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REVISED U S NAVY RESONSES TO U S EPA REGION I COMMENTS ON DRAFT
FEASIBILITY STUDY FOR SITE 19 OPERABLE UNIT 12 (OU 12) ON-SHORE DERECKTOR
SHIPYARD NS NEWPORT RI
9/16/2013
TETRA TECH

Navy Revised Responses to EPA Comments | September 16, 2013
Draft Feasibility Study for Site 19 – On-Shore Derecktor Shipyard, NAVSTA Newport, RI

INTRODUCTION

On behalf of the Navy, Tetra Tech submits this response-to-comments (RTCs) document for comments received from the U.S. Environmental Protection Agency (EPA) Region 1 related to the *Draft Feasibility Study (FS) for Site 19 – On-Shore Derecktor Shipyard, Naval Station (NAVSTA) Newport, Rhode Island* (Tetra Tech, 2012). The following bullets summarize the milestones for the FS, EPA comments, and associated RTCs.

- Navy presented FS approach and key component preview topic (i.e., presentation of sub-area approach, methodology and selection of chemicals of concern [COC] and preliminary remediation goals [PRGs], proposed remedial action objectives [RAOs], and proposed remedial alternatives) at the NAVSTA Newport Remedial Project Manager (RPM) Meeting on November 28, 2012.
- Navy submitted Draft FS on December 31, 2012.
- United States Environmental Protection Agency (EPA) provided comments dated February 12, 2013.
- Following brief discussion of EPA's and Rhode Island Department of Environmental Management's (RIDEM's) comments at the March 2013 RPM Meeting, the RPMs attended a conference call on April 3, 2013, to discuss comments and issues in depth. Meeting minutes and action items for each of Navy, EPA, and RIDEM were documented and distributed to RPMs.
- Navy submitted "Draft" RTCs on April 14, 2013, stating the RTCs would be updated following review and further discussion.
- EPA provided responses (i.e., "follow-up comments") to the Navy dated June 27, 2013.
- Original EPA Comments, Navy Draft RTCs, and [EPA Follow-Up Comments are provided below followed by respective Navy Revised RTCs](#). Draft RTCs with no EPA follow-up comments generally are considered final (unchanged) unless specified or discussed otherwise. Pending any additional discussion of comments/RTCs/issues, the Navy will issue the Draft Final FS.

GENERAL COMMENTS AND RESPONSES

Comment G-1

Only one groundwater alternative other than No Action has been developed and it is a passive alternative that relies on monitored natural attenuation (MNA) without a sufficient database to reasonably project when the remedial goals would be achieved or how effective the remedy will be. EPA's Guidance (OSWER Directive 9200.4-17P) states: "...The effectiveness of MNA in both near-term and long-term timeframes should be demonstrated to EPA (or other overseeing regulatory authority) through: 1) sound technical analyses which provide confidence in natural attenuation's ability to achieve remediation objectives; 2) performance monitoring; and 3) contingency (or backup) remedies where appropriate..."

Accordingly, the FS needs to evaluate treatment remedies that could be implemented as a contingency if the MNA remedy does not perform as required. Because the site has predominantly TCE contamination in one area and metals contamination in other areas, the additional remedies must be able to address all contaminants. An enhanced biodegradation alternative may be appropriate for the TCE plume and chemical injection to adjust the ORP of the aquifer in the metals contaminated areas may be appropriate.

Draft Response (April 2013): Navy agrees in part. As stated in the April 3rd Project Team conference call, groundwater treatment alternatives will be evaluated again in the Draft Final FS for each of the North Waterfront, Central Shipyard, and Former Building 234 Areas. The information for these new alternatives will be provided to the Project Team prior to issuing the Draft Final FS. Tentative additional groundwater alternatives include G-3 (Enhanced Reductive Dechlorination) and G-4 (In Situ Chemical Oxidation). Note these treatment groundwater alternatives initially were considered in the Draft FS, but were screened out due to impracticability or because they were cost prohibitive for the conditions at the site. For example, the highest TCE concentration in the North

Waterfront Area is 12.2 µg/L (well MW221). A treatment alternative to decrease this concentration to 5 µg/L or below is not impracticable. Further, the decrease to meet the TCE PRG in this situation could occur immediately simply due to dilution from the volume of injection material (in an enhanced bioremediation alternative). At this time the Navy does not agree to include any of these ‘active treatment’ alternatives as contingency remedies in a proposed plan (PP) or record of decision (ROD).

EPA Response G-1

Please note that EPA’s Monitored Natural Attenuation (MNA) Guidance states: “Contingency remedies should be included in the decision document where the selected technology is not proven for the specific application, where there is significant uncertainty regarding the nature and extent of contamination at the time the remedy is selected, or where there is uncertainty regarding whether a proven technology will perform as anticipated under the particular circumstances of the site.” Given the information currently available for this site there is considerable uncertainty about the effectiveness of MNA. Unless that changes before a decision document is issued, a contingency remedy will be required if an MNA remedy is selected.

Revised Response (September 2013): Navy will develop groundwater treatment alternatives in addition to MNA in the Draft Final FS, as agreed, and consistent with the recent FS for Tank Farm 4. Navy proposes development of an enhanced biodegradation alternative (G-3) for TCE in the Northern Waterfront Area and an oxidation alternative (i.e., in situ chemical oxidation [ISCO]) (G-4) for the metals in the Central Shipyard and Former Building 234 Areas. As with the MNA alternative, the development and effectiveness evaluation of the groundwater treatment alternative(s) also will rely on many assumptions considering the same site data limitations.

The presumption of groundwater contingency remedy(ies) is not a matter for the FS. The preferred remedy will be evaluated by Navy and the agencies based on the Final FS, and determined for the Proposed Plan and subsequent Record of Decision (ROD). Tank Farm 4 has similar data limitations and uncertainty for the MNA groundwater alternative. The recent Proposed Plan for Tank Farm 4 does not specify a contingency remedy, but rather details reviewing the efficacy of the MNA groundwater remedy “...at the five-year review periods, at a minimum, to assure adequate progress is being made.” The Navy proposes this same approach for the On-Shore Derracketor Proposed Plan. If the five-year review determines that the MNA/LUC remedy is not performing as expected, and adequate progress is not being made, the Navy, in consultation with the agencies, will review remedy alternatives to determine if the implementation of different remedial alternatives is feasible.

Comment G-2:

While details of the long-term monitoring program can be established at a later date, this FS should acknowledge the need to collect additional analytical parameters during groundwater monitoring to account for the presence of daughter products of trichloroethene degradation and historic detections of chlorinated hydrocarbons and metals in areas where analysis for these contaminants has not been identified in this FS. EPA’s specific comments provide greater details. Because of the limited groundwater database available and the relatively large area of the site, it is not apparent that the existing well network has adequately characterized the site groundwater. The resulting uncertainty will need to be resolved when the long-term monitoring program is developed to ensure that any plumes at the site can be adequately monitored.

Draft Response (April 2013): Navy acknowledges this comment. The information discussed in this comment already is included in the Draft FS. The recommended additional analytical parameters are included in Alternative G-2 (see Section 5.1.2). The additional monitoring wells needed for the MNA remedy (to further characterize aquifer conditions and to evaluate MNA effectiveness) are included in Alternative G-2 (see Section 5.1.2). The limited groundwater data coverage is acknowledged/recognized in Section 5.1.2. Navy agrees this uncertainty can be addressed during LTM (i.e., performance monitoring for MNA). Navy will evaluate potential revisions to make the above information more clear in the Draft Final FS.

EPA Response G-2

Please note that EPA anticipates a larger monitoring well network with additional analytes than discussed in the FS. EPA recommends that this issue be resolved when the LTMP is developed.

Revised Response (September 2013): Acknowledged. The requested information is provided in Section 5.1.2; however, Navy will revise the Draft Final FS to make the additional monitoring wells and analytical parameters of Alternative G-2 more obvious to the reader. Navy agrees the exact LTM/performance monitoring details can be resolved later.

Comment G-3

The FS states that the groundwater remediation goal is to return groundwater to beneficial use as potable water, but the FS uses RIDEM GB groundwater classification leachability values. EPA does not recognize the RI groundwater classifications because RI does not have an approved comprehensive state groundwater protection program. The MCL-based soil screening level for benzo(a)pyrene is 240 µg/L the same as the RI GA criterion. This and other leachability criterion applicable to a potable water supply should be used to be consistent with the groundwater remediation goal used for this FS. (EPA notes that no TCLP/SPLP data is presented in this FS to document the RI leachability criteria have not been exceeded.) Please clarify what impact the consideration of appropriate leachability criteria has on the proposed soil alternatives.

Draft Response (April 2013): Navy acknowledges that EPA does not recognize RI's groundwater classifications. This was discussed during the April 3rd Project Team conference call. Navy will replace GB criteria with the Relevant and Appropriate GA criteria in the Draft Final FS. TCLP/SPLP data is presented in the FS as part of the historical analytical data (Appendix A) resulting from the 1996 SASE effort (Brown and Root Environmental, 1997). The GA data screening was provided to EPA and RIDEM (tables and figures) in response to an action item from the April 3rd Project Team conference call. The soil remedial alternatives will not be impacted by the addition of GA Leachability Criteria. Areas to be addressed due to PRG exceedances in the two sub-areas (i.e., decision units) with unacceptable risk from soil (PCB Removal Area and Former Building 234 Area) already coincide with the GA criteria exceedances in these sub-areas.

EPA Response G-3

Resolution of the applicability of RIDEM leachability criteria throughout the site for contaminants without risk-based PRGs is required to address this comment. Also, the RI Soil Remediation Regulation GA Leachability standards are “applicable” not “relevant and appropriate.” There may be an impact to the soil remedies because TP-8 in the Building 234 area exceeded the leachability criteria for lead in surface soil but was not identified for excavation in the soil alternatives. Also, TP-28 and TP-16 in the North Waterfront exceeded the leachability criteria for lead in surface soil but no soil remediation has been identified for the North Waterfront. Lead has not been identified as a COC for this site.

Revised Response (September 2013): It has been resolved that GA Leachability Criteria will be included in the Draft Final FS for evaluation. See Response to EPA Comment 2 (and Response to RIDEM Comment 4) regarding site-wide approach matter. Leachability criteria are back-calculated soil concentrations expected to result in groundwater concentrations above certain levels (i.e., the criteria are for the protection of groundwater). Only TCLP (no SPLP) data at select locations from 1996 SASE effort are available (FS Appendix A) for comparison to GA Leachability Criteria for metals. Note, TCLP data provide overly conservative results for this evaluation due to the nature of the TCLP testing procedure (mimicking lower pH landfill conditions). The SPLP procedure would provide more appropriate results (mimicking acid rain leaching effects on soil). A site-wide screening was performed by the Navy as an action item from the April 3rd conference call. The comparison shows the following GA Leachability exceedances along with actual groundwater concentrations at or in the vicinity of each location.

Sub-Area	Location (depth in feet bgs)	Chemical / Analyte	Concentration	GA Leachability Criteria	Groundwater Chemical/Analyte Data from Vicinity Monitoring Well(s)
North Waterfront	TP16 (surface soil; 0-1)	lead	72 µg/L (TCLP)	40 µg/L (TCLP/SPLP)	MW204 – (<0.75 µg/L) (total & dissolved) (2011)
	TP28 (surface soil; 0-1)	lead	72 µg/L (TCLP)	40 µg/L (TCLP/SPLP)	MW204 – (<0.75 µg/L) (total & dissolved) (2011)
	MW02 (subsurface soil; 34-36)	lead	49 µg/L (TCLP)	40 µg/L (TCLP/SPLP)	MW02 – <1 µg/L (total) (1996) MW02A – [not analyzed for lead in 2011]
	MW04 (subsurface soil; 16-18)	lead	45 µg/L (TCLP)	40 µg/L (TCLP/SPLP)	MW04 – <1 µg/L (total) (1996)
Central Shipyard	TP11 (subsurface soil; 12-13)	lead	56 µg/L (TCLP)	40 µg/L (TCLP/SPLP)	MW07 – 1.8 µg/L (total) and 0.5 µg/L (dissolved) (1996) MW219 – 1.3 µg/L (total) and 0.7 (dissolved) (2011)
Former Building 234 Area	TP08 (surface soil; 0-1)	lead	114 µg/L (TCLP)	40 µg/L (TCLP/SPLP)	MW09 – <1 µg/L (total) (1996)
	TP10 (surface soil; 0-1)	lead	42 µg/L (TCLP)	40 µg/L (TCLP/SPLP)	MW104 – 14.6 µg/L (1996)
	MW08 (surface soil; 0.5-1.5)	lead	81 µg/L (TCLP)	40 µg/L (TCLP/SPLP)	MW08 – <1µg/L (total) (1996); <0.75 µg/L (total and dissolved) (2011)
	TP26 (subsurface soil; 3-5)	naphthalene	2,200 µg/kg	800 µg/kg	MW08 – <10 µg/L (1996)

The groundwater data provide empirical evidence that (i) lead has not leached from soil to groundwater at levels to cause groundwater concentrations above the GA Groundwater Objective of 15 µg/L, and (ii) naphthalene has not leached from soil to the groundwater at TP26 (Groundwater Objective is 100 µg/L). These data will be presented and discussed in the Draft Final FS. An explanation of TCLP versus SPLP results/procedures also will be included.

No unacceptable CERCLA risk from exposure to soils at the North Waterfront Area or Central Shipyard Area were identified; however, an identified CERCLA risk from exposure to the groundwater in these subareas does exist. Although lead was determined not contribute to the identified risk and was not identified as a groundwater COC (risk-based or ARAR-based), it was detected at levels exceeding the RIDEM GA Leachability Criteria. Therefore, to be protective of an unlikely potential for future leaching of lead to the groundwater, the Navy agrees that lead in groundwater should be further evaluated in these subareas. The Navy will monitor for lead in these subareas as part of the groundwater remedial alternative; an explanation for the actions related to the lead will be presented in the uncertainties section of the FS and Proposed Plan. To further assess the uncertainty associated with use of TCLP vs. SPLP to determine soil leachability, the Navy concurs with EPA (Comment G-2) that the uncertainty can be resolved when the long-term monitoring program is developed; therefore, the Navy may consider limited soil sampling for SPLP lead analysis as part of the plan.

For the Former Building 234 Area, a CERCLA risk was identified for exposure to soils. Although naphthalene was not determined to contribute to the identified risk, it was detected at a concentration exceeding RIDEM’s GA Leachability Criteria; therefore, naphthalene will be added as an ARAR-based COC for groundwater. Because the soil concentration does not pose unacceptable direct exposure risk, as determined by the CERCLA risk assessment and comparison to RIDEM DEC, the remedial action to address naphthalene should be related to the protection of groundwater, rather than direct exposure to soils. Therefore, the Navy proposes to monitor for naphthalene in this subarea as part of the groundwater remedial alternative. Lead already is a [residential] COC in soil in the Former Building 234 Area, because the maximum surface soil concentration (189 mg/kg) exceeded RIDEM’s Residential DEC of 150 mg/kg. (The exposure point concentration [EPC] for lead in surface soil in the Former Building 234 Area is the subarea-wide average concentration of 54 mg/kg; the subsurface soil EPC for lead is the maximum detected value of 75 mg/kg in this subarea). Lead exceeded the GA Leachability Criteria, but was not detected in groundwater at levels contributing to risk or exceeding the RIDEM GA Groundwater Objective. The Navy will include monitoring for lead in this subarea as part of the groundwater remedial alternative. Again, to

further assess the uncertainty associated with use of TCLP vs. SPLP to determine soil leachability, the Navy may consider limited soil sampling for SPLP naphthalene and lead analyses as part of the this plan.

