controlled Industrial Area during implementation of an excavation alternative. The Navy recommends Alternative 2: LUCs as the Preferred Alternative for Site 10. The estimated **cost** to implement this alternative is minimal.

Based on information currently available, the Preferred Alternative meets the threshold criteria and provides the best balance of tradeoffs with respect to the **nine evaluation criteria** as required by the NCP (40 CFR Part 300.430(e)(9)(iii)). The Navy expects the Preferred Alternative to satisfy the following statutory requirements of CERCLA Section 121(b), insofar as it: (1) is protective of human health and the environment; (2) complies with **Applicable or Relevant and Appropriate Requirements (ARARs)**; (3) is cost-effective; (4) utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable; and (5) satisfies the preference for treatment as a principal element (or justifies not meeting the preference).

The VDEQ and EPA support the Preferred Alternative. However, their final concurrence with the alternative will be provided following review of all comments received during the public comment period. The Preferred Alternative could change based on public comments.

9 Community Participation

A community relations program has been conducted throughout the investigation of Site 10. Public input is a key element in the decision-making process. Nearby residents and other interested parties are strongly encouraged to use the comment period to relay any questions and concerns about Site 10 and the Preferred Alternative. The Navy will summarize and respond to comments in a Responsiveness Summary, which will become part of the official ROD.

This Proposed Plan fulfills the public participation requirements of CERCLA Section 117(a), which specifies that the lead agency (the Navy) must publish a plan outlining any remedial alternatives evaluated for the site and identify the Preferred Alternative. All documentation pertaining to the investigation of Site 10 and the development of the remedial action alternatives presented in this Proposed Plan are available for public review at the Administrative Record and the Information Repository (see Section 9.3 below).

A Restoration Advisory Board (RAB) was formed in 1994. Meetings continue to be held to provide an information exchange among community members, the EPA, VDEQ, and the Navy. These meetings are open to the public and are held about every 3 to 4 months.

9.1 Public Comment Period

The public comment period for the Proposed Plan provides an opportunity to provide input regarding the source control and risk reduction process for Site 10. The public comment period will be from **May XX, 2006 to June XX, 2006**, and a public meeting will be held on **May XX, 2006**, at the Portsmouth Public Library (601 Court Street) from 5:00 P.M. to 6:00 P.M. All interested parties are encouraged to attend the meeting to learn more about the alternatives developed for Site 10. The meeting will provide an additional opportunity to submit comments on the Proposed Plan to the Navy.

Comments on the Preferred Alternative, or this Proposed Plan, must be postmarked no later than **June XX, 2006**. On the basis of comments or new information, the Navy and EPA may modify the Preferred Alternative or choose another alternative. The comment page included as part of this Proposed Plan may be used to provide comments to the Navy.

9.2 Record of Decision

After the public comment period, the Navy, in consultation with the EPA and VDEQ, will determine how the Proposed Plan should be modified on the basis of comments received. Any required modifications will be made by the Navy and reviewed by the EPA and VDEQ. If the modifications substantially change the proposed remedy, additional public comment may be solicited. If not, then the EPA and the Navy will prepare and sign the ROD. The ROD will detail the remedial actions chosen for the site and will include the Navy's responses to comments received during the public comment period.

9.3 Available Information

The Community Relations Plan, Installation Restoration Program fact sheets, and final technical reports concerning Site 10 are available to the public at the NNSY Administrative Record:

**Public Affairs Officer
NAVFAC MidAtlantic
9742 Maryland Ave.
Building A-81
Norfolk, Virginia 23511
(757)445-8732**

Or, at the NNSY Information Repository:

**Portsmouth Public Library
601 Court Street
Portsmouth, Virginia 23704
(757) 393-8501**

If individuals have any questions about NNSY Site 10, they may call or write to one of the contacts listed below.

Glossary

Administrative Record: Site information is compiled in an Administrative Record and placed in an Information Repository located at or near the facility to facilitate public review.

Applicable or Relevant and Appropriate Requirements (ARARs): Federal or State environmental statutes and regulations with which remedial actions under CERCLA must comply or waiver must be justified under CERCLA.

