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TRANSMITTAL LETTER AND DRAFT EXPLANATION OF SIGNIFICANT DIFFERENCES FOR
OPERABLE UNIT 3 (OU 3) SITE 9 OLD FIRE FIGHTING TRAINING AREA NS NEWPORT RI

4/7/2014

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C-NAVY-04-14-5333W

April 7, 2014

Project Number 112G02921

Ms. Kimberlee Keckler, Remedial Project Manager
U.S. EPA Region I
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Ms. Pamela Crump, Remedial Project Manager
Rhode Island Department of Environmental Management
235 Promenade Street
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Reference: CLEAN Contract No. N62470-08-D-1001
Contract Task Order No. WE65

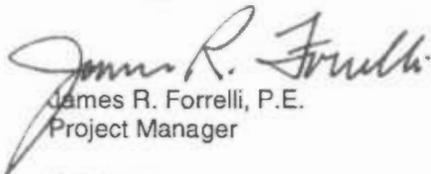
Subject: Transmittal of Draft Explanation of Significant Differences
Site 09 [OU3], Old Fire Fighting Training Area
Naval Station Newport, Newport Rhode Island

Dear Ms. Keckler, Ms. Crump:

On behalf of Ms. Winoma Johnson, US Navy NAVFAC Mid-Atlantic, for your review enclosed are two copies of the Draft Explanation of Significant Differences (ESD) prepared for the site referenced above. The ESD is required to modify the Record of Decision (ROD) by changing the groundwater clean-up level for arsenic from the risk-based value of 0.04 micrograms per liter ($\mu\text{g/L}$) to its federal Maximum Contaminant Level (MCL) value of 10 $\mu\text{g/L}$, as set under the Safe Drinking Water Act. It is requested that you provided any comments on Draft ESD by May 7, 2014. The electronic version of this document has been be distributed by email.

Questions and comments on this material should be provided to Ms. Winoma Johnson, NAVFAC Mid-Atlantic.

Very truly yours,


James R. Forrelli, P.E.
Project Manager

Enclosures

cc: W. Johnson, NAVFAC (w/encl. - 2)
P. Steinberg, Mabbett Associates (w/encl. - 2)
D. Ward, NAVSTA (w/encl. - 2)
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File 112G2921-8.0 (w/encl.), 3.1 (w/o encl.)

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Explanation of Significant Differences

Site 9, Operable Unit 3, Old Fire Fighting Training Area

Naval Station Newport, Rhode Island

Change in Groundwater Cleanup Level for Arsenic to the Federal Maximum Contaminant Level

INTRODUCTION AND STATEMENT OF PURPOSE

An Explanation of Significant Differences (ESD) is required for Site 9, Operable Unit (OU) 3, Old Fire Fighting Training Area (OFFTA) at Naval Station (NAVSTA) Newport, Rhode Island (formerly the Naval Education and Training Center), to modify the Record of Decision (ROD) to change the groundwater cleanup level for arsenic to the federal Maximum Contaminant Level (MCL). The modification is significant because it changes the cleanup goal for one analytical parameter but does not fundamentally alter the overall cleanup approach documented in the ROD for Site 9, signed in September 2010.

The Navy is the lead agency, with oversight from the United States Environmental Protection Agency (EPA) and Rhode Island Department of Environmental Management (RIDEM), for cleanup of sites at NAVSTA Newport in the Installation Restoration Program (IRP) under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as modified by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

The Navy is issuing this ESD for Site 9 at NAVSTA Newport as part of the public participation requirements under Section 117(c) of CERCLA, Section 300.435(c)(2)(i) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), and the Navy IRP. In accordance with Section 300.825(a)(2) of the NCP, this ESD will become part of the Administrative Record for the facility. The Administrative Record also contains background information that was used in determining the selected remedy, as documented in the ROD, and in preparing this ESD. The Administrative Record for NAVSTA Newport is part of the Information Repository, which is available for review at the following web site:

<http://go.usa.gov/Tsy>

This ESD documents the change in the groundwater cleanup level for arsenic established in the ROD of 0.04 micrograms/liter ($\mu\text{g}/\text{L}$) to the federal MCL of 10 $\mu\text{g}/\text{L}$ established in accordance with the Safe Drinking Water Act [40 Code of Federal Regulations (CFR) 141.11-141.16, Subpart B]. The MCL for arsenic is protective of drinking water sources, is a relevant and appropriate requirement in the ROD for Site 9.

The ROD outlined the Navy's planned response to contaminated soil and groundwater at Site 9, which includes implementation of groundwater use restrictions and a long-term monitoring program. With the change documented in this ESD, the remedy will continue to be protective of human health and the environment with respect to the contaminants of concern (COCs) identified in the ROD.