Comment G-4

Monitoring well MW-104 had exceedances of several PRGs when last sampled. Vinyl chloride was 100 µg/L; cis-1,2-dichloroethene was 180 µg/L; manganese was 4,300 µg/L; arsenic was 19.8 µg/L; and lead was 14.7 µg/L (the action level is 15 µg/L). Effective monitoring for these contaminants at the Former Building 234 Area is required to support the selected groundwater remedy but also to determine the source of this contamination. EPA notes that MW-08, downgradient of MW-104, is a 5-foot screen set at the upper elevation of the 20-foot screen at MW-104 and is not likely capable of detecting contaminant concentrations representative of MW-104.

Draft Response (April 2013): MW104, Building 7, and the vicinity-CVOCs will become part of the Navy IR Program (previously thought to be addressed under UST Program); however, it is unclear at this time whether they will become part of On-Shore Deregktor IR Site 19 or if a new IR site will be generated. The FS will be revised to reflect the final outcome of this decision.

EPA Response G-4

Although the Navy previously stated that MW-104 could become part of Site 19, the contamination at MW-104 (i.e., 100 µg/L vinyl chloride) suggests a significant upgradient source. Should MW-104 and its source be investigated as a separate area of concern?

Revised Response (September 2013): The Navy will investigate the Building 7 [and upgradient] area associated with CVOCs in groundwater separately from On-Shore Deregktor. The CVOCs in well MW104 (and MW08) are not believed to have originated from Deregktor Shipyard activities in the Former Building 234 Area. Therefore, issues associated with the CVOCs will be deferred to the separate Building 7 effort (i.e., not addressed by the FS). This separation will be explained in the Draft Final FS. Consequently, potential vapor intrusion issues in the Former Building 234 Area are not attributable to CERCLA releases at On-Shore Deregktor Shipyard. Navy will address the potential issues regardless (e.g., Navy already has administrative procedure in place for new construction in this area to include vapor barriers).

Comment G-5

Please include the National Recommended Water Quality Criteria as action-specific monitoring standards for surface water and sediment because groundwater migrating to the bay contains concentrations of contaminants that exceed the standards.

Draft Response (April 2013): Navy disagrees. Previous investigations determined no impact to surface water from Site 19, so surface water criteria are not considered. Surface water monitoring is not a component of the remedial alternatives in the Onshore Deregktor FS. Note off-shore sediment is addressed by the Off-Shore Deregktor Shipyard CERCLA response action.

EPA Response G-5

As EPA stated, Water Quality Criteria should be included as action-specific monitoring standards. This affects the list of analytes for the monitoring program. Surface water at Site 19 was not investigated because there is no surface water at Site 19 other than transitory runoff from precipitation.

Revised Response (September 2013): The National Recommended Water Quality Criteria will be included in the Draft Final FS as a chemical-specific ARAR associated with the new groundwater treatment alternatives. For example, if implemented, the bioremediation alternative will generate strong reducing conditions and the ISCO alternative will generate strong oxidizing conditions—each could adversely impact the off-shore ecosystem, so off-shore surface water monitoring would be a necessary component of the treatment remedy(ies). The criteria are not

proposed as an ARAR for the MNA alternative, as surface water monitoring is not a component of the MNA alternative, and there is no indication that groundwater discharging to the bay causes unacceptable risks. The criteria are not an ARAR for the excavation soil alternative (S-3), e.g., because discharge of waters or excavated materials to the bay are not under consideration.

Unrelated/New EPA Follow-Up Comment (i.e., General Comment G-6)

While EPA recognizes that the responses are draft, we should discuss the human health risk issues raised in the following responses: Executive Summary, Comments 2, 3, 4, and 5; Section 1, Comments 8 and 24; and Section 4, Comment 82 [Navy edit: EPA means Section 4, Comment “72”].

Response: Comment noted; the revised responses herein take into account additional discussions and evaluation of comments/issues since the Draft RTCs were submitted on April 15, 2013.

SPECIFIC COMMENTS AND RESPONSES

Comment 1

Title Page & p. ES- 1, ¶4: Please specify that Derractor OnShore is Operable Unit 12 of the Naval Education Training Center Superfund Site.

Draft Response (April 2013): Agree. “EPA Operable Unit 12” will be specified/added to the title page and introductory text.

Comment 2

p. ES-1: (a) The risks mentioned for the Former Building 234 Area do not include residential risk from subsurface soil. However, the text in Section 2.3.1.1 on page 2-6 states that unacceptable risk to residential receptors was identified for surface and subsurface soil at the Former Building 234 Area. Please correct here and elsewhere as appropriate. (b) The bulleted list at the top of the page does not identify the vapor intrusion risk for the site. Please add this risk where applicable. (c)The remedial action objectives (RAOs) presented do not differentiate between residential and industrial receptors, although the risks for these receptors are different. Please refine the RAOs to accurately identify the intent and the targeted receptors.

Draft Response (April 2013): (a) Navy provides the following explanation and proposed revisions. EPA is referring to the bullets at the top of page ES-3. Note the HHRA in the SASE Addendum (revised HHRA) did not identify unacceptable risk in subsurface soil in the Former Building 234 Area. However, due to the unacceptable residential risk determined in surface soil, and considering the varying definition of surface soil by RI (0-2 feet) versus EPA/Navy (0-6 inches or 0-1 foot), the RI Residential DEC values were reviewed for exceedances in subsurface soil in this sub-area. Therefore, the text in the bullet on page ES-3 is correct, but the text in Section 2.3.1.1 on p. 2-6 will be corrected to read as follows (in order to distinguish unacceptable risk determined by the HHRA versus RI ARAR exceedance):

The HHRA determined there are no unacceptable risks for non-residential scenarios for surface or subsurface soil in any of the five sub-areas (Table 1-1). However, unacceptable risks were identified for hypothetical residential exposure to surface soil in the Former Building 234 Area (Table 1-1, Table 2-4, and Figure 2-2), and surface and subsurface soil in the PCB Removal Area (Table 1-1, Table 2-5, Figure 2-2, and Figure 2-3). Therefore, surface and subsurface soils in these two sub-areas also will be addressed for state ARAR (residential) exceedances. The HHRA determined no unacceptable risks for soil under any scenario in the North Waterfront Area, Central Shipyard Area, or the South Waterfront Area (Table 1-1); therefore, state ARARs will not be reviewed for these sub-areas.

Similar revisions will be made to Section 2.3.1.2 for groundwater to distinguish unacceptable risk determined by the HHRA versus ARAR exceedance.

The HHRA determined unacceptable risks for hypothetical residential exposure to contaminants in groundwater in the North Waterfront Area (Table 1-1, Table 2-6, and Figure 2-1), Central Shipyard Area (Table 1-1, Table 2-7, and Figure 2-1), and Former Building 234 Area (Table 1-1, Table 2-8, and Figure 2-1). Further, the HHRA determined unacceptable risk for future industrial exposure to groundwater in the Central Shipyard Area (Table 1-1, Table 2-7, and Figure 2-1). Therefore, groundwater in these sub-areas will be addressed as media of concern in this FS.

(b) Navy disagrees. The first sentence of the paragraph below the bullets on p. ES-3 describes the potential vapor intrusion issue(s).

(c) Navy acknowledges this comment. The RAOs will be revised as follows to specify the human receptors (changes below also are in response to Comment 5):

Groundwater (North Waterfront Area and Former Building 234 Area)

- Prevent human residential exposure to groundwater with COCs at concentrations above cleanup levels.
- Restore groundwater quality to its beneficial use.

Groundwater (Central Shipyard Area)

- Prevent human residential and industrial exposure to groundwater with COCs at concentrations above cleanup levels.
- Restore groundwater quality to its beneficial use.

Soil (PCB Removal Area and Former Building 234 Area)

- Prevent human residential exposure to soil with COCs at concentrations above cleanup levels.
- Prevent future migration of soil contaminants to groundwater or surface water resulting in concentrations that cause unacceptable risk.

Soil Gas (North Waterfront Area and Building 234 Area)

- Prevent unacceptable risks to human residential and industrial receptors from exposure to indoor air vapors resulting from subsurface contaminants.

EPA Follow-Up Comment (June 2013)

(a) Please revise the proposed text since it is EPA's position that once soil risk is identified anywhere in the OU, ARARs standards apply throughout the OU. The same analysis applies to groundwater (once a groundwater risk is identified in the OU, groundwater ARARs apply throughout the OU).

(c) The groundwater RAOs apply everywhere where federal drinking water, federal risk-based standards, and more stringent state groundwater standards are exceeded (since a groundwater risk was identified within the OU ARARs apply throughout the OU). The RAO text needs to be consistent with the text EPA identified in SC4.

Revised Response (September 2013): (a) There appears to be a difference of opinion about the intention behind the term "site" as it was used in the final dispute resolution dated January 12, 2012. We interpret the phrase "if unacceptable risk is identified at a site" to refer to a discrete area at which a particular risk assessment was conducted. The Navy therefore disagrees with a site-wide approach, as described by EPA, for remedy implementation and ARAR evaluation for soil and groundwater. The Navy concurs with the concept presented by EPA, that once a media-specific risk is identified within a discrete area at which a particular risk assessment was conducted, then ARARs standards specific to that media would apply throughout that discrete area for that media (i.e. for soils, RIDEM DEC's and Leachability criteria). This is consistent with how the Derecktor Shipyard On-Shore investigation was scoped (by EPA, RIDEM, and Navy) since the site was identified for assessment following the Study Area Screening Evaluation (SASE) approach defined in the Newport Federal Facility Agreement (FFA) (Section 31.4). Throughout the development of the Derecktor Shipyard On-Shore SASE Work Plan and Report, April 1996 and June 1997 respectively, the Navy clearly identified sub-areas within the Derecktor Shipyard On-

Shore site based on specific historic operations and/or site conditions. Though we have not to this point labeled them OUs, they have always functioned as such. The identification of these subareas is in alignment with and meets the definition of “Operable Unit” in 40 CFR 300.5:

Operable unit means a discrete action that comprises an incremental step toward comprehensively addressing site problems. This discrete portion of a remedial response manages migration, or eliminates or mitigates a release, threat of a release, or pathway of exposure. The cleanup of a site can be divided into a number of operable units, depending on the complexity of the problems associated with the site. Operable units may address geographical portions of a site, specific site problems, or initial phases of an action, or may consist of any set of actions performed over time or any actions that are concurrent but located in different parts of a site.

This definition is the basis for the definition of Operable Unit in the Newport FFA. The investigation and removal actions taken at the Dereecktor Shipyard On-Shore sub-areas are discrete by design to address the different conditions within each subarea, or operable unit. These subareas or operable units address different geographical portions with different conditions resulting from different activities performed within the boundaries of the former Dereecktor Shipyard. The “site-wide” approach is appropriate within discrete sub-areas/OUs, but not across several different sub-areas.

This approach is consistent with the intent of the ‘risk vs. ARARs’ Tier 2 Dispute Resolution dated January 12, 2012. While it is understood the Tier 2 Dispute Agreement references “site,” the meaning is clearly intended to apply to a specific remedial response to manage migration, or eliminate or mitigate a release, threat of a release, or pathway of exposure for which a response is determined necessary to address the specific site problems identified by the specific risk assessment. Further, such responses or cleanup actions may be divided into a number of operable units or subareas, such is the case at the Dereecktor Shipyard On-Shore subareas.

To address post-soil removal data gaps and update the 1997 SASE, the Navy working with the agencies scoped and developed the Dereecktor Shipyard On-Shore SASE Addendum Work Plan and Report, February 2011 and January 2013, respectively. These documents continue the separation of these discrete units with individual evaluations for each subarea or operable unit (i.e. nature and extent of contamination and risk assessment). Because of the comprehensive nature the SASE Addendum, the document fulfills the requirement of an Remedial Investigation (RI), rather than to determine if the Study Area (“area or areas with the Site”), Dereecktor Shipyard On-Shore, should proceed to an RI or determine that no additional investigation is warranted. As the RI has been completed, the Navy is required to progress into the Feasibility Study (FS) phase of the CERCLA process to determine that an appropriate remedial alternative is developed and evaluated for each OU such that relevant information concerning the remedial action options, including no action/no further action, can be presented to the decision maker and an appropriate remedy selected.

Accordingly, the individual risk assessment of each OU are used to determine specific problems (risks), identify COCs (if any), and determine if a remedial action is necessary to address identified risks for an OU. By definition, the cleanup of a site can be divided into a number of OUs, not that the cleanup (and identification of ARARs) for a site is determined by the remedial action deemed necessary for one OU within that Study Area.

For clarification, terms are frequently used interchangeable and have different meaning in different agencies. The Newport FFA defines:

“Site” shall mean the land encompassed by the existing real estate boundaries at the Naval Education and Training Center Newport (NETC Newport) and any area off NETC Newport to or under which a release of Hazardous Substances, pollutants, or contaminants has migrated from a source on or at NETC Newport, and any area off NETC Newport to or under which there is a

substantial threat of a release of Hazardous Substances, pollutants, or contaminants from a source on or at NETC Newport

(EPA “Site” terminology equates to “Installation” within DON terminology)

“Study Area” or “SA” shall mean an area or areas within the Site, identified pursuant to this Agreement as an area of potential contamination. For purposes of the this Agreement, a Study Area shall be considered part of a Remedial Investigation

(EPA “Study Area” terminology equates to a “site” within DON terminology (i.e. NAVSTA Newport Site 1 is McAllister Landfill); when used to identify a specific site, the term is capitalized as a proper noun to reflect the name of the site.)

“Operable Unit” or “OU” shall mean a discrete action that comprises an incremental step toward comprehensively addressing Site problems. Each Operable Unit is a discrete portion of a Remedial Response that manages migration, or eliminates or mitigates a release, or threat of release, or pathway of exposure. Operable Units may address specific geographical portions of the Site, specific Site problems, or initial phases of an action or may consist of any set of actions performed over time or that are concurrent but located in different parts of the Site

EPA’s OU terminology equates to sub-area within the DON’s “site” terminology (akin to the initial separation of Dereecktor Shipyard Offshore (OU-5) from Dereecktor Shipyard Onshore (OU-12)). And, as discussed, the subareas of Dereecktor Shipyard Onshore were intended to, and do, meet the definition of an OU.

Regarding text changes associated with part (a) of this comment: The HHRA in the SASE Addendum (revised HHRA) did not identify unacceptable risk in subsurface soil in the Former Building 234 Area. However, due to the unacceptable residential risk determined in surface soil, and considering the varying definition of surface soil by RI (0-2 feet) versus EPA/Navy (0-6 inches or 0-1 foot), the Rhode Island Residential DEC values were reviewed for exceedances in subsurface soil in this sub-area. Therefore, the text in the bullet on page ES-3 is correct, but the text in Section 2.3.1.1 on p. 2-6 will be corrected to read as follows (in order to distinguish unacceptable risk determined by the HHRA versus ARAR exceedance):

The HHRA determined there are no unacceptable risks for non-residential scenarios for surface or subsurface soil in any of the five sub-areas (Table 1-1). However, unacceptable risks were identified for hypothetical residential exposure to surface soil in the Former Building 234 Area (Table 1-1, Table 2-4, and Figure 2-2), and surface and subsurface soil in the PCB Removal Area (Table 1-1, Table 2-5, Figure 2-2, and Figure 2-3). Therefore, surface and subsurface soils in these sub-areas will be addressed as media of concern and evaluated for ARAR exceedances.