Background Concentration: Concentrations of naturally occurring and manmade constituents, such as metals, found in groundwater, soil, sediment, and surface water in areas not impacted by spills, releases, or other site-specific activities. Background concentrations of some metals and other constituents are often at levels that may pose a risk to human health or the environment. These background-related risks should be considered (that is, subtracted) when calculating the risk posed by site conditions.

Cancer Risk or Carcinogenic Risk: Cancer risks are expressed as a number reflecting the increased chance that a person will develop cancer if exposed to carcinogenic chemicals or substances. For example, EPA's acceptable risk range for Superfund sites is 1×10^{-4} to 1×10^{-6} , meaning there is 1 additional chance in 10,000 (1×10^{-4}) to 1 additional chance in 1 million (1×10^{-6}) that a person will develop cancer if exposed to a site that is not remediated.

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA): A Federal law, commonly referred to as the "Superfund" Program, passed in 1980 and amended by the Superfund Amendments and Reauthorization Act of 1986. CERCLA provides for cleanup and emergency response in connection with existing inactive hazardous waste disposal sites that endanger public health and safety or the environment.

Chemical of Concern (COC): A chemical that is determined to pose unacceptable risks or hazards to receptors at the site.

Chemical of Potential Concern (COPC): A chemical that, based upon comparison to regulatory screening criteria, has potential to pose unacceptable risks or hazards to receptors at the site.

Ecological Risk Assessment (ERA): An evaluation of the risk posed to the environment if remedial activities are not performed at the site.

Federal Facility Agreement (FFA): An agreement between the agencies to identify sites of potential historic contamination and implement corrective actions based on public health and environmental considerations. Among other requirements, the agreement outlines a process to insure regulatory authority and oversight.

Focused Feasibility Study (FFS): Analysis of the practicability of a remedial proposal specific for the site being studied. The feasibility study usually recommends the selection of a cost-effective alternative.

Groundwater: Subsurface water that occurs in soils and geologic formations that are fully saturated.

Human Health Risk Assessment (HHRA): An evaluation of the risk posed to human health at a site should remedial activities not be implemented.

Integrated Exposure Uptake Biokinetic Model for lead in Children (IEUBK): Predicts blood-lead concentrations for children exposed to lead in their environment. The model allows the user to input relevant absorption parameters as well as intake and exposure rates. Using these inputs, the model calculates a complex set of equations estimating potential concentrations of lead in the blood for a child or children (6 months to 7 years of age).

During the comment period, interested parties may submit written comments to the following address:

Mr. Timothy Reisch, Code OPHREV4
Naval Facilities Engineering Command
Mid-Atlantic
9742 Maryland Avenue
Norfolk, Virginia 23511-3095
(757) 444-6890
Fax: (757) 444-5822

Mr. Greyson Franklin
Remedial Project Manager
EPA Region III
1650 Arch Street
Philadelphia, Pennsylvania 19103
(215) 814-2333
Fax: (215) 814-3051

Ms. Debra Miller
Remedial Project Manager
Virginia Dept. of Environmental Quality
629 Main Street, 4th Floor
Richmond, Virginia 23219
(804) 698-4206
Fax: (804) 698-4234

Mr. Peter Clifford
Norfolk Naval Shipyard
Building M-22, 3rd Floor
Portsmouth, Virginia 23709-5000
(757) 396-3632
Fax: (757) 396-7026

Integrated Risk Information System (IRIS): Electronic database containing information on human health effects that may result from exposure to various chemicals in the environment. IRIS is Prepared and maintained by the U.S. Environmental Protection Agency (U.S. EPA).

Initial Assessment Study (IAS): A study conducted to identify and assess sites that pose a potential threat to human health and the environment because of contamination from past handling of and operations involving hazardous materials.

Land Use Controls (LUCs): Physical, legal, or administrative methods that restrict the use of or limits access to property to reduce risks to human health and the environment.

Maximum Contaminant Level (MCL): The maximum permissible level of a contaminant in water delivered to any user of a public system. MCLs are enforceable standards under the Safe Drinking Water Act.

Media (singular, Medium): Soil, groundwater, surface water or sediments at the site.