SITE HISTORY, CONTAMINATION, AND SELECTED REMEDY

Site History

NAVSTA Newport was placed on the National Priorities List (NPL) in 1989. Multiple investigations have been performed at Site 9, including a Remedial Investigation (RI) (2001), Groundwater Risk Evaluation (2002), Draft Feasibility Study (2002), Soil Pre-Design Investigation (2004 to 2005), Supplemental Risk Evaluation (2007), and Revised Draft Final Feasibility Study finalized through a July 2010 Technical Memorandum (2009 to 2010). The final remedy for the site was documented in the ROD, which was signed by the Navy and EPA Region 1 in September 2010, with concurrence from RIDEM.

Site 9 was the location of a Navy fire-fighting training facility from World War II until 1972. During training operations, fuel oils were ignited in various structures at the site and then were extinguished by trainees. Underground piping reportedly carried the water/oil mixture from underground storage tanks (USTs) to the structures. Unburned fuels and water were drained from the buildings and routed to an oil-water separator before being discharged to Coasters Harbor. Upon closure in 1972, the training structures were demolished and buried in mounds on the site. The entire area was then covered with topsoil and converted to a recreational area that included a baseball field, picnic area, and open pavilion. This area was opened for Navy use in 1976 as "Katy Field." During a short period in the 1990s, local community youth baseball teams were permitted to use the baseball field, and former Building 144 was used as a day care facility. Katy Field was used for recreation until it was closed and fenced in 1998 due to potential environmental and human health concerns. Building 144 was demolished in 2009.

In 2003, the Surface Warfare Officers School (SWOS) Applied Instruction Building was constructed on a portion of the site

south of (the now former) Katy Field (Building 1362). The SWOS is separated from the former Katy Field by Taylor Drive. During construction, contaminants detected within the construction zone were determined to be similar to and contiguous with those at the former Katy Field. As a result, the SWOS area and soils under a portion of Taylor Drive were added to Site 9.

A series of non-time-critical removal actions (NCRAs) were conducted to remove soil-covered mounds of debris resulting from demolition of the fire-fighting training area, to remove soil with contaminant concentrations exceeding RIDEM upper concentration limits (UCLs), and to replace the stone revetment along the shoreline to prevent erosion of contaminated soil from the site.

During the removal action associated with the stone revetment replacement, asbestos-containing material (ACM) was encountered, which likely resulted from poor housekeeping practices associated with prior building demolition activities at NAVSTA. The work plan for the removal action was revised to include removal and off-site disposal of ACM encountered during excavation activities within the footprint of the revetment.

Site 9 encompasses approximately 8.2 acres and is currently used as a military personnel education and physical fitness center with associated parking areas.

Contaminants of Concern at Site 9

The soil COCs listed in the ROD for Site 9 include arsenic, lead, manganese, and the polycyclic aromatic hydrocarbons (PAHs) benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene. A 2010 ESD added asbestos to the list of soil COCs for Site 9.

The groundwater COCs listed in the ROD are arsenic, chromium, lead, manganese, benzene and 2-methyl-naphthalene.

Selected Remedy

The selected remedy for Site 9 includes the following components:

- An asphalt/soil cover system.
- Surface water control structures in paved areas.
- Development and implementation of land use controls (LUCs) including preventing any consumptive use of groundwater.
- Maintenance of the cover system.
- Monitoring including sediment monitoring downgradient of the site and groundwater monitoring upgradient of the compliance boundary to ensure that contaminants are not migrating away from the site.
- Five-year reviews.

Cover System

The asphalt/soil cover system was designed and constructed over the area of contaminated soil to reduce site-wide average COC soil concentrations to levels less than industrial cleanup criteria. Unpaved areas received a 2-foot soil cover consisting of geotextile, clean fill and topsoil that was graded and vegetated to prevent ponding of rainwater and erosion. New areas for parking, roadways, and sidewalks were paved. This pavement provided reduced permeability and an effective barrier preventing access to contaminated soil. Areas with existing pavement or sidewalks became part of the cover system preventing direct contact with soil and preventing infiltration of precipitation and surface runoff to underlying soil.

The geotextile was used to separate the clean fill from the underlying contaminated soil and to serve as a marker layer if any future land-disturbing activities are conducted. Grassed traffic islands around the parking lots of the SWOS building were covered with 6 inches of topsoil underlain by a geotextile to serve as a barrier layer to incidental excavation in the area. The stone revetment along the northern perimeter of the site was replaced as part of a NCRCA and extended as part of the parking lot cover project. The revetment will protect the northern edge of the soil cover from erosion by ocean waves, provide stability during coastal flooding events, and contain potential migration of contaminated soil to the nearby marine sediments.

Surface Water Controls

Surface water control structures were installed in paved areas to collect surface water runoff and prevent infiltration into the subsurface and to direct runoff to existing or new on-site storm drainage systems.