Similar revisions will be made to Section 2.3.1.2 for groundwater to distinguish unacceptable risk determined by the HHRA versus ARAR exceedance.

The HHRA determined unacceptable risks for hypothetical residential exposure to groundwater in the North Waterfront Area (Table 1-1, Table 2-6, and Figure 2-1), Central Shipyard Area (Table 1-1, Table 2-7, and Figure 2-1); and Former Building 234 Area (Table 1-1, Table 2-8, and Figure 2-1). Further, the HHRA determined unacceptable risk for future industrial exposure to groundwater in the Central Shipyard Area (Table 1-1, Table 2-7, and Figure 2-1). Therefore, groundwater in these sub-areas will be addressed as media of concern and evaluated for ARAR exceedances.

(c) See Response to part (a) of this Comment 2 regarding site-wide matter. The RAOs will be revised as follows to specify the human receptors (changes below also are in response to Comments 4 and 5). It is noted that the

potential future vapor intrusion issues in the Former Building 234 Area are attributable to the Building 7 site (1996 vinyl chloride value of 100 µg/L in well MW104); therefore, any vapor intrusion issue in this sub-area or operable unit is not associated with Site 19 – On-Shore Derracker Shipyard. The potential issue still will be managed by the Navy with the Building 7 site, and the Navy has administrative procedures to ensure new On-Shore construction includes vapor barriers.

Groundwater (North Waterfront Area and Former Building 234 Area)

- Prevent human residential exposure to groundwater with COCs at concentrations above remediation goals.
- Restore groundwater quality to its beneficial use.

Groundwater (Central Shipyard Area)

- Prevent human residential and industrial exposure to groundwater with COCs at concentrations above remediation goals.
- Restore groundwater quality to its beneficial use.

Soil (PCB Removal Area and Former Building 234 Area)

- Prevent human residential exposure to soil with COCs at concentrations above remediation goals.
- Prevent future migration of soil contaminants to groundwater or surface water resulting in concentrations that cause unacceptable risk.

Soil Gas (North Waterfront Area)

Prevent unacceptable risks to human residential and industrial receptors from exposure to indoor air vapors resulting from subsurface contaminants.

Comment 3

p. ES-2, ¶4: In the third sentence, replace “A wide area of mixed metals above PRGs in dissolution (i.e., not a plume)” with “A wide area where mixed metals exceed groundwater cleanup standards.” In the fourth sentence, remove “and Newport/site-specific background levels” since “cleanup levels” are based on either background or regulatory/risk-based standards.

Draft Response (April 2013): Navy disagrees. The Navy’s intent is to explicitly relay there is(are) no metals plume(s). The Navy proposes the following revisions to the paragraph:

There are no known or remaining specific source areas at the Site. A low-concentration trichloroethene (TCE) plume (maximum concentration 12 µg/L in 2011) in the shallow aquifer exists throughout the North Waterfront Area. Wide areas of *mixed-metals above PRGs in dissolution* (i.e., not a plume) are present in the Central Shipyard Area and Former Building 234 Area. Soils with polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and/or metals exceeding PRGs are in distinct areas in the PCB Removal Area and Former Building 234 Area. Based on the risks estimated for the hypothetical residents (soil and groundwater) and industrial workers (groundwater), the SASE Addendum Report recommended an FS (Tetra Tech, 2012c).

EPA Follow-Up Comment (June 2013)

The proposed language is presumptive and therefore not acceptable. Please delete the reference to “not a plume.” State that the available data do not indicate whether a plume exists.

Revised Response (September 2013): The text will be revised. The Navy proposes editing the subject paragraph to read as follows:

There are no known or remaining specific source areas at the Site. A low-concentration trichloroethene (TCE) plume (maximum concentration 12 µg/L in 2011) in the shallow aquifer exists throughout the North Waterfront Area. Wide areas where mixed metals exceed groundwater PRGs are present in the Central

Shipyard Area and Former Building 234 Area (available data do not indicate whether a metals plume[s] exists). Soils with polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and/or metals exceeding PRGs are in distinct areas in the PCB Removal Area and Former Building 234 Area. Based on the risks estimated for the hypothetical residents (soil and groundwater) and industrial workers (groundwater), the SASE Addendum Report recommended an FS (Tetra Tech, 2012c).

Comment 4

p. ES-3, bullet 6: Change the groundwater RAO to the text agreed to for Tank Farm 4: “Prevent site use of groundwater until risk-based and ARAR-based groundwater PRGs, as described elsewhere in this document have been achieved.” The Proposed Plan and ROD will need to specify the acceptable exposure levels.

Draft Response (April 2013): Navy disagrees. See the proposed RAO language above in Response to Comment 2. “Cleanup levels” is more succinct and is not exclusive of either risk-based or ARARs-based groundwater PRGs.

EPA Follow-Up Comment (June 2013)

Because there are risk-based and ARAR-based groundwater PRGs, EPA’s language is appropriate and it has been incorporated elsewhere. Please change the language as requested.

Revised Response (September 2013): The Navy proposes to use “remediation goal” as the most appropriate term for the RAOs. This term is inclusive of risk-based and ARAR-based PRGs, and avoids any confusion that might result from the absence of an ARAR-based PRG. This term was utilized in the RAOs of the recent FS for Tank Farm 4.

Comment 5

p. ES-3, bullet 8: Add an additional Soil RAO, as agreed to for Tank Farm 4, to: “Prevent future migration of soil contaminants either to groundwater or adjacent waterways at concentrations that cause unacceptable risk.”

Draft Response (April 2013): Navy agrees, but provides additional thoughts. See Response to Comment 2 for additional soil RAO. In the Draft Final FS, Navy will address the exceedances of RIDEM GA Leachability Criteria in the decision units (sub-areas) where the CERCLA HHRA determined unacceptable risk from respective receptor exposure to soils (PCB Removal Area and Former Building 234 Area), but notes the following:

There is no consistent indication of a soil source area(s) at Site 19, but rather, nonrepresentative exceedances, based on frequency of detection, magnitude of exceedances, and spatial distribution of exceedances, all relative to the size of both the site and each sub-area (decision unit). Metals in groundwater, even if considered contaminants versus reflective of natural conditions, are not necessarily a result of continuing migration from soil to groundwater (see expanded discussion in paragraph below). Navy contends that any potential source of metals contamination has been removed by previous actions (summarized in the FS). Concentrations of VOCs in groundwater are not indicative of a continuing source.

Many metals, including arsenic, chromium, cobalt, manganese, iron, and lead, occur naturally in soils at varying concentrations. They are detected at many upgradient Navy IR sites, including Site 8 – NUSC. These naturally occurring metals are related to the bedrock composition which is generally the original source material. The oxidation-reduction (redox) state of the subsurface environment will affect the form and valence state of metals such as arsenic and manganese and will influence how much of each metal remains bound to soil and rock surfaces and how much remains dissolved in groundwater. Under oxidizing conditions, naturally-occurring arsenic and manganese will remain bound in soil and rock or sorbed to suspended particles. Under reducing conditions, the concentrations of dissolved metals such as arsenic and manganese tend to increase as the metals on soil and rock surfaces reduce to a more soluble form.

Comment 6

p. ES-4, bullet 2: After “LUCs” insert “and Monitoring.” As described in the text, this alternative also requires the maintenance of the existing paved cover over the areas to meet industrial DEC standards.

Draft Response (April 2013): Navy disagrees. There is no cover (or cover maintenance) component in Soil Alternative S-2. No cover components were retained for evaluation in any soil remedial alternative.

EPA Follow-Up Comment (June 2013)

Is the Navy is disagreeing with adding “Monitoring?” Monitoring is required wherever contamination exceeding unrestricted risk levels is left in place. Regarding the discussion of cover, are the RI industrial DEC standards are achieved by maintaining a clean surface layer of at least 2 feet? If there is an engineered cover (e.g., asphalt) over the contaminated subsurface soils then that barrier layer is a cover and its maintenance and monitoring are a component of the remedy.

Revised Response (September 2013): Navy agrees. See Response to Comment 2 for additional soil RAO.

Soil Alternative S-2 is being revised in the Draft Final FS to include additional components associated with a soil cover or soil excavation to assure compliance with RIDEM Industrial DEC in sub-areas in which this remedy is evaluated. For areas where LUCs are accompanied by a soil cover, the Navy will include monitoring and maintenance of the cover as part of the remedy; details of the LUC monitoring and maintenance will be provided in the LUC RD, prepared subsequent to the ROD. For example, to implement the LUCs soil remedy in the PCB removal area, the RIDEM Industrial DEC exceedance for benzo(a)pyrene must be addressed (either by leaving the current asphalt pavement or by excavating the area); if the existing asphalt pavement is considered as a soil cover as part of the remedy, the Navy is required to monitor and maintain that pavement to ensure industrial exposure to the underlying soils is controlled. This was not reflected in the Draft FS.

Comment 7

p. ES-4, ¶1: Please include at least one active remedial alternative for groundwater.

Draft Response (April 2013): See Response G-1.

Comment 8

p. 1-2, §1.1, ¶1: Please incorporate footnote 5 into the body of the text and clarify whether a vapor intrusion risk exists for potential future receptors (see Tables 1-7A, 1-7B, and 1-8). Delete the last sentence that states “Indoor air vapor is not directly addressed by this FS.”

Draft Response (April 2013): Navy disagrees. The footnote can be incorporated into the text, but it relays the information requested in the comment. The footnote/text will be revised to read as follows for clarification:

A vapor intrusion evaluation determined no immediate risk to current workers from indoor air vapor issues associated with CERCLA contaminants. Remedial alternative(s) for volatile organic compounds (VOCs) in groundwater will indirectly address future vapor issues (refer to Section 5).

As explained later in the FS (Section 2.3.1.3 and Section 5.1.2), vapor intrusion issues will be addressed in the future by vapor intrusion evaluations (and potentially by engineering controls) specific to the future construction/structure(s) on an as-needed basis until respective VOC groundwater PRGs are met (enforced by the LUC component of groundwater alternative[s]). While there is a de facto RAO for soil gas, there are no indoor air remedial alternatives in this FS. Also, see Response to Comment G-4 regarding the CVOCs in well MW104 and the presumed source of CVOCs in the vicinity of Building 7 (i.e., becoming part of the Navy IR Program).

EPA Follow-Up Comment (June 2013)

The alternative needs to address future potential vapor risks, as well as current risks. Please identify the risks that justify instituting vapor LUCs as a remedy component.

Revised Response (September 2013): Understood. Risks are not identified in this introduction section. The footnote will be removed and the text will be revised as follows:

On-shore soil and groundwater media, as well as potential indoor air vapor resulting from VOCs in groundwater, are addressed in this FS.

Comment 9

p. 1-3, §1.1, ¶2: Please delete the first sentence. This FS has selected feasible alternatives to be considered for implementation.

Draft Response (April 2013): Navy disagrees. The FS presents feasible remedial alternatives. The Project Team (i.e., RPMs) select the preferred remedy(ies) after the FS via the PP process followed by the ROD.

EPA Follow-Up Comment (June 2013)

Please incorporate the response into the text to clarify the intent.

Revised Response (September 2013): The sentence will be revised to read as follows:

The Remedial Project Managers (RPMs) will use the information presented herein to select the preferred remedial alternative(s).

Comment 10

p. 1-3, ¶3: Please list where the AR file is available (e.g., at the Base and at local libraries).

Draft Response (April 2013): The Administrative Record is publically available online as indicated. The physical repositories are no longer maintained.

Revised Response (September 2013): The text will be revised to delete references to the public repository locations, because the Administrative Record now is publically available online, only. The physical repositories no longer are maintained.

Comment 11

p. 1-6, ¶4: Did the Navy review EPA inspection and enforcement records for the former Dereecktor facility, including documentation of violations of RCRA, TSCA, Clean Water Act and asbestos standards at the facility? For example, in 1983 and 1984 EPA inspectors identified RCRA violations at two hazardous waste storage areas (the North and South Storage areas where waste were stored for over 90 days) at the Dereecktor facility. The Navy should identify whether these two areas correspond to areas of investigation and whether sampling data exist to determine whether the areas meet applicable closure standards for hazardous waste storage facilities. In addition, enforcement/inspection records document that Dereecktor operations released asbestos on the Site.

Draft Response (April 2013): This FS addresses CERCLA release(s) at the site. Note this is not a RCRA closure report or RCRA partial closure report. Historical violations associated with RCRA and TSCA do not [necessarily] constitute CERCLA releases. The violations mentioned in the comment are presented and/or discussed in the Preliminary Assessment (PA) (Halliburton NUS, 1993) (the action item response from the April 3rd Project Team conference call summarizes the items from the PA), and have been addressed prior to this FS. Contrary findings and/or remaining items/concerns should be identified to Navy by EPA.

EPA Follow-Up Comment (June 2013)

Please respond to the question. EPA provided civil and criminal enforcement documents that identify contaminant releases from site operations. The Navy needs to compare this information to information already used during its site investigation to make sure all identifiable areas where there were contaminant releases from Dereecktor's operations have been evaluated. Several RCRA regulated hazardous waste storage areas were identified. If contamination is still present in these areas, the former storage areas need to be closed under applicable State hazardous waste standards.

Revised Response (September 2013): The Navy reviewed historical reports and records of RCRA audits, inspections, and civil and criminal enforcement documents along with EPA and RIDEM in order to perform the 1993 PA. That is, the PA specifically looked at areas of potential contamination as indicated by the records. The PA identified additional potential areas of contamination. All these issues were addressed by further investigations (1996 SASE and 2011 Data Gaps Investigation), removal actions and housekeeping, inspections, and/or administrative actions. These were further reviewed and confirmed following the April 3rd conference call.

The Draft Final FS will make this more obvious to the reader. For example, The PA, SASE, and Data Gaps Investigation (SASE Addendum) all evaluated conditions in the northern drum storage area (near TP22 and MW03) and the southern drum storage area (in Building 42 and near MW07), as well as other potentially impacted areas as identified in historical reports, inspection/audit findings, etc. Prior to the 1993 PA, Robert E. Dereecktor planned with EPA and RIDEM a focused sampling investigation in 1984 to prepare for anticipated soil excavations in hazardous waste storage areas following the removal of all hazardous and nonhazardous waste drums (Contaminated Soil Excavation, Containerization, and Disposal Plan; Dolce, Spirito, & Associates, 1984; [and Results Letter Report; 1984]; refer to Appendices H and I of the PA). The investigation results indicated no excavations were needed.

Navy notes Site 19 – On-Shore Dereecktor does not encompass and is not part of a RCRA unit awaiting closure. The Navy is not seeking to close its current RCRA permits (RI8170024790 [Naval Undersea Warfare Center] and RI1170024243 [US NETC]).

Comment 12

p. 1-6, ¶5: In the second sentence insert “CERCLA” before “removal action.” Was there confirmatory sampling before backfilling? What was the cleanup standard used? Was the material beneath the backfill resampled as part of the RI?

Draft Response (April 2013): The sentence will be revised as requested to insert “CERCLA” before “removal action”. Details on the 1995 sandblast grit removal north and east of former Building 42 in the Central Shipyard Area can be found in the OHM (1996) closeout report: *Final Closure Report for Remedial Action, Dereecktor Shipyard Sand Blast Grit Removal, McAllister Point Landfill, NETC Newport, RI*. Confirmatory samples were collected and compared to RIDEM DEC values. Sample locations MW-05, MW-218, and TP-25 are in this vicinity. These and available details will be added to the Draft Final FS.

Comment 13

p. 1-7, ¶2: In the first sentence insert “CERCLA” before “removal action.”

Draft Response (April 2013): The sentence will be revised as requested.