Naval Assessment and Control of Installation Pollutants (NACIP): A program developed by the Navy to identify and assess sites that pose potential threats to human health or the environment because of contamination from past operations involving hazardous materials.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): Provides the organizational structure and procedures needed to prepare for and respond to discharges of oil and releases of hazardous substances, pollutants, and contaminants.

National Priorities List (NPL): A list, developed by EPA, of uncontrolled hazardous substance release sites in the United States that are priorities for long-term remedial evaluation and response.

Nine Evaluation Criteria: A common set of criteria specified in the National Contingency Plan (NCP) against which the remedial alternatives developed for a site are evaluated. The criteria are as follows:

- **Overall Protection of Human Health and the Environment:** Addresses whether a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.
- **Compliance with ARARs:** Addresses whether a remedy will meet all of the ARARs of other Federal and State environmental laws and/or justifies a waiver of the requirements.
- **Long-Term Effectiveness and Permanence:** Addresses the expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time, after clean-up goals have been met.
- **Reduction of Toxicity, Mobility, and Volume Through Treatment:** Addresses the degree to which a treatment technology may be successful in eliminating, reducing or stabilizing contamination.
- **Short-Term Effectiveness:** Considers the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until clean-up goals are achieved.
- **Implementability:** Evaluates the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement an option.
- **Cost:** Compares the estimated capital, operations and maintenance, and present worth costs among the alternative remedial actions.
- **State Acceptance:** Considers the State support agency comments on the Proposed Remedial Action Plan.
- **Community Acceptance:** Provides the public's general response to the alternatives described in the Proposed Remedial Action Plan, RI, and FS Reports. The specific responses to the public comments are addressed in the Responsiveness Summary section of the ROD.

No Action: Cleanup actions are not required at the site.

Noncancer Hazard: Noncancer hazard (or risk) is an expression of systemic toxicities to humans associated with exposure to non-carcinogens. Non-cancer hazards are expressed as a ratio of the average daily intake of a chemical (ADI) to its reference dose (a threshold level of exposure below which no adverse health effects are likely to occur). When this number is equal to or less than 1, no adverse health effects are anticipated. However, if it exceeds 1, there may be a concern for potential noncancer effects.

Operable Unit (OU): The area of the facility where a hazardous substance waste, or constituent; pollutant; or contaminant from the facility has been deposited, stored, disposed of, or placed; has migrated; or has otherwise come to be located.

Proposed Plan: A document that presents and requests public input regarding the proposed cleanup alternative.

Public Comment Period: The time allowed for the members of an affected community to express views and concerns regarding an action proposed to be taken by EPA, such as a rulemaking, permit issuance, or Superfund-remedy selection.

Receptors: Humans, animals, or plants that may be exposed to risks from contaminants related to a given site.

Record of Decision (ROD): A legal document that describes the cleanup action or remedy selected for a site, the basis for choosing that remedy, and public comment on alternative remedies.

Remedial Action: A cleanup method proposed or selected to address contaminants at a site. Implementation of the remedy, once selected in accordance with the CERCLA process.

Remedial Action Objectives (RAOs): Objectives of remedial actions that are developed based on contaminated media, contaminants of concern, potential receptors and exposure scenarios, human health and ecological risk assessment, and attainment of regulatory cleanup levels, if any exist.

Remedial Investigation (RI): A study of a facility that supports the selection of a remedy where hazardous substances have been disposed or released. The RI identifies the nature and extent of contamination at the facility.

Site: The area of the facility where a hazardous substance waste, or constituent; pollutant; or contaminant from the facility has been deposited, stored, disposed of, or placed; has migrated; or has otherwise come to be located.

United States Environmental Protection Agency (EPA): The federal agency responsible for administration and enforcement of CERCLA (and other environmental regulations), and with final approval authority for the selected ROD.

UTL (Upper Tolerance Limits): The 95th upper bound on the 95th percentile of the distribution for constituents detected during the background sampling event

Virginia Department of Environmental Quality (VDEQ): The Commonwealth of Virginia's agency responsible for administration and enforcement of environmental regulations.