LUCs

LUCs have been developed to accomplish the following:

- Establish a waste management area for the site, where contaminants associated with releases from fire-fighting training operations remain in place. The waste management area encompasses all of the land within the Site 9 boundary.
- Restrict property uses to those consistent with industrial/commercial activities such as parking, roadways, sidewalks, material stockpiles, heavy equipment storage, etc.
- Prevent use of groundwater at the property for any consumptive purpose including household use, drinking water supply, irrigation, or industrial use.
- Prevent excavation or disturbance of the asphalt/soil cover, monitoring wells, and any other components of the remedy, and prevent access to contaminated soil by persons who are not adequately trained and properly informed of the hazards associated with such activities.

- Establish LUC compliance monitoring requirements, as described below.

The LUCs have been established and implemented in accordance with a post-ROD LUCs Remedial Design (RD) that was finalized in 2012. The LUC/RD identifies procedures for ensuring that LUCs are maintained if the property is transferred from the Navy to another federal owner. If the property is transferred to non-federal ownership, deed restrictions that incorporate the LUCs required by the ROD and that meet state property law standards will be recorded. Although the Navy may transfer the procedural LUC responsibilities to another party by contract, property transfer agreement, or through other means, the Navy shall retain ultimate responsibility for remedy integrity. LUCs will be maintained and monitored at Site 9 until concentrations of COCs in soil and groundwater are at levels that allow for unrestricted use and unlimited exposure.

Maintenance

Maintenance of the cover system will be conducted to ensure continued protection of possible receptors. Maintenance will be conducted as needed and as defined by the periodic inspection schedule to be generated by the Installation Commander's designee.

Monitoring

Monitoring will be conducted to ensure that the cover system remains intact, that the revetment is not breached and is still preventing soil erosion, and that contaminants are not migrating beyond the property boundary. A Long-Term Monitoring Program (LTMP) Work Plan is being developed to describe the monitoring components and procedures. The monitoring program will include the following:

- Groundwater monitoring upgradient of the compliance boundary to ensure that contaminants are not migrating away from the site into areas that have no current LUCs preventing groundwater use.
- Sediment monitoring downgradient of the compliance boundary to ensure that contaminants are not migrating into the marine ecosystem.
- Annual inspections of the cover system, revetment, and land use/land improvements to ensure that there are no violations of the LUCs.

Five-Year Reviews

Five-year reviews are required because contaminants with concentrations that exceed cleanup goals are being managed in place. The five-year reviews for Site 9 will be prepared along with reviews for the other IRP sites on the same cycle. Five-year reviews will be conducted in accordance with current Navy and EPA guidance. The need to continue each element of the Site 9 LTMP will be revisited at each five-year review cycle, and the LTMP Work Plan will be revised as

appropriate. The last five-year review was conducted in 2009, and the next five-year review will be conducted in 2014 (final report due December 2014).

BASIS FOR THE DOCUMENT

This ESD addresses the Navy's concerns regarding the groundwater cleanup level for arsenic selected in the ROD. As documented in the ROD, upgradient groundwater at the site is intended to be monitored solely for comparison purposes because all contaminated groundwater is limited to the waste management area (where it cannot be used for drinking water) and because groundwater downgradient of the site is saline. The selected residential groundwater cleanup goal for arsenic was a risk-based value assuming that groundwater is used as a drinking water source. The cleanup level, 0.04 µg/L, was a preliminary remedial goal (PRG) calculated for arsenic based on an excess lifetime cancer risk (ELCR) of 1×10^{-6} for hypothetical future residential exposure to groundwater. The ELCR estimates the additional or extra risk of developing cancer due to exposure to a toxic substance incurred over the lifetime of an individual, in this case 1 in 1 million. However, this cleanup level is significantly less than detection limits that can be achieved through standard analytical methods. The EPA analytical method used for low-level metals analysis throughout the Navy Environmental Restoration program, EPA SW 846 Method 6020A, employs inductively coupled plasma/mass spectrometry (ICP/MS). A typical laboratory's Method Detection Limit (MDL) for arsenic is 2.25 µg/L or parts per billion.

Since it is not practical to establish a cleanup level that is significantly less than laboratory methods can readily detect, the Navy has chosen an alternate cleanup level for arsenic, the federal Safe Drinking Water Act MCL of 10 µg/L. The MCL is recognized as protective of drinking water sources. The NCP at 40 CFR Section 300.430(3)(B) and (C) indicates that MCLs (or Maximum Contaminant Level Goals [MCLGs]) established under the Safe Drinking Water Act should be attained where relevant and appropriate to the circumstances of the release.