Comment 14

p. 1-7, bullet 1: Was confirmatory sampling conducted once the berm material was removed and before the restoration work? Specify the cleanup standard used.

Draft Response (April 2013): Details on the 1997-1998 South Waterfront Berm Removal can be found in the Foster Wheeler (2002) closeout: *Final Remedial Action Report for Various Removal Actions at the Deredktor Shipyard and Miscellaneous Investigations at NAVSTA Newport, RI*. Soils were separated from debris and stockpiled into asphalt-laden and non-asphalt-laden soil piles. Confirmatory samples were collected and compared to RIDEM DEC values. These and available details will be added to the Draft Final FS.

Comment 15

p. 1-7, bullet 2: Specify the cleanup standard used.

Draft Response (April 2013): Details on the S42-1 sump removal can be found in the Foster Wheeler (2002) closeout report: *Final Remedial Action Report for Various Removal Actions at the Deredktor Shipyard and Miscellaneous Investigations at NAVSTA Newport, RI*. Confirmatory samples were collected and compared to RIDEM DEC values. These and available details will be added to the Draft Final FS.

Comment 16

p. 1-7, bullet 3: Was confirmatory sampling conducted once the sump and associated material was removed? Specify the cleanup standard used.

Draft Response (April 2013): Details on the S42-5 sump removal can be found in the Foster Wheeler (2002) closeout report: *Final Remedial Action Report for Various Removal Actions at the Deredktor Shipyard and Miscellaneous Investigations at NAVSTA Newport, RI*. Confirmatory samples were collected and compared to RIDEM DEC values. These and available details will be added to the Draft Final FS.

Comment 17

p. 1-7, bullet 4: Was confirmatory sampling conducted after the hot spot material was removed? Specify the cleanup standard used.

Draft Response (April 2013): Details on the Building 42 trench/disposal pit removal can be found in the Foster Wheeler (2002) closeout report: *Final Remedial Action Report for Various Removal Actions at the Deredktor Shipyard and Miscellaneous Investigations at NAVSTA Newport, RI*. Confirmatory samples were collected and compared to RIDEM DEC values. These and available details will be added to the Draft Final FS.

Comment 18

p. 1-7, bullet 5: Was confirmatory sampling conducted after the PCB contaminated material was removed? What was the cleanup standard used (residential cleanup at 1ppm PCBs)?

Draft Response (April 2013): Details on the TP-14 (PCB) removal can be found in the Foster Wheeler (2002) closeout report: *Final Remedial Action Report for Various Removal Actions at the Deredktor Shipyard and Miscellaneous Investigations at NAVSTA Newport, RI*. Confirmatory samples were collected and compared to RIDEM DEC values (10 parts per million [ppm] for PCBs). These and available details will be added to the Draft Final FS. The soil PRG proposed in the Draft FS for total PCBs is 0.22 mg/kg (risk-based calculation for 1×10^{-6}). Navy notes that TSCA's 1 mg/kg total PCBs cleanup value will be added to the soil PRG selection table for the PCB Removal Area (Table 2-4), and this federal ARAR value (1 mg/kg) will be selected as the PRG rather than 0.22 mg/kg. Note this does not impact the current scope of soil alternative S-3 for this decision unit (soil in this sub-area), as the extent of excavation in the alternative is mainly driven by arsenic PRG exceedances.

Comment 19

p. 1-8, bullet 1: Was confirmatory sampling conducted after the grit material was removed? Specify the cleanup standard used.

Draft Response (April 2013): Details on the sandblast grit removal at the north gate watchtower can be found in the following completion reports: *Final Closeout Report for Sand Blast Grit Removal at Dredge Shipyard, NAVSTA Newport Portsmouth, RI* (Tetra Tech EC, 2005) and *Final Removal Action Completion Report for Sandblast Grit Removal at Dredge Shipyard, NAVSTA Newport Portsmouth, Middletown, RI* (Tetra Tech, 2008). Confirmatory samples were collected and compared to RIDEM DEC values. These and available details will be added to the Draft Final FS.

Comment 20

p. 1-8, ¶1: Regarding the fourth sentence, was the area developed for satellite parking and wharf construction pre-screened to determine that no contamination above regulatory levels for commercial uses were present? Regarding the fifth sentence, was the area developed for exercise paths pre-screened to determine that no contamination above regulatory levels for unrestricted use were present? Is access from the area of the exercise paths to the areas of identified contamination above unrestricted risk levels restricted?

Draft Response (April 2013): Unknown, but unlikely. However, note the HHRA determined no unacceptable industrial risks in the North Waterfront Area. The HHRA determined no unacceptable residential risk in the South Waterfront Area; subsequently, there should be no unacceptable risk for restrictive recreational usage (residential scenario is more conservative). There is no access restriction from the exercise paths to areas of identified contamination (i.e., the south portion of Former Building 234 Area). This southern portion of the Building 234 Area has unacceptable residential risk to be addressed by this FS. However, considering there is no unacceptable industrial risk from soils in this area (and site-wide), there should be no unacceptable risk for restrictive recreational usage (industrial scenario is more conservative). This topic was discussed on the April 3rd Project Team conference call: Appropriate engineering controls (e.g., fencing) will be added to the soil LUCs alternative to prevent recreational/trespasser exposure if the subject soils are not removed.

Revised Response (September 2013): Unknown, but unlikely. However, the CERCLA HHRA determined no unacceptable industrial risks in the North Waterfront Area.

The HHRA determined no unacceptable residential risk in the South Waterfront Area; subsequently, there should be no unacceptable risk for unrestrictive recreational usage (residential scenario is more conservative). There is no access restriction from the exercise paths in the South Waterfront Area to the southern portion of the Former Building 234 Area. This topic was discussed during the April 3rd conference call (should fencing be added?). The Former Building 234 Area has unacceptable residential risk to be addressed by this FS. The unacceptable residential risk is for the hypothetical future child resident exposed to chromium (assumed hexavalent) in surface soil. The incremental lifetime cancer risk (ILCR) was calculated at 1.3×10^{-4} . Considering the magnitude of risk, assumption that chromium is in the hexavalent state, and that Former Building 234 area is paved almost entirely, and turf is established elsewhere throughout the industrial area, no fencing measures are proposed to restrict trespassing onto the Former Building 234 Area. This information/explanation will be added to the Draft Final FS.

Comment 21

p. 1-8, ¶2: In the third sentence, please note that TPH-DRO and GRO are not regulated under CERCLA and instead will be addressed under state regulatory authority.

Draft Response (April 2013): Noted.

Comment 22

p. 1-10, ¶3: Replace the last sentence with: "Under federal groundwater standards the groundwater is regulated as potable, except in areas where the groundwater is saline."

Draft Response (April 2013): While it is understood that EPA does not recognize RI groundwater classifications (see Response to General Comment 3), the RI groundwater GB classification is worth the mention. Rather than

replacing the sentence, the recommended text will be added to the end of the paragraph along with information about the Relevant and Appropriate GA classification.

EPA Follow-Up Comment (June 2013)

The Rhode Island GB classification is irrelevant. Please delete it as requested.

Revised Response (September 2013): Navy believes the state's GB classification is relevant to the conversation and site setting. The recommended text will be added to the end of the paragraph along with information about GA classification.

Comment 23

p. 1-10, ¶6: Add a new second sentence: "The 100-year coastal flood zone extends up to an elevation of _____, which includes approximately _____% of the site."

Draft Response (April 2013): The sentence will be added (and the information in the sentence will be determined).

Comment 24

p. 1-11, ¶3: Revise this paragraph since State leachability standards need to be evaluated to protect the federally designated potable aquifer (remove all mention of the State's GB classification since it does not apply to the Site). Groundwater criteria are based on MCLs, non-zero MCLGs, federal risk-based standards and any more stringent State standards.

Draft Response (April 2013): Navy disagrees. This sub-section is a discussion of nature and extent, not an evaluation/selection of PRGs. As stated in the first sentence of the paragraph, these soil "criteria" apply to [the discussion in] this sub-section. Both soil and groundwater data are discussed based on a compilation of historical investigation results in their context. The paragraph already states that groundwater criteria refer to federal MCLs. Also, see Response to General Comment 2.

EPA Follow-Up Comment (June 2013)

The identification of "criteria" is incomplete. Please revise the text as requested in the comment.

Revised Response (September 2013): The two sentences mentioning GB criteria will be removed—they are not discussed Section 1.5 and, as EPA indicates, GB criteria do not apply. This sub-section is a summary discussion of nature and extent, compiling results and conclusions of multiple historical investigations/documents in their context. The paragraph states that, for the purpose of discussion (not definition), soil "criteria" in this subsection refer to RIDEM Residential DEC's and groundwater criteria refer to federal MCLs. GA Leachability Criteria and comparison to site concentrations will be discussed and presented (similar to information in Response to Comment G-3) in Section 1.6 – CSM and Contaminant Fate & Transport and in Section 2.3 – Media and Chemicals of Concern.

Comment 25

p. 1-11, ¶5: In the third sentence, replace "A wide area of mixed metals above PRGs in dissolution (i.e., not a plume)" with "A wide area where mixed metals exceed groundwater cleanup standards."

Draft Response (April 2013): Navy disagrees. See Response to Comment 3.

EPA Follow-Up Comment (June 2013)

See comment for Specific Comment 3.

Revised Response (September 2013): Agree. See Response to Comment 3.

Comment 26

p. 1-11, ¶6: In the first sentence insert “, PAHs and PCBs” after “manganese)” and remove “and Newport/site-specific background levels” since “PRGs” are based on either background or regulatory/risk-based standards.

Draft Response (April 2013): See Response to Comment 3. [Note PAHs and PCBs were added to the text in the Response to Comment 3].

Comment 27

p. 1-12, §1.5.2: The “Upgradient Area” is not previously discussed. It is not identified as an area requiring further remediation, but the text appears to identify exceedances of soil arsenic standards.

Draft Response (April 2013): This [“Upgradient Area”] is an organizational component for the document in order to present the results from locations MW01 and MW10, which are hydraulically upgradient of Site 19. It is not an area requiring further remediation. Note base-wide background soil arsenic values as well as the Site-19-specific-background soil arsenic value (13 mg/kg) exceed arsenic standards (RIDEM Residential DEC is 7 mg/kg and EPA Residential RSL is 0.39 mg/kg).

EPA Follow-Up Comment (June 2013)

Please clarify the FS to state whether the upgradient area is part of Site 19. Since arsenic exceeded background at both locations, it would be appropriate to include the sample depth. Further discussion may be warranted.

Revised Response (September 2013): This [“Upgradient Area”] is an organizational component for the document in order to present the results from 1996 SASE background locations MW01 and MW10, which are hydraulically upgradient of Site 19. It is not an area requiring further investigation or remediation; the locations were scoped during work planning for the SASE in 1996. Note base-wide background soil arsenic values as well as the Site-19-specific-basewide-background soil arsenic value (13 mg/kg) exceed arsenic standards (RIDEM Residential DEC is 7 mg/kg and EPA Residential RSL is 0.39 mg/kg). The first sentence of this section (first paragraph) will be revised as follows to clarify the locations are not part of the site, but were intended to establish background condition:

Soil borings and monitoring wells were installed during the 1996 SASE Investigation upgradient of the site at locations MW01 and MW10 to establish site-specific background conditions. Monitoring well MW01 was screened at 6.4 to 11.5 feet bgs and MW02 was screened at 6 to 11 feet bgs. These locations/wells are not part of the On-Shore Derrichter Shipyard site.

The subsurface soil sample interval of 8 to 10 feet bgs at MW10 will be added later in the paragraph as follows:

The subsurface soil sample at MW10 (8 to 10 feet bgs) contained arsenic at 39 mg/kg and lead at 7 mg/kg.

Comment 28

The first sentence says that subsurface soil was collected at MW01 and the third sentence says it wasn't.

Draft Response (April 2013): The first sentence specifies “and/or” when introducing what was collected at MW01 and MW10.

Revised Response (September 2013): The text of this paragraph will be revised to address this Comment 28 as well as Comment 27. See Response to Comment 27. A soil boring was installed followed by installation of a monitoring well, but a subsurface soil sample was not collected at MW01.

Comment 29

p. 1-13, ¶5: The second sentence states that contamination was addressed by the removal action but does not discuss what the contaminants were, what the cleanup levels for the removal action were, or if confirmatory sampling was done to confirm that all contamination above unrestricted use standards was removed.

Draft Response (April 2013): Refer to Responses to Comments 12, 15, and 16.

Comment 30

p. 1-14, §1.5.4: Identify whether the criteria cited are residential vs. commercial, direct contact vs. leachability, or soil vapor). Unless the removal action removed all soil exceeding unrestricted use standards, there needs to be confirmation of the remaining levels of contamination. The TSCA risk-based soil standard for unrestricted use for PCBs is 1 ppm not 10 ppm.

Draft Response (April 2013): Refer to Response to Comment 24, as well as responses to Comments 12, 14, and 16. Correct: 40 CFR 761.61(a)(4)(i)(A) specifies the cleanup level for bulk PCB remediation waste (e.g., soil) without further consideration as 1 ppm, or 10 ppm with cap. The RIDEM Residential DEC for PCBs is 10 ppm. Also, refer to Response to Comment 18.

Comment 31

p. 1-14, §1.5.5: Identify what criteria are cited (residential vs. commercial, direct contact vs. leachability, soil vapor). Unless the removal action removed all soil exceeding unrestricted use standards there needs to be confirmation of the remaining levels of contamination. The TSCA risk-based soil PCB standard for unrestricted use is 1 ppm.

Draft Response (April 2013): Refer to response to Comment 24. Correct: 40 CFR 761.61(a)(4)(i)(A) specifies the cleanup level for bulk PCB remediation waste (e.g., soil) without further consideration as 1 ppm, or 10 ppm with cap. The cleanup level for the TP-14 CERCLA removal action was the RIDEM Residential DEC for PCBs of 10 ppm. Also, refer to Response to Comment 18.

Comment 32

p. 1-15, §1.5.6: The first paragraph discusses inspections, but not sampling. Specify whether any sampling for potential contaminants was conducted and, if not, why would visual inspections be considered sufficient? Identify what criteria are cited (residential vs. commercial, direct contact vs. leachability, soil vapor).

Draft Response (April 2013): The third sentence of the paragraph mentions ‘analytical data.’ Details on the 1996 inspection and results for the Former Building 234 Area can be found in the Brown & Root Environmental (1997) SASE investigation report: *Draft Final Site Assessment Screening Evaluation Report, Former Robert E. Dereecktor Shipyard, Naval Education and Training Center, Newport, RI*. Also, refer to response to Comment 24.

Comment 33

p. 1-16, §1.5.7: Identify what criteria are cited (residential vs. commercial, direct contact vs. leachability). Explain why exceedances are considered background. Explain why groundwater was not sampled.

Draft Response (April 2013): This subsection is a brief summary of the nature and extent of contamination as determined by previous investigations. The berm materials were removed successfully, and there is no indication of historical CERCLA releases or contamination in the South Waterfront Area, so the Project Team did not identify any data gaps.

EPA Follow-Up Comment (June 2013)

As noted above, please review the enforcement documents to determine whether the documents include any information on potential CERCLA releases or contamination in the South Waterfront Area.

Revised Response (September 2013): The removed berm materials were determined to be excavated soils from other portions of the base mixed with large quantities of concrete and other debris—no chemical wastes were found. There is no indication of contamination in the South Waterfront Area. Drecktor Shipyard operations did not occur in the South Waterfront Area. A review of the enforcement documents does reveal new information about potential contamination in the South Waterfront Areas. See Response to Comment 11.

Comment 34

p. 1-17, ¶3: Earlier text stated that there is an area of unrestricted (open to all base personnel or guests) exercise trails on part of the Site where residential standards apply.

Draft Response (April 2013): The text in this paragraph will be revised to state that there is restrictive recreational usage of exercise paths in the South Waterfront Area. See Responses to Comments 20 and 33. There are no enforced standards in the South Waterfront Area.

EPA Follow-Up Comment (June 2013)

Based on State standards, the recreation path would be an unrestricted recreational use, not a restricted use.

Revised Response (September 2013): Agreed The earlier text to which EPA refers is the last sentence of the second-to-last paragraph of Section 1.3.2.2, which reads, “The Southern Waterfront Area was improved with landscaping and exercise paths.” The HHRA (Section 1.7) determined no unacceptable residential risks from exposure to soil in the South Waterfront Area; the residential scenario is more restrictive than recreational, so recreational use is unrestricted. Also, see Response to Comment 20. The text will be revised to read as follows:

Current site usage is military / industrial and commercial. Portions of the South Waterfront Area are used as exercise paths (unrestricted recreational use). Reasonable potential future land uses include continued industrial/commercial use. There are no plans for residential development of the site.

Comment 35

p. 1-17, ¶4: The second sentence is only accurate if the removal actions removed all of the source contamination to unrestricted use levels.

Draft Response (April 2013): Comment noted. See Response to Comment 5.

EPA Follow-Up Comment (June 2013)

Please explain how the response to Comment 5 relates to this comment. Did the removal actions remove all contamination to unrestricted risk levels (that are greater than site-specific background)?

Revised Response (September 2013): Understood. The draft response to this Comment 35 erroneously referred to Comment 5. The removal actions were conducted with RIDEM and/or EPA oversight using removal action cleanup goals (e.g., RIDEM DEC’s). Typically, the removal actions addressed risks to meet industrial standards. The updated CERCLA HHRA in the SASE Addendum evaluated data from each sub-area considering post-removal actions conditions—risks were calculated accordingly. Each removal action and associated cleanup goals will be reviewed and detailed in the Draft Final FS. Also, see Responses to Comments 12 through 19.

Comment 36

p. 1-20, ¶2: Please clarify whether the Navy has identified any potential, future CERCLA soil gas risk that would be a basis for placing CERCLA restrictions on future building development within the Site.

Draft Response (April 2013): The paragraph (i.e., sentence) mentioned in the comment states as much. Alternative G-2 (Section 5.1.2) describes LUCs for future vapor intrusion issues.

Comment 37

p. 2-3, ¶4: In the third sentence remove “as determined by the federal lead agency.” In the fourth sentence change “TBCs” to “Standards developed using TBCs...”

Draft Response (April 2013): The sentences will be revised as requested.

Comment 38

p. 2-4, §2.2.2.1: From this and other text in the document, it is unclear whether there are no exceedances of Industrial DEC’s in the surface or subsurface soils of the Site or if the State’s remedial standards are met because there is a sufficient asphalt cover over the areas. The Navy needs to identify if the numeric standards are exceeded in the surface or subsurface soil in this section (and identify the exceedances in the bulleted summaries on pages ES-3 and 1-19). If there are exceedances, then the presence of an asphalt cover (and its long-term O&M) needs to be incorporated into the remedial soil alternatives. In addition, RIDEM’s Remediation Regulations (November 2011) specify that leachability criteria are applicable throughout the vadose zone. The leachability criteria to protect potable groundwater apply.

Draft Response (April 2013): The CERCLA HHRA determined no unacceptable risk to industrial receptors exposed to soil in any of the sub-areas (i.e., in any of the soil decision units). Therefore, industrial ARARs are not considered. Because there is no unacceptable risk, no response action is needed for protection of industrial workers from exposure to soil. Covers are not part of any remedial alternative in this FS. Also, see response to General Comment G-3 and the see the related RIDEM RTCs.

EPA Follow-Up Comment (June 2013)

As previously noted, once there is soil risk identified in the OU, then ARARs apply throughout the OU.

Revised Response (September 2013): There appears to be a difference of opinion about the intention behind the term “site” as it was used in the final dispute resolution dated January 12, 2012. We interpret the phrase “if unacceptable risk is identified at a site” to refer to a discrete area at which a particular risk assessment was conducted. The Navy therefore disagrees with a site-wide approach, as described by EPA, for remedy implementation and ARAR evaluation for soil and groundwater. See Response to Comment 2. See Response to Comment 6 regarding addressing RIDEM Industrial DEC exceedances for implementation of LUCs.

Comment 39

p. 2-4, §2.2.2.2: Please replace the first sentence with: “... State groundwater criteria that are more stringent than federal criteria have been identified” Delete the last two sentences in the first paragraph because Rhode Island does not have an EPA-approved comprehensive state groundwater protection program and insert: “Under federal groundwater standards the groundwater is regulated as potable, except in areas where the groundwater is saline.” In the second paragraph change “slope factors and reference doses” to “slope factors, reference doses, and health advisories.”

Draft Response (April 2013): Refer to Responses to General Comment G-3 and Comment 22. RIDEM GA Groundwater Objectives will be considered Relevant and Appropriate. The text will be revised to read as follows in order to address this comment and consider the other Navy RTCs:

Federal Maximum Contaminant Levels (MCLs), non-zero Maximum Contaminant Level Goals (MCLGs), and State groundwater criteria (i.e., RIDEM “GA” aquifer Groundwater Objectives) have been identified as chemical-specific ARARs for groundwater. The shallow/surficial aquifer at the Site is classified by the State of Rhode Island as GB: groundwater that may not be suitable for drinking water without treatment due to known or presumed degradation. Groundwater classified as GB is typically located at highly urbanized areas or is located in the vicinity of disposal sites for solid waste, hazardous waste, or sewerage sludge. Rhode Island does not have an EPA-approved

comprehensive state groundwater protection program, so the GB criteria cannot be considered. However, the GA Groundwater Objectives, which are protective of potable groundwater resources (and equivalent to EPA values), are considered relevant and appropriate.

In addition to the use of these criteria, site-specific risk-based PRGs for groundwater were calculated based on slope factors, reference doses, and health advisories in accordance with EPA risk guidance.

EPA Follow-Up Comment (June 2013)

Please make all the changes requested in EPA's comment. The GA Groundwater Objectives are "applicable," not "relevant and appropriate."

Revised Response (September 2013): Refer to Responses to Comments G-3, 2, and 22. The text will be revised to read as follows in order to address this comment and consider the other Navy RTCs:

Federal Maximum Contaminant Levels (MCLs), non-zero Maximum Contaminant Level Goals (MCLGs), and State groundwater criteria that are more stringent than federal criteria have been identified have been identified as chemical-specific ARARs for groundwater.

The shallow/surficial aquifer at the Site is classified by the State of Rhode Island as GB: groundwater that may not be suitable for drinking water without treatment due to known or presumed degradation. However, Rhode Island does not have an EPA-approved comprehensive state groundwater protection program, so the GB criteria cannot be considered. Instead, Rhode Island's GA classification Groundwater Objectives, which are protective of potable groundwater resources (and equivalent to EPA values) will be utilized.

In addition to the use of these criteria, site-specific risk-based PRGs for groundwater were calculated based on slope factors, reference doses, and health advisories in accordance with EPA risk guidance.

Comment 40

p. 2-6, §2.3.1.1: See previous questions concerning the level of site assessment within each area, in particular the assumption about industrial DEC standards (see comment to §2.2.2.1), and potential exceedances of leachability standards.

Draft Response (April 2013): See the Responses related to the "previous questions."

Comment 41

p. 2-6, §2.3.1.1, ¶3: Please edit the last sentence to clarify if soil beneath the foundation would create excess risk in the absence of the foundation. If so, at a minimum, as part of the soil alternatives, a land use control is needed to address that.

Draft Response (April 2013): No unacceptable risk was determined for soil beneath the foundation. No LUC is needed to maintain the foundation. The sentence will be revised to clarify that there is no unacceptable residential or industrial risk associated with the soil beneath the foundation.

Comment 42

p. 2-6, §2.3.1.3: Please clarify whether contaminant levels in groundwater were identified that pose a potential future vapor risk if building were to be constructed on the Site. The Navy needs to establish a basis for requiring soil vapor LUCs under the CERCLA remedy (even though there is no current exposure pathway). See also EPA's comment at page 1-20, ¶2

Draft Response (April 2013): See Responses to Comments 8 and 36.

EPA Follow-Up Comment (June 2013)

Please refer to EPA's comment on Specific Comment 8.

Revised Response (September 2013): The vapor intrusion evaluation used the maximum soil gas concentrations in the North Waterfront Area and maximum groundwater VOC concentrations in the North Waterfront Area and Former Building 234 Area as EPCs. Section 2.6.2 details the Area of Attainment for groundwater in the North Waterfront corresponds to the soil gas Area of Attainment. The text in *Section 1.7 – Human Health Risk Assessment* and in Section 2.3.1.3 (and elsewhere) will be revised to make this more clear. Also, see Responses to Comments 8 and 36.

Comment 43

p. 2-8, §2.4: In the first full paragraph, delete the first part of the third sentence that begins with “In accordance with ...” and begin that sentence with “The RIDEM DECs” Edit the first sentence in the second full paragraph to read: “Finally, PRGs are adjusted so that they do not exceed applicable background conditions.”

Draft Response (April 2013): The sentences will be revised as requested.

Comment 44

p. 2-8, §2.5: The RAOs presented do not differentiate between residential and industrial receptors, although the risks for these receptors are not the same in each area. Please refine the RAOs to more accurately identify the intent and the pertinent receptors. Change the groundwater RAO to: “Prevent site use of groundwater until risk-based and ARAR-based groundwater PRGs, as described elsewhere in this document have been achieved.” Add an additional Soil RAO, as agreed to for Tank Farm 4, to: “Prevent future migration of soil contaminants either to groundwater or adjacent waterways at concentrations that cause unacceptable risk.”

Draft Response (April 2013): See Responses to Comments 2 and 5.

EPA Follow-Up Comment (June 2013)

Please refer to EPA's comment on Specific Comment 2.

Revised Response (September 2013): The RAOs have been revised. Please see Responses to Comments 2(c), 4, and 5.

Comment 45

p. 2-9, §2.6: Estimates of volumes potentially need to be adjusted depending on whether all contaminated media are properly identified.

Draft Response (April 2013): Comment noted.

Comment 46

p. 2-9, §2.6.1: Please correct the penultimate sentence to refer to subsurface soil.

Draft Response (April 2013): The penultimate (i.e., second to the last sentence) will be corrected.

Comment 47

p. 2-9, §2.6.2: Please correct the first sentence to refer to “... risk associated with exposure to COCs”

Draft Response (April 2013): The sentence will be corrected.

Comment 48

p. 2-9, §2.6.2: Regarding the establishment of attainment areas, the FS should recognize that achievement of all the PRGs will be required to satisfy the remedial action objectives.

Draft Response (April 2013): Comment noted.

Comment 49

p. 2-10, §2.6.2: Owing to the limited available groundwater database, as acknowledged in the first paragraph, the Navy does not have enough information to state that a plume of metals contamination does not exist. For example, the arsenic concentration of 75 µg/L at MW-219, screened in silty sand, is suspicious. Please acknowledge this uncertainty. Please replace the last sentence with: "Based on the limited groundwater data, a reasonable estimate of the volume of groundwater impacted by metals concentration in excess of the PRGs cannot be made."

Draft Response (April 2013): Navy disagrees. Refer to Responses to Comments 3 and 5.

EPA Follow-Up Comment (June 2013)

Please refer to EPA's comment on Specific Comment 3.

Revised Response (September 2013): Language in the FS has been changed to "wide areas where mixed metals exceed groundwater PRGs." The last sentence will be revised to read as follows:

Based on the limited groundwater data (both analytical data and hydrogeologic information), a reasonable estimate of the volume of groundwater impacted by metals concentration in excess of the PRGs cannot be made for the Central Shipyard Area and Former Building 234 Area. However, as noted above, the FS assumes the sub-area boundaries as the AAs.

Comment 50

p. 3-2: Engineered Controls (i.e., maintaining pavement cover over contaminated subsurface soils) should be discussed in the "Limited Action" paragraph.

Draft Response (April 2013): Navy understands the intent of this comment. However, no cover or cover maintenance is included in the remedial alternatives. Barriers/covers are discussed as an example in the Containment paragraph below the Limited Action paragraph.

EPA Follow-Up Comment (June 2013)

Please refer to EPA's comment on Specific Comment 6.

Revised Response (September 2013): No cover or cover maintenance was included in the remedial alternatives of the Draft FS. Barriers/covers were discussed as an example in the Containment paragraph below the Limited Action paragraph.

The Draft Final FS will include development of soil cover components for soil remedial alternatives. Soil cover alternatives will include monitoring and maintenance of the covers. See Response to Comment 6 about changes to Soil Alternative S-2 to be incorporated into the Draft Final FS (e.g., if asphalt cover remains over benzo[a]pyrene RIDEM Industrial DEC exceedance in PCB Removal Area, then cover / maintenance will be included).

Comment 51

p. 3-5, bullet 2: At the end of the sentence, add: "except for conducting statutorily required five-year reviews."

Draft Response (April 2013): The sentence will be revised as requested.

Comment 52

p. 3-5, bullet 3: At the end of the sentence, add: “except the cost to conduct five-year reviews.

Draft Response (April 2013): The sentence will be revised as requested.

Comment 53

p. 3-7, bullet 1: Discuss how LUCs may also involve maintaining engineered covers.

Draft Response (April 2013): Navy understands the intent of this comment. Maintaining engineered covers would be part of an O&M plan, which would be described under Section 3.3.3 – Containment. Note engineered covers are not considered or necessary for the remedial alternatives in this FS.

EPA Follow-Up Comment (June 2013)

Please refer to EPA’s comment on Specific Comment 6.

Revised Response (September 2013): The Draft Final FS will include development of soil cover components for soil remedial alternatives. Soil cover alternatives will include monitoring and maintenance of the covers. Please see to Responses to Comment 6 and Comment 50.

Comment 54

p. 3-8, bullets 2&3: Discuss how the implementability and cost of the LUCs would increase if they include monitoring and maintaining existing engineered covers on the Site.

Draft Response (April 2013): Navy understands the intent of this comment. The information requested in this comment is provided appropriately in Section 3.3.3 – Containment.

Comment 55

p. 3-9, Conclusion: Clarify the difference between the existing pavement acting as an Engineered Control and an “asphalt/concrete cap?”

Draft Response (April 2013): The text will be modified to clarify this is an evaluation of potential alternatives (a screening step) and that because of the relatively small sizes of the areas to be addressed for unacceptable residential soil risk, containment/barrier technologies are not considered further. Rather, LUCs or soil removals are the most appropriate actions.

Comment 56

p. 3-13, §3.4: Include at least one groundwater treatment option.

Draft Response (April 2013): See Response to General Comment G-1.

Comment 57

p. 3-13, §3.4.1: The analysis of the No Action option needs to state that five-year reviews will be conducted.

Draft Response (April 2013): Five-Year Reviews will be included in the No Action alternative. Also, refer to Responses to Comments 51 and 52.

Comment 58

p. 3-14, §3.4.2.1, ¶1: Please state that LUCs are established through development of an LUC RD.

Draft Response (April 2013): The text will be revised to specify the development of an LUC Remedial Design. Note the LUC Remedial Design is included in the LUC soil alternative S-2 as detailed in Section 4.1.2.