EPA's 2009 guidance on groundwater restoration (OSWER Directive 928.1-33,) notes that chemical-specific standards that define acceptable risk levels (e.g., MCLs or non-zero MCLGs) may be used to determine whether an exposure is associated with an unacceptable risk to human health or the environment and whether remedial action is warranted. EPA 2009 guidance further notes that groundwater cleanup levels can be established based on promulgated standards or risk-based levels (for example, for contaminants when there are no standards that define protectiveness). In this case, both state and federal standards that define protectiveness are available for arsenic in groundwater, and the standards are consistent with one another. As described in the ROD for Site 9, groundwater underlying NAVSTA Newport and Site 9 on

Coaster’s Island is not used for drinking water. It flows to the site from urbanized/developed land and is partially affected by seawater. RIDEM classifies groundwater at and adjacent to the site as GB, which indicates it may not be suitable for drinking water without treatment, and therefore there is no current or planned future use of groundwater for drinking water purposes. However, because EPA has not officially designated groundwater at Site 9 as a non-drinking water source, establishment of a cleanup level for arsenic that is consistent with state and federal drinking water standards is an appropriate but conservative measure.

DESCRIPTION OF SIGNIFICANT DIFFERENCES

The 2010 ROD outlined the Navy’s planned response to contaminated soil and groundwater at Site 9 and summarized the process used to develop cleanup levels for the site. For groundwater COCs, the following cleanup levels were developed and presented in Table 2-4 of the ROD.

COC	Cleanup Level (µg/L)	Basis for Selection
Arsenic	0.04	Cancer Risk
Chromium	30	Non-Cancer Risk
Lead	15	Action Level/MCL
Manganese	300	Health Advisory
Benzene	1	Cancer Risk
2-Methylnaphthalene	128	Non-Cancer Risk

This ESD documents the change in the cleanup level for arsenic from a calculated risk-based value to a relevant and appropriate standard, with the basis for the selection of the revised cleanup level being the federal MCL which is equivalent to state groundwater quality standard. There are no changes to the cleanup levels for the other Site 9 groundwater COCs.

COC	Revised Cleanup Level (µg/L)	Basis for Selection
Arsenic	10	MCL/Equal to State Groundwater Quality Standard

In summary, monitoring groundwater for the original cleanup level of 0.04 µg/L was not feasible because this concentration was much less than the practical quantitation limit of the laboratory analytical method. EPA Method 6020A can reliably detect arsenic concentrations that are less than the federal Safe Drinking Water Act MCL of 10 µg/L. Therefore, the cleanup level has been revised to 10 µg/L, which is consistent with EPA guidance (OSWER Directive 928.1-33) that provides for use of MCLs or non-zero MCLGs as relevant and appropriate requirements for groundwater that is used or may be used for drinking water. The revised cleanup level is

protective and yet conservative since groundwater is unlikely to be used as a drinking water source.

SUPPORT AGENCY COMMENTS

EPA and RIDEM representatives, as part of the NAVSTA Newport IRP Team, have had ongoing involvement in the decision-making process associated with the change in the Site 9 remedy documented by this ESD. The Navy has obtained concurrence from the EPA and RIDEM on the modification to the cleanup level for arsenic in groundwater at Site 9.

STATUTORY DETERMINATIONS

The scope, performance, and cost of the remedy are not altered by the change in the arsenic groundwater cleanup level at this site, and there is no significant change to any component of the remedy. The proposed change to the selected remedy will continue to satisfy the statutory requirements of CERCLA Section 121, and the modified remedy will remain protective of human health and the environment and will continue to comply with federal and state ARARs and to be cost effective.

PUBLIC PARTICIPATION

Public participation requirements as outlined in the NCP, Section 300.435 (c)(2)(i), have been met by including this ESD in the Administrative Record for Site 9 and by publishing in local newspapers a notice of availability of the ESD [add paper names and dates]. In addition, the Navy regularly meets to discuss the status and progress of the IRP with the Restoration Advisory Board (RAB), which includes representatives from the local community. Representatives from the Navy, EPA, and RIDEM attend these meetings. The proposed change in the arsenic cleanup level at Site 9 was discussed at the March 2014 RAB meeting.

SECRET

CONFIDENTIAL - SECURITY INFORMATION

1. The purpose of this document is to provide information regarding the activities of the [redacted] in the [redacted] area.

2. The [redacted] has been identified as a [redacted] of the [redacted] and is currently active in the [redacted] area.

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SECRET

CONFIDENTIAL - SECURITY INFORMATION

3. The [redacted] is currently active in the [redacted] area and is believed to be involved in [redacted] activities.

4. The [redacted] is currently active in the [redacted] area and is believed to be involved in [redacted] activities.

5. The [redacted] is currently active in the [redacted] area and is believed to be involved in [redacted] activities.

6. The [redacted] is currently active in the [redacted] area and is believed to be involved in [redacted] activities.