Comment 59

p. 3-15, §3.4.2.2: Please edit the Implementability discussion to delete the third sentence that refers to permits. No permits need to be obtained for on-site remedial action under CERCLA.

Draft Response (April 2013): The text will be revised as suggested.

Comment 60

p. 3-16, §3.4.2.3: Please delete “significant” from the first sentence in the first full paragraph. The TCE concentration changes observed are not significant.

Draft Response (April 2013): The “significant” qualifier will be replaced with “order-of-magnitude.” The two highest TCE concentrations decreased by an order of magnitude from 1996 to 2011 as indicated in the second sentence.

EPA Follow-Up Comment (June 2013)

The changes are not order-of-magnitude. The Navy needs to provide a balanced discussion of the site data. It is not evident that metals contamination in groundwater is decreasing. Therefore, please edit the paragraph to read:

“The 2011 groundwater sampling results indicated a decrease in the TCE concentrations since the 1996 SASE investigation in the two most highly TCE-contaminated wells installed in the North Waterfront area during the SASE field activities. A decreasing trend in TCE concentrations was detected in DSY-MW03 (from 32.5 µg/L to 7.35 µg/L) and DSY-MW12 (from 16 µg/L to 9.61 µg/L). However, DSY-MW-221, installed downgradient of DSY-MW-03 in 2011, had a TCE concentration of 12.2 µg/L. In addition, TCE was detected slightly in excess of the MCL in replacement well DSY-MW-11A whereas it was not detected in 1996 in DSY-MW-11. TCE was also detected in excess of the MCL in DSY-MW-222, installed in 2011 between DSY-MW-03 and DSY-MW-11A, suggesting a broader extent of low level TCE impacts than previously documented. In the Former Building 234 Area, DSY-MW08 has shown decreasing trends in the metal concentrations: arsenic (from 8.8 µg/L to 1.32J µg/L), iron (from 2,860 µg/L to 459 µg/L) and manganese (from 1,720 µg/L to 532 µg/L); however, this was the only 1996 well sampled for metals in 2011. Two wells installed in the Central Waterfront area in 2011 had greater metals concentrations than the nearby wells had in 1996. DSY-MW-218, installed downgradient of DSY-MW-05 in 2011, had the following increases as compared to DSY-MW-05 in 1996: arsenic (27.8 µg/L vs. ND), manganese (9,100 µg/L vs. 1,360 µg/L), and iron (11,100 µg/L vs. 1,260 µg/L). DSY-MW-219, installed downgradient of DSY-MW-07, had the following increases as compared to DSY-MW-07 in 1996: arsenic (76.3 µg/L vs. 57.6 µg/L) and manganese (4,700 µg/L vs. 753 µg/L). Iron decreased at DSY-MW-219 compared to DSY-MW-07 in 1996 (11,100 µg/L vs. 18,400 µg/L).

- Effectiveness: Natural attenuation may be effective in reducing concentrations of TCE in groundwater over the long term, but its effectiveness with metals is not evident based on available data. Because only limited historical sampling events are available, more data”

Revised Response (September 2013): The “significant” qualifier will be replaced with “order-of-magnitude.” The two highest TCE concentrations in the North Waterfront decreased by an order of magnitude (base 10 scale) from 1996 to 2011 as indicated in the second sentence. The *effectiveness bullet* will be revised in the Draft Final FS to read as follows:

- Effectiveness: Natural attenuation may be effective in reducing concentrations of TCE and metals in groundwater over the long-term. However, limited historical sampling data (spatial and temporal) are available. More coverage and data over time would be necessary to further evaluate the effectiveness of natural attenuation. Groundwater monitoring alone would not provide an effective means of achieving cleanup levels, but would provide an effective means of evaluating the changing

concentrations of COCs in groundwater and assessing the rate of decrease of these concentrations. Institutional controls such as LUCs would be required in conjunction with the MNA, to limit the future use of groundwater until cleanup goals are reached. Effectiveness of the MNA as a component of a remedy would need to be evaluated as part of the five-year review process

Comment 61

Regarding the Effectiveness bullet, natural attenuation would only be effective if it can meet EPA guidance standards for monitored natural attenuation.

Draft Response (April 2013): Comment noted.

Comment 62

p. 3-19, §3.5.1: Alternative S-2 also needs to include long-term monitoring and possible O&M of engineered controls (asphalt covers).

Draft Response (April 2013): See Response to Comment 55 and others above. There are no cover components in any of the remedial alternatives.

Revised Response (September 2013): Soil Alternative S-2 in the Draft Final FS is being revised to include additional components associated with a soil cover or soil excavation to assure compliance with RIDEM Industrial DEC in sub-areas in which this remedy is evaluated. Soil cover alternatives will include monitoring and maintenance of the covers. Please see to Responses to Comment 6 and Comment 50.

Comment 63

p. 3-19, §3.5.2: Include at least one groundwater treatment alternative.

Draft Response (April 2013): See Response to General Comment G-1.

Comment 64

p. 3-23, §3.6.2: Please edit the last paragraph to acknowledge that state and community acceptance are assessed during the public comment period on the Proposed Plan.

Draft Response (April 2013): The text provides this information already; however, it will be revised to make this clearer.

Comment 65

p. 4-1, §4.0: The description for the alternatives needs to address whether there are exceedances of industrial DEC's (and requirements to maintain engineered asphalt cover) and/or leachability standards to protect potable groundwater. In addition, in areas where Deredktor operated hazardous waste storage areas, depending on remaining levels of contamination, the alternatives may need to address hazardous waste closure/post closure requirements. Finally, enforcement/inspection records for the Deredktor facility indicate there may be areas where asbestos was released (in addition to any potential asbestos released from Navy infrastructure, such as steam pipes). Alternative S-2 needs to include long-term monitoring and O&M of engineered controls (asphalt covers).

Draft Response (April 2013): See Responses to General Comment G-3, Comment 5, Comment 11, and Comment 62.

EPA Follow-Up Comment (June 2013)

See previous responses to specific comments regarding these issues.

Revised Response (September 2013): DEC exceedances will be reviewed and presented in the Draft Final FS (see Responses to Comments G-3, 5, and 11). The waste storage areas and asbestos issues were addressed previously as indicated in the PA and SASE. These will be reviewed and detailed in the Draft Final FS (see Response to Comment 11). Soil cover remedial components will include monitoring and maintenance. (see Response to Comments 6 and 50).

Comment 66

p. 4-1, §4.1.1: The analysis of the No Action alternative needs to state that five-year reviews will be conducted.

Draft Response (April 2013): See Response to Comment 57.

Revised Response (September 2013): Five-Year Reviews will be included in the No Action alternative. See Responses to Comments 51, 52, and 57.

Comment 67

p. 4-2, §4.1.2: Soil alternative SO-2 is a limited action remedy with land use controls, but no depiction of the land use control area is presented. Please include figures showing the proposed limits of the land use control. Alternative S-2 needs to include long-term monitoring and possible O&M of engineered controls (asphalt covers).

Draft Response (April 2013): The extent of LUCs is determined in the LUC RD. However, for the purpose of the FS, the limits of soil LUCs for Alternative S-2 will be described as the excavation boundaries shown for Alternative S-3. There is no cover component in the soil alternative(s).

EPA Follow-Up Comment (June 2013)

Regarding the issue of a potential cover component to this alternative. Please refer to EPA's comment on Specific Comment 6.

Revised Response (September 2013): The extent of LUCs is determined in the LUC RD. In the Draft FS, the limits of soil LUCs for Alternative S-2 are the Areas of Attainment (AAs) for soil corresponding to the excavation boundaries of Alternative S-3. Alternative S-2 will be revised in the Draft Final FS to provide this information. There was no cover component in the soil alternative(s) in the Draft FS; however, the Alternative S-2 will be revised in the Draft Final FS to include additional components associated with a soil cover or soil excavation to assure compliance with RIDEM Industrial DEC in sub-areas in which this remedy is evaluated. See Response to Comment 6 regarding potential excavation or covers to accompany the LUCs for industrial usage.

Comment 68

p. 4-3, §4.1.3: See previous comments (pages 1-6 and 1-7) about remaining contaminant levels after removal actions in other areas of the Site. Clarify whether additional soil removal is required in these areas to achieve unrestricted use standards. Please edit the third paragraph to read: "After evaluating verification samples to confirm that the respective"

Draft Response (April 2013): Previous removal actions were considered final removal actions by the EPA and RIDEM. Criteria used for each are detailed in responses above and will be included in the Draft Final FS as described in the Responses above. Remaining soils in sub-areas where there is an unacceptable risk identified by the CERCLA HHRA are being addressed by this FS.

Comment 69

p. 4-3, §4.1.3.2: Regarding the third paragraph, if there are inaccessible areas of contaminated soils exceeding unrestricted use standards in the vicinity of the railroad tracks then ICs, with long-term monitoring and five-year reviews need to be included in the alternative.

Draft Response (April 2013): Comment noted. At present, the soil alternative includes addressing that area utilizing geotechnical structural support for the railroad tracks. However, Navy provides another thought not previously considered: Railroad tracks are exempt from CERCLA, and the high arsenic value at SB214 is likely associated with the tracks (arsenic has been used historically as pesticides and herbicides on/along railroad tracks and in railroad ties, themselves). Location SB214 is located in/adjacent to the elevated railroad bedding, and on the other side of the drainage feature for the PCB Removal Area. The Project Team can discuss this further.

EPA Follow-Up Comment (June 2013)

The statement that railroad tracks are exempt from CERCLA suggests a blanket exemption that is not correct. Please delete it.

Revised Response (September 2013): The Draft Final FS will be revised to state the arsenic value(s) along the railroad tracks are not from a CERCLA release(s), but rather from intended usage of arsenic-based pesticides and herbicides for the railroad. Location SB214 is located in/adjacent to the elevated railroad bedding on the other side of the drainage feature for the PCB Removal Area. This will not be addressed under CERCLA. Associated text in the FS (nature and extent of contamination, contaminated media of concern, scope of the soil remedies, etc.) will be revised accordingly.

Comment 70

p. 4-3, §4.2.1: The analysis of the No Action alternative needs to state that five-year reviews will be required.

Draft Response (April 2013): Agreed.

Comment 71

p. 4-6, §4.2.2: See previous comments about Alternative S-2 and incorporate them here.

Draft Response (April 2013): Comment noted. See Responses to previous comments about Alternative S-2. Not all comments regarding S-2 will be incorporated (e.g., there is no cover component).

EPA Follow-Up Comment (June 2013)

Regarding the issue of a potential cover component to this alternative, please refer to EPA's comment on Specific Comment 6.

Revised Response (September 2013): The Soil Alternative S-2 in the Draft Final FS is being revised to include additional components associated with a soil cover or soil excavation to assure compliance with RIDEM Industrial DEC in sub-areas in which this remedy is evaluated. See Response to Comment 6 and other cover comments/responses above.

Comment 72

p. 4-6, §4.2.2.2: This alternative would not meet soil leachability standards, if applicable, unless areas of existing asphalt covers are sufficient to be protective under state leachability standards. LUCs only would not meet hazardous waste closure standards, if applicable to any of the former Deredktor hazardous waste storage areas. Finally, asbestos standard were not identified as ARARs even though there are documented releases from Deredktor operations and there is the possibility of releases from Navy operations.

Draft Response (April 2013): The alternative will comply with ARARs. There are no cover features in the soil alternatives. See Response to Comment 11 regarding historic violations.

EPA Follow-Up Comment (June 2013)

See previous responses to specific comments regarding these issues.

Revised Response (September 2013): See Response to Comment 6 and other cover comments/responses above (e.g., Response to Comment 65). The waste storage areas were investigated as indicated in the PA and SASE. Asbestos issues were addressed previously by the Navy. This will be reviewed and detailed in the Draft Final FS (see Response to Comment 11).

Comment 73

p. 4-6, §4.2.2.3: Discuss whether there is any need for LUCs in the area of the exercise path (if contamination is present about unrestricted use levels the path would have to be shut down or the contamination remediated to achieve residential standards.

Draft Response (April 2013): There is no unacceptable risk in any media for any receptor in the South Waterfront Area. Therefore, no LUCs are needed for the exercise path in the South Waterfront Area.

Comment 74

p. 4-8, §4.2.3: Please clarify whether soil contamination is located beneath the concrete slab that would cause excess risk in the absence of the concrete slab at Former Building 234. If so, a land use control will be required to maintain the concrete slab and long-term monitoring, as well as five-year reviews, will be required. LUCs, long-term monitoring and five-year reviews would also be required for any area of inaccessible contaminated soil along the railroad tracks.

Draft Response (April 2013): There is no unacceptable risk from soil underneath the former Building 234 foundation. Unacceptable risk to future residents from exposure to other soils (i.e., PRG exceedances as shown on figures in the FS) in the Former Building 234 Area will be addressed by either Alternative S-2 or S-3.

Comment 75

p. 4-11, §4.3: The comparative analysis of Alternative S-2 needs to incorporate the previous comments/issues concerning the alternative (i.e., some areas may not meet ARARs standards).

Draft Response (April 2013): Navy disagrees. See previous responses.

EPA Follow-Up Comment (June 2013)

See previous responses to specific comments regarding these issues. EPA believes this alternative may not meet all ARARs requirements.

Revised Response (September 2013): Soil Alternative S-2 is being revised in the Draft Final FS to include additional components associated with a soil cover or soil excavation to assure compliance with RIDEM Industrial DEC in sub-areas in which this remedy is evaluated. See Response to Comment 6 and other cover comments/responses above.

Comment 76

p. 5-1, §5.0: Add a treatment alternative.

Draft Response (April 2013): See Response to General Comment G-1.

Comment 77

p. 5-1, §5.1.1: Include five-year reviews.

Draft Response (April 2013): Agreed.

Comment 78

p. 5-2, §5.1.2: Please delete “significant” from the first sentence in the last paragraph. The TCE concentration changes observed are not significant.

Draft Response (April 2013): “Significant” will be replaced with “order-of-magnitude.”

EPA Follow-Up Comment (June 2013)

Please provide a more balanced discussion of the differences in the contaminant concentrations over time. Please refer to EPA’s follow-up comment on Specific Comment 60.

Revised Response (September 2013): “Significant” will be replaced with “order-of-magnitude.” See Response to Comment 60. The metals data in the Central Shipyard and Former Building 234 Area are more limited than the TCE data in the North Waterfront. The discussion will be reviewed for improvement in the Draft Final FS.

Comment 79

p. 5-3, §5.1.2, ¶1: Please supplement the first sentence by adding: “...; however, cis-1,2-dichloroethene and vinyl chloride are daughter products of trichloroethene degradation and have been detected in this area in historic groundwater samples.”

Draft Response (April 2013): Navy disagrees. This context of this section is the description of the alternatives with respect to the COCs. The sentence will not be revised as suggested.

EPA Follow-Up Comment (June 2013)

This section discusses Alternative G-2 and should justify its selection as a potentially feasible alternative. One line of evidence supporting MNA is the presence of daughter products, so the Navy should include the suggested phrase somewhere in the discussion and any other lines of evidence supporting MNA.

Revised Response (September 2013): The first sentence will be revised as suggested. Discussion of the daughter products will be added to this text (along with any additional balanced discussion of metals).

Comment 80

p. 5-3, §5.1.2, ¶2: Please add the following before the sentence that begins with “Accurately modeling ...”: “Trichloroethene and its daughter products have been detected in historic groundwater sampling in the Former Building 234 Area that could account for the elevated metals concentrations in solution.”

Draft Response (April 2013): Navy disagrees. The suggestion is inaccurate or not entirely true without many assumptions not provided by the commenter.

Comment 81

p. 5-3, §5.1.2, ¶3: Land use controls are specified for groundwater alternative G-2 but no depiction of the land use control area is presented. Please include figures showing the proposed limits of the land use control.

Draft Response (April 2013): LUC boundaries for groundwater correspond to the Attainment Area boundaries, which correspond to the sub-area boundaries (North Waterfront Area, Central Shipyard Area, and Former Building 234 Area) as described in the text and depicted on Figure 5-1. The text in the paragraph to which this comment refers will be revised to make this clearer.

Comment 82

p. 5-4, §5.1.2: Please replace the first sentence in the third full paragraph with: "... and analyzed for TCE and its daughter products, metals, and natural ..." because the daughter products and metals have been detected in excess of PRGs in historic groundwater samples.

Please replace the penultimate sentence in the third full paragraph with: "... and analyzed for manganese, chlorinated hydrocarbons, and natural attenuation parameters." because daughter products of TCE have been detected in excess of PRGs in historic groundwater samples immediately upgradient of the Former Building 234."

Draft Response (April 2013): Navy disagrees. The text will not be revised as requested. However, the exact sampling analyses will be determined by the Project Team when the groundwater [performance monitoring plan] is developed following the ROD. This detail does not impact the FS or [eventually] the selection of the preferred remedy.

Comment 83

p. 5-5, §5.2: See previous comments regarding the addition of a groundwater treatment alternative and questions about the analysis of the MNA alternative.

Draft Response (April 2013): See previous Responses.

EPA Follow-Up Comment (June 2013)

See responses to specific comments regarding these issues.

Revised Response (September 2013): The Navy will develop groundwater treatment alternatives in addition to MNA in the Draft Final FS, as agreed, and consistent with the recent FS for Tank Farm 4. See responses to general and specific comments regarding groundwater treatment alternative, specifically the Response to Comment G-3.

Comment 84

p. 5-5, §5.2.1: Include five-year reviews.

Draft Response (April 2013): Agreed.

Comment 85

p. 5-6, §5.2.2: See previous comments about whether this alternative meets EPA MNA standards. Discuss potential future vapor risk.

Draft Response (April 2013): See previous Responses.

EPA Follow-Up Comment (June 2013)

See responses to specific comments regarding these issues.

Revised Response (September 2013): MNA effectiveness (compliance with ARARs) can be evaluated during its implementation and LTM similar to the Tank Farm 4 site. The ARARs tables referenced in this section text will be revised to make this clearer. Also, please see Responses to Comments G-1 and G-2. Vapor intrusion risk will be discussed as it relates to TBCs (e.g., cancer slope factors) in this subsection.

Comment 86

p. 5-8, §5.2.4: This section states that "natural attenuation is not assured." If that is the case the alternative is not protective and does not meet ARARs. Also, remove the last sentence.

Draft Response (April 2013): The referenced text, “and natural attenuation is not assured,” will be removed from the sentence. No remedial action can be “assured.” Navy disagrees about removing the last sentence.

EPA Follow-Up Comment (June 2013)

Please explain why the Navy wants to keep the sentence that EPA asked to be removed.

Revised Response (September 2013): The referenced text, “and natural attenuation is not assured,” will be removed from the sentence. No remedial action can be “assured.” The last sentence will be removed.

Comment 87

p. 5-9, §5.3: A comparative analysis is not complete without including a treatment alternative. See previous comments concerning Alternatives G-1 and G-2.

Draft Response (April 2013): See Response to Comment G-1. Note treatment alternatives were included in the Draft FS, but did not pass the screening steps to go on to detailed development and evaluation.

Comment 88

Tables 1-7A, 1-7B: These tables show a basis for including remedial vapor controls as a component 1-B of the groundwater alternative(s).

Draft Response (April 2013): These tables are the results of the vapor intrusion screening evaluation. They indicate a potential indoor air vapor intrusion problem based on the groundwater concentration(s) used for the modeling. These results are the basis for Navy saying there is a potential future vapor intrusion risk, which will be managed by an LUC component in tandem with groundwater.

Comment 89

(a) Table 2-1, p. 1: Remove the TSCA citation since it is already correctly included in the action-specific tables. (b) For the MCL citation change to: “42 U.S.C. §300f et seq.; 40 C.F.R. 141, Subparts B and G.” (c) Identify guidance(s) used for assessing vapor risks.

Draft Response (April 2013): (a) Agree. (b) Navy disagrees. Subpart B only includes arsenic and nitrate MCLs for specific conditions. The arsenic and nitrate values are duplicated in Subpart G. (c) Agree. The following will be added as a TBC, with text similar to the other risk TBCs: EPA, 2012. *Vapor Intrusion Screening Level (VISL) Calculator Version 2.0, May 2012 RSLs. Office of Solid Waste and Remedial Response. Washington, D.C. May.*

EPA Follow-Up Comment (June 2013)

b) Include both subsections for the MCLs since both could apply to the future development of drinking water systems at the Site.

Revised Response (September 2013): (a) Agree. (b) Navy will include both Subparts B and G, per EPA’s request. The evaluation will note the following: Subpart B includes duplicate information for arsenic and nitrate, which already are addressed by Subpart G. The old arsenic MCL of 50 µg/L in Subpart B expired in 2006 (current MCL is 10 µg/L as indicated in Subpart G). Nitrate value of 20 mg/L in Subpart B is less restrictive than 10 mg/L in Subpart G, and nitrate is not a COC for any of the subareas. (c) Agree. The following will be added as a TBC, with text similar to the other risk TBCs:

EPA, 2012. Vapor Intrusion Screening Level (VISL) Calculator Version 2.0, May 2012 RSLs. Office of Solid Waste and Remedial Response. Washington, D.C. May.

Comment 90

Table 2-1, p. 2: Add to the federal standards:

(a)	Recommendations of the Technical Review Workgroup for Lead for an approach to Assessing Risks Associated with Adult Exposure to Lead In Soil	EPA-540-R-03-001 (January 2003)	To Be Considered	EPA Guidance for evaluating risks posed by lead in soil.	Risks from lead assessed under this guidance will be addressed through remediation measures.
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(b) For the Remediation Regulations citation, insert “s 8.01,” after “Section.”

Draft Response (April 2013): (a) Agree. (b) Navy disagrees: The Remedial Objectives section was not used in the selection of PRGs.

Comment 91

Table 2-2: Change the Floodplain Management line in the first row and insert two additional federal ARARs:

(a) Floodplain Management and Protection of Wetlands	44 C.F.R. 9	Relevant and Appropriate	Implements Executive Order 11990 (Protection of Wetlands) and Executive Order 11988 (Floodplain Management). Prohibits activities that adversely affect federally-regulated resource areas unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands and floodplains that may result from such use.	The effects of installing and maintaining any components of the remedy within federally designated 500-year coastal floodplain or jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the protected resources. Public comment concerning potential impacts will be solicited in the Proposed Plan.
(b) Endangered Species Act	16 U.S.C. 1531 et seq.; 50 CFR Parts 200 and 402	Applicable	Regulates activities affecting federally listed endangered or threatened species or their critical habitat.	The federally-listed Atlantic sturgeon, loggerhead turtle and Kemp's-ridley turtle occur in the waters of Narragansett Bay. Appropriate federal agencies will be consulted to find ways to minimize adverse effects from contamination migrating from the Site to coastal waters.

(c) Add the following State ARAR:

Coastal Resources Management	RIGL 46-23-1 et seq.	Applicable	Sets standards for management and protection of coastal resources.	The entire site is located in a coastal resource management area. Therefore, applicable coastal resource management requirements need to be addressed.
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Draft Response (April 2013): (a) Navy disagrees with 500-year floodplain, because the activities are not of the “critical action” type to which the regulation applies the 500-year floodplain. Navy will use the 100-year floodplain. (b) Agree. (c) Agree.

Comment 92

Table 2-3, p. 1: Change the text for the TSCA “Consideration” to: “The development of risk-based cleanup standards for PCBs in soil and the development and implementation of protective handling/management/disposal measures for PCB contaminated material will meet these standards.”

Draft Response (April 2013): Agree.

Comment 93

For the Groundwater guidance “Consideration” text, remove at the end “, and/or risk-based standards in the groundwater”.

Draft Response (April 2013): Navy disagrees. Risk-based standards were calculated for cobalt and iron. There were no other state or federal values available. The text will not be revised.

Comment 94

Table 2-3, p. 2: (a) Change the text for the NRWQC “Consideration” to: “These standards will be used to develop monitoring standards for surface waters during the remedial action or during any long-term O&M.” (b) For the NPDES “Citation” change to: “33 U.S.C. §1342; 40 C.F.R. Parts 122-125, 131.” (c) Add the following federal ARARs:

(c)(i) Clean Air Act (CAA), National Emission Standards for Hazardous Air Pollutants (NESHAPS)	42 USC 7411, 7412; 40 CFR Part 61	Applicable	NESHAPS are a set of emission standards for specific chemicals, including asbestos, arsenic, cadmium, chromium, lead, mercury, nickel, PCBs, and hexachlorobenzene. Certain activities are regulated including site remediation.	Monitoring of air emissions during remedial activities will be used to assess compliance with these standards if threshold levels are reached. Operation and maintenance activities will be carried out in a manner that will minimize potential air releases.
(c)(ii) Management of Undesirable Plants on Federal Lands	7 U.S.C. 2814	Relevant and Appropriate	Requires federal agencies to establish integrated management systems to control or contain undesirable plant species on federal lands under the agency’s jurisdiction.	Measures will be taken to control the establishment of Phragmites, purple loosestrife or other invasive plants within all remediated areas. An invasive species control plan will be developed as part of the long-term O&M for this site. The responsibility of control will be transitioned to NAVSTA after (1) the remedy is in place, and (2) NAVSTA develops a base-wide program for controlling undesirable plants.
(c)(iii) Framework for Investigating Asbestos- contaminated Superfund Sites	OSWER Directive #9200.0-68 (Sept. 2008)	To be Considered	<i>Guidance on Investigating and Characterizing the potential human exposure from asbestos contamination in outdoor soil at Superfund sites.</i>	Guidance allows response actions at a site without further characterization, after review of historical and current information, if review of the site conditions supports a response.

Draft Response (April 2013): Navy notes that the ARARs in Section 2 are presented for reference of possible ARARs without consideration of the remedial alternatives evaluated in the FS. ARAR evaluations specific to the alternatives are provided in Section 4 for soil and Section 5 for groundwater. In response to the comment(s): (a) Agree in part: NRWQC will be included to develop monitoring standards for surface waters during a remedial action if surface water is a component of the remedial action in the FS. (b) Navy disagrees: Parts 123 and 124 were excluded because they are administrative. Part 131 is for Water Quality Standards, which would be included as NRWQC, if needed. (c)(i) Navy disagrees. None of the remedial activities fit any NESHAP categories. None of the activities have potential emissions that would be appropriate. There is no asbestos contamination, and none of the asbestos formerly or currently at the site fits into activities described in the asbestos category. (c)(ii) Navy disagrees. These industrial areas to be addressed are not in or near wetlands or populated by any specific vegetation at this time (even near the coast). (c)(iii) Navy disagrees: The document was not used. There is no asbestos-contaminated soil, and asbestos issues were addressed previously.

EPA Follow-Up Comment (June 2013)

All of the ARARs that EPA has identified should be retained, pending resolution of the outstanding issues herein.

Revised Response (September 2013): The ARARs presented in Section 2 are for reference of all possible ARARs for a CERCLA response action at NAVSTA Newport (as identified by the agencies) without consideration of the remedial alternatives actually evaluated in the FS. ARAR evaluations specific to the FS alternatives are provided in Section 4 for soil and Section 5 for groundwater. In response to the comment(s): (a) The NRWQC “Consideration...” text will be revised to read as follows:

These standards will be used to develop monitoring standards for surface waters during a remedial action if it includes surface water monitoring or related surface water compliance requirements (e.g., surface water discharge of groundwater treated ex situ).

(b) Parts 123 and 124 were excluded because they are administrative. Part 131 is for Water Quality Standards, which will be included as NRWQC. Therefore, the NPDES citation will be revised to read as follows:

40 CFR Parts 122, 125, and 131

(c)(i) Navy disagrees. None of the remedial activities fit any NESHAP categories. None of the activities have potential emissions that would be appropriate. There is no asbestos contamination, and none of the asbestos formerly or currently at the site fits into activities described in the asbestos category. (c)(ii) Navy disagrees. These industrial areas to be addressed are not in or near wetlands or populated by any specific vegetation at this time (even near the coast). (c)(iii) Navy disagrees. The document was not used. There is no asbestos-contaminated soil, and asbestos issues were addressed previously.

Comment 95

Table 2-3, p. 3: Add the following State standard at the end of the table:

General Requirements for all Facilities and Operational Requirements for Treatment, Storage, and Disposal Facilities	Rules and Regulations for Hazardous Waste Management, RIGL 23-19.1 et seq.; CRIR 12-030-003 Rule 8.04G, R & T, 8.05 9.03, 9.05, 9.16, 9.17, 9.20, and 9.23.	Applicable	Standards for the maintenance and closure of former hazardous waste storage facilities.	Any hazardous waste storage areas operated by the former tenant (Derecoctor) that were regulated under these standards need to meet closure and other requirements pertaining to hazardous waste storage facilities.
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Draft Response (April 2013): Navy disagrees. These historical former hazardous waste storage facilities were addressed previously and are not associated with any remedial component in this FS. This ARAR will not be included/considered in this FS.

EPA Follow-Up Comment (June 2013)

To the extent any part of Derecoctor’s operations that were regulated under RCRA were not properly closed and if waste is still present that poses risk the areas need to be closed under these applicable standards, the FFA includes a RCRA/CERCLA integration provision, so this action must address any remaining RCRA compliance issues from site operations.

Revised Response (September 2013): There are no RCRA units awaiting closure at Site 19 – On-Shore Derecoctor Shipyard. Issues related to Robert E. Derecoctor, Inc. RCRA operations have been addressed previously or are subsumed by the CERCLA process (see Response to Comment 11). The Navy / NAVSTA Newport is not seeking to close its current RCRA permits (R18170024790 [Naval Undersea Warfare Center] and R1170024243 [US NETC]), which are not specifically related to On-Shore Derecoctor.

Comment 96

Table 2-3, p. 4: (a) State pretreatment regulations are included, but the text does not discuss the need to dewater excavated soil. If there will be treatment, it needs to be incorporated into the text, including the NCP analysis. In addition to the State pretreatment standards, federal standards would then also be included (assuming water from the dewatering process is discharged to a POTW). (b) Add the following State ARAR:

Water Pollution Control Water Quality	RIGL 42-16 et seq.; CRIR 12-190-001	Applicable	Establishes water use classification and water quality criteria for waters of the state.	Groundwater concentrations will be compared against these criteria during the long-term monitoring events.
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Draft Response (April 2013): (a) Comment acknowledged. There is no dewatering component to the remedial alternatives evaluated in this FS. Again, the ARARs presentation in Section 2 provide all possible ARARs independent of the actual alternatives evaluated later in the FS (soil in Section 4 and groundwater in Section 5). This general ARARs presentation in the FS arguably should be removed. The associated text in Section 4 will be revised to make this clear. The state and federal discharge to POTW and NPDES regulations will not be ARARs for the soil alternatives, as indicated in Section 4. (b) Navy disagrees. Groundwater criteria already are addressed by the RIDEM Remediation Regulations.

EPA Follow-Up Comment (June 2013)

(b) Retain if the state groundwater standards are more protective than the state remediation standards. These are monitoring standards, so site monitoring should assess whether these standards are exceeded.

Revised Response (September 2013): (b) Navy disagrees. These citations are not ARARs in the recent FS for Tank Farm 4 and were not requested by RIDEM. The Rhode Island Numerical Groundwater Quality Standards for class GAA/GA (Rhode Island Groundwater Quality Rules; June 2010) are equivalent to MCLs and RIDEM Remediation GA Groundwater Objectives. No criteria that are more stringent than the RIDEM Remediation Regulations can be located in the Groundwater Quality Rules. No criteria related to long-term monitoring are specified.

Comment 97

Tables 2-4 & 2-5: State GB leachability standards, rather than GA, are cited in the tables.

Draft Response (April 2013): Refer to Response to General Comment G-3. GB criteria will not be utilized; GA criteria will be considered Relevant and Appropriate.

EPA Follow-Up Comment (June 2013)

The GA leachability standards are “Applicable.”

Revised Response (September 2013): GB criteria will be replaced with GA criteria (see Response to Comment G-3), which will be considered Applicable rather than Relevant and Appropriate on a remedy-specific and sub-area-specific basis (see Response to Comment 2).

Comment 98

Table 2-6: Please add PRGs for cis-1,2-dichlorethene and vinyl chloride which are daughter products of trichloroethene degradation and they also have been detected in the North Waterfront Area and other areas of the site in historical samples.

Draft Response (April 2013): These are not COCs, so PRGs will not be evaluated or provided for them. They can be part of a performance monitoring program to be determined by the Project Team at a later time.

EPA Follow-Up Comment (June 2013)

EPA agrees that the daughter products will be required by the performance monitoring program for the selected groundwater remedy.

Revised Response (September 2013): Comment noted. The TCE daughter products are not COCs, so PRGs will not be evaluated or provided for them. They likely will be part of a performance monitoring program to be determined by the Project Team at a later time (e.g., during LTM Plan development).

Comment 99

Tables 3-1 to 3-4: Modify based on comments to the Ch. 3 text, above.

Draft Response (April 2013): See Responses to Chapter 3 text comments. Not all comments were agreed. Changes to Tables 3-1 to 3-4 (if any) will be made appropriately in accordance with current Navy RTCs.

Comment 100

Table 4-1: Modify based on comments to the Ch. 4 text, above. Make changes to the Ch. 4 ARARs tables based on the changes made to the Ch. 2 ARARs tables and comments made to the text concerning ARARs.

Draft Response (April 2013): Table 4-1 will be modified in accordance with current Navy Responses above to Chapter 4 text. Similarly, the Chapter 4 ARARs will be revised in accordance with the current Navy RTCs.

EPA Follow-Up Comment (June 2013)

All of the ARARs that EPA has identified should be retained, pending resolution of outstanding issues.

Revised Response (September 2013): ARARs comments will be incorporated in the tables and text as indicated in the Navy responses herein, which attempt to consider outstanding issues. The Navy will work with the agencies to present complete ARARs evaluations in this FS consistent with recent FSES at NAVSTA Newport.

Comment 101

Tables 4-2 to 4-4: Label “S-1” not “S-2” and Table 4-1 should explain why the No Action Alternative does not meet the ARARs and TBC chemical-specific standards. There need to be S-2 chemical-specific, location-specific, and action-specific tables. It not possible to completely identify the ARARs for S-2 because it is not clear (see text comments, above) whether the LUCs include engineering controls (maintaining and monitoring asphalt cover), whether hazardous waste closure standards are applicable to the former Deregktor waste storage areas on the Site, whether asbestos is still present after historic releases documented at the Site, and whether GA leachability standards are exceeded (in addition to other questions/comments made concerning the alternative in the text).

Draft Response (April 2013): ARAR tables will not be generated for No Action alternatives. No action inherently will not meet ARARs if there is an unacceptable risk determined by a CERCLA risk assessment. Navy Responses above discuss there is no cover component, previous violations not associated with CERCLA have been addressed, and GA criteria will be considered in the sub-areas determined to have unacceptable risk for soil (soil decision units) (PCB Removal Area and Former Building 234 Area). ARARs will be modified in accordance with the current Navy RTCs.

EPA Follow-Up Comment (June 2013)

Include a No Action chemical specific ARAR table that identifies which ARARs and TBC standards will not be met. Outstanding comments regarding alternative S-2 need to be resolved before the ARARs can be identified and ARAR compliance assessed.

Revised Response (September 2013): The No Action ARARs table(s) will be created. Navy RTCs above address other items mentioned in this comment.

Comment 102

Tables 4-5 to 4-7: It is not possible to completely identify the ARARs for S-3 because it is not known whether some inaccessible contaminated soils will be left in place under the foundation and along the railroad tracks. The ARARs need to be modified based on comments in the text and changes made to the Chapter 2 Action-specific ARARs tables.

Draft Response (April 2013): Navy responses above clarified there is no unacceptable risk from soil underneath the former Building 234 foundation, and currently (draft FS) Alternative S-3 includes removing the arsenic soil exceedance along the railroad track (although Response to Comment 69 discusses not addressing it due to Railroad exclusion under CERCLA). ARARs will be modified in accordance with the current Navy RTCs.

EPA Follow-Up Comment (June 2013)

Any outstanding comments regarding alternative S-3 need to be resolved before the ARARs can be identified and ARAR compliance assessed.

Revised Response (September 2013): Navy RTCs above clarify there is no unacceptable risk from soil underneath the former Building 234 foundation. The Draft Final FS will specify the arsenic soil exceedance along the railroad track is not due to a CERCLA release (see Response to Comment 69). ARARs will be modified in the Draft Final FS in accordance with the current Navy responses (see Response to Comment 100).

Comment 103

Table 4-8: It is not possible to comment on this table until the issues raised in the text regarding the soil alternatives and modifications to the Chapter 2 ARARs tables are addressed.

Draft Response (April 2013): Comment noted. EPA can review the table following incorporation of the comments herein in accordance with current Navy RTCs.

EPA Follow-Up Comment (June 2013)

The table requires modification based on responses to Specific Comments above.

Revised Response (September 2013): Agreed, Chapter 2 ARARs and Table 4-8 will be revised to address proposed revisions to the FS in accordance with the current Navy responses (see Responses to Comments 94 and 100).

Comment 104

Table 5-1: Make modifications to the tables based on comments to the Ch. 5 text, above. The details for the long-term monitoring program can be resolved later, however, EPA expects all wells to be analyzed for chlorinated hydrocarbons and metals because of the limited amount of available groundwater data, the historic presence of contaminants throughout the site, and the nature of the degradation products and impacts of natural attenuation on groundwater chemistry. EPA does not anticipate removing contaminants from the monitoring program if their concentrations are below the PRGs for two consecutive sampling events owing to the limited available database and the need to monitor any natural attenuation. Changes to the monitoring program will be discussed later. Please delete the referenced sentence. Add a chemical-specific ARAR table for Alternative G-1 that identifies why the No Action Alternative does not meet the ARARs and TBC chemical-specific standards.

Draft Response (April 2013): ARAR tables will not be generated for No Action alternatives. No action inherently will not meet ARARs if there is an unacceptable risk determined by a CERCLA risk assessment. Navy notes EPAs

comments on the monitoring program. Navy agrees specific monitoring components can be resolved later considering the FS is a conceptual design.

EPA Follow-Up Comment (June 2013)

Include a No Action chemical specific ARAR table that identifies which ARARs and TBC standards are not met.

Revised Response (September 2013): The No Action ARARs table will be created. Navy notes EPA's comments on the monitoring program. Navy agrees specific monitoring components can be resolved later considering the FS is a conceptual design.

Comment 105

Tables 5-2 to 5-3: Renumber and incorporate the changes made to the Table 2 ARARs that pertain to groundwater, as well as comments to the Ch. 5 text, into the Tables.

Draft Response (April 2013): The ARARs tables will be modified in accordance with current Navy RTCs.

EPA Follow-Up Comment (June 2013)

The tables require modification based on responses to Specific Comments above.

Revised Response (September 2013): Agreed, the Chapter 5 text and Tables 5-2 and 5-3 will be revised to address proposed revisions to the FS in accordance with the current Navy responses (see Responses to Comments 94 and 100).

Comment 106

Table 5-2: For the "Action to be Taken" text for each ARAR and TBC, state that the drinking water, federal risk-based, and more stringent Standards will be achieved by the alternative (not just that they are used to develop PRGs and as a basis for establishing LUCs). The "Action to be Taken" for the Remediation Regulations should discuss the GA standards instead.

Draft Response (April 2013): Agree in part. Multiple ARARs and risk-based values were considered for selection of the PRG. The table will be modified to meet the intent of EPA's comment.

Comment 107

Table 5-3: There are location-specific ARARs for the alternative pertaining to installing and maintaining monitoring wells within the coastal zone, coastal floodplain, and possibly within the intertidal shoreline.

Draft Response (April 2013): Navy will include location-specific ARARs for the coastal zone and floodplain regulations.

Comment 108

Table 5-4, p. 1: The MNA Guidance "Action to be Taken" text needs to identify how long it will take to achieve all drinking water, federal risk-based, and more stringent State groundwater standards within the Site.

Draft Response (April 2013): Navy disagrees. The duration is stated in the text.

EPA Follow-Up Comment (June 2013)

Please identify in the table how the alternative will satisfy the standard. In this case, specify how long it will take for MNA to achieve cleanup goals. It is important for assessing compliance and must be included in the tables for each alternative for comparison purposes.

Revised Response (September 2013): The requested/required information will be added to Table 5-4 to detail the anticipated timeframe, including when an alternative remedy should be considered. Note this information (e.g., time to until RAOs are achieved) is included in Table 5-5 for each alternative.

Comment 109

Table 5-4, p. 3: Why are the State's Pretreatment Standards cited? Does the Navy plan to discharge groundwater samples from the monitoring wells into a POTW? Develop ARARs tables for a groundwater treatment alternative.

Draft Response (April 2013): The regulation will be deleted; there is no planned discharge for current alternatives (vs. a pump and treat alternative). ARAR tables will be developed for the additional groundwater treatment alternatives (also, see Response to General Comment G-1).

Comment 110

Table 5-5: EPA will comment on this table after the issues raised in the text regarding the groundwater alternatives and modifications to the Chapter 2 ARARs tables pertaining to groundwater are addressed. In particular, a treatment alternative needs to be developed in order to compare it with the proposed MNA alternative.

Draft Response (April 2013): Comment noted. EPA can review the table following incorporation of the comments herein in accordance with current Navy RTCs.

Comment 111

Figure 1-2: Please show the 100-year and 500-year floodplains. Also please show the locations of the former Deregktor hazardous waste storage areas either on this or another figure.

Draft Response (April 2013): Agree. The 100-year and 500-year floodplains will be added to Figure 1-2. The former hazardous waste storage area located in the Northern Waterfront will be labeled on Figure 1-2.

EPA Follow-Up Comment (June 2013)

Hazardous waste was stored in Building 42 and also at the bilge storage area near MW-3 in the North Waterfront area. Please show these areas and any other areas where hazardous waste was stored (after reviewing the EPA civil and criminal enforcement documents provided).

Revised Response (September 2013): The 100-year floodplain will be added to Figure 1-2. The 500-year floodplain will not be added, because remedial activities will not meet the critical action type described in the ARAR (44 CFR 9; see Response to Comment 91). Both/any known waste storage areas and other pertinent historical features will be added to Figure 1-2 and other figures as appropriate.

Comment 112

Figure 1-4: Please add the water level elevation for MW-11A. The screen for MW-11A was set without screening data and the boring shown is only for MW-11. Please either show MW-11 or add a note referring to the MW-11 boring. Correct the ID for MW-218. Provide the well screen interval, boring depth, and water elevation for MW-12. Add wells MW-03, MW-04, MW-05, MW-220, and MW-219 as offset wells for context or else run the cross-section through them on Figure 1-3 and include them directly to the cross-section.

The screen interval for MW-11A is 5 to 10 feet below ground surface whereas the screen for MW-11 was set at 19 to 29 feet below ground surface. Field GC screening in 1996 of the 5 to 10 foot depth interval at MW-11 detected no TCE. TCE was detected in 2011 at MW-11A. In 1996 TCE was not detected at MW-11 but DCE was. Consequently, remedial monitoring in the Northern Waterfront will need to be able to detect chlorinated hydrocarbon contamination in shallow and deep groundwater.

Draft Response (April 2013): All information/changes requested in this comment will be incorporated with available information. Comment noted about future performance monitoring program in the North Waterfront Area.

Comment 113

Figure 1-5: Please include groundwater contamination in wells other than those in the Northern Waterfront Area.

Draft Response (April 2013): It is unclear how this can be accomplished without confusing the reader; however, Navy will attempt to add contaminants in other wells throughout the 3-D CSM figure. Alternatively, Navy may add a note to the figure detailing that, while receptors and contaminant transport and exposure routes are included, all contamination may not be presented due to practicability for this type of figure.

Comment 114

Figures 2-2 & 2-3: Please specify whether the samples posed a risk because they don't exceed promulgated unrestricted use standards or if the presence of the asphalt cover factored in assessing the potential human health risk. If the latter, the figure text is not accurate. There are PRGs for the area and ARARs apply. Include a Figure to show the extent of the Alternative S-2 LUCs.

Draft Response (April 2013): Figures 2-2 and 2-3 specifically indicate a PRG exceedance in a true/false nature. New figures showing GA Leachability Criteria exceedances will be added to the Draft Final FS (these new figures have been distributed already via email in response to an action item from April 3rd Project Team conference call). There is no cover component for the soil alternative(s). See Response to Comment 67 regarding the soil LUCs.

Comment 115

Figure 5-1: Is the groundwater in the South Waterfront Area potable and meets all federal drinking water, risk-based, and more stringent State groundwater standards?

Draft Response (April 2013): The Project Team determined groundwater in the South Waterfront Area did not need investigation. The CERCLA HHRA determined no unacceptable risk for any receptor from exposure to soil in the South Waterfront Area. There is no CERCLA response action planned for the South Waterfront Area. Further, note there are no GA Leachability Criteria exceedances in the South Waterfront Area. Also, see Response to Comment 33.

EPA Follow-Up Comment (June 2013)

See previous outstanding comments regarding the need to achieve ARARs throughout the OU for soil and groundwater once risk is identified anywhere in the OU. Also identify any additional areas of concern in the South Waterfront Area that may require investigation and possible remedial action based on the civil and criminal enforcement records provided.

Revised Response (September 2013): No information to date suggests groundwater in the South Waterfront Area is impacted by a CERCLA release(s) from On-Shore Dereecktor Shipyard. Therefore, the Project Team (Navy, EPA, and RIDEM) determined groundwater in this sub-area did not need investigation. The CERCLA HHRA determined no unacceptable risk for any receptor from exposure to soil in this sub-area. There are no GA Leachability Criteria exceedances in the South Waterfront Area. See Response to Comment 2 regarding site-wide issue. Review of enforcement records does not indicate any additional areas of concern in the South Waterfront Area (see Responses to Comments 11 and 33).

Comment 116

Appendix C-1: The cost table for Soil Alternative S-2 has mistakenly used a discount rate of 2.3% rather than 2.0% rate. The 2.0% rate is the current applicable rate and is the rate discussed in the FS. Please correct the costs using the 2.0% discount rate.

Draft Response (April 2013): The real discount rate for present value calculations will be revised in the Draft Final FS to the latest OMB Circular A-94 values for Calendar Year 2013 (e.g., currently 1.1 percent for 30-year treasury notes and bonds (http://www.whitehouse.gov/omb/circulars_a094/a94_appx-c)).