TETRA TECH

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Rhode Island Department of Environmental Management
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Reference: CLEAN Contract No. N62472-03-D-0057
Contract Task Order (CTO) No. 065

Subject: Summary of EPA Issues Discussion and Resolution
Response to RIDEM Evaluation of Response to Comments
Draft Revised Feasibility Study
Site 9, Old Fire Fighting Training Area (OFFTA)
Naval Station Newport, Rhode Island

Dear Mr. Lim, Mr. Kulpa:

On behalf of Ms. Winoma Johnson (NAVFAC MidLant), attached are the following:

1. Summary of EPA Issues Discussion and Resolution, Draft OFFTA Revised Feasibility Study (December 2007)
2. Navy Response to RIDEM Evaluation of Response to Comments on the Draft OFFTA Revised Feasibility Study (December 2007)

The OFFTA Revised FS report is currently being revised based on the Navy's response.

Should you have any questions or comments please feel free to contact me at 978-474-8412.

Very truly yours,

James R. Forrelli, PE
Senior Project Manager

Enclosures

c: W. Johnson, NAVFAC (w/encl. – 2)
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File G00632-3.2 (w/o encl.)/G00632-8.0 (w/encl. - 1)

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SUMMARY OF EPA ISSUES DISCUSSION AND RESOLUTION
DRAFT REVISED FEASIBLITY STUDY (DECEMBER 2007)
SITE 9, OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT, NEWPORT RHODE ISLAND

The following is a summary of the response to comment resolution discussions held to reach consensus on the Navy's response to comments by the US Environmental Protection Agency (EPA) on the Draft Revised Feasibility Study (FS) Report for Site 9, Old Fire Fighting Training Area (OFFTA) at NAVSTA Newport, Newport Rhode Island. The Draft OFFTA Revised FS Report comment response process is summarized below.

Draft OFFTA Revised FS Report Comment Response Timeline

Navy Draft OFFTA Revised FS Report	12/18/2007
EPA comments	4/15/2008
RIDEM comments	6/30/2008
Navy response to EPA and RIDEM comments	9/5/2008
RIDEM evaluation of Navy response to RIDEM comments	2/2/2009
Two EPA two emails: identifies issues based on response to specific comments	4/23/2009
EPA email: all USTs removed?	4/24/2009
Teleconference: petroleum, groundwater standards, and sediment issues	5/15/2009
EPA email: legal review of ARARs requested by RIDEM to be added to FS	6/5/2009
Teleconference: groundwater; soil alternatives; Navy RTC for EPA issue comments 192-247; Navy RTCs for RIDEM issue comments 17-32	7/28/2009
Navy response to EPA 4/24/2009 email: all USTs removed?	7/29/2009
Teleconference: Navy RTC for EPA issue comments 248-268f	8/12/2009
Teleconference: Navy RTCs for RIDEM issue comments 34-52	8/26/2009
Teleconference: Navy RTCs for RIDEM issue comments 53-68	8/27/2009
EPA email: EPA position RCRA	8/31/2009
PRM meeting: Navy position on RCRA	9/16/2009

Attachment A provides a summary of the discussion and resolution status for issues raised by EPA in two emails dated April 23, 2009, while Attachment B presets the Navy's position regarding basing FS groundwater preliminary remediation goals (PRGs) on drinking water maximum contaminant levels (MCLs).

ATTACHMENT A
SUMMARY OF EPA ISSUES DISCUSSION AND RESOLUTION
DRAFT REVISED FEASIBLITY STUDY (DECEMBER 2007)
SITE 9, OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT, NEWPORT RHODE ISLAND

Comment No.	Issue	Discussion	Resolution
SC6, 31, 37, 44, 61, 69, 76, 155, 159, 185	EPA states that Groundwater PRGs should be based on MCLs.	Navy does not agree that MCLs are applicable. Navy does however, understand EPA rationale. Navy agreed to check on whether groundwater is a viable groundwater source.	None reached. Navy disagrees that OFTTA Site FS groundwater PRGs should meet MCLs. See Attachment B.
SC 28, 32. 238	EPA indicates that the Federal health advisory for manganese must be met.	No discussions held on this issue.	Navy disagrees that Federal health advisory for manganese must be met. Meeting manganese Federal health advisory is not needed unless the site would be used for potable water supply.
SC 30	Should discussions of TPH be included in the FS?	EPA suggests that remediation of TPH can remain in the FS but it should not be included in the analysis of alternatives or in the development of PRGs (4/23/09)	Navy concurs with EPA, FS revisions will reflect this resolution.
SC36	Minor text revision to clarify source of contaminants in shellfish	No discussions held on this issue.	Navy agrees to make suggested change.
SC 51, 52	Minor text revision	General text defining chemical specific ARARs includes "discharge limits". EPA requests that these words be deleted from this definition because they are more likely to be action specific.	For general definitions, the existing language is acceptable as written. However, Navy agrees to make this change.
SC 55, 62, 72	Minor text revision to change AWQC to NRWQC	No discussions held on this issue.	Navy agrees to make suggested change.
SC62	Text is unclear about whether sediment contamination is site related.	EPA questions if sediment contaminants are site related, and if not, they should be removed from the FS as a media of concern Navy clarifies that PAHs found in sediment samples are more similar to PAHs in ambient sources than they are to PAHs on site. However, it is acknowledged that PAHs were released in this area in the past.	Agreed to keep sediments in the FS report, with the understanding that the PAHs recently present in the surface sediment are similar to ambient sources. This section will be clarified.

Comment No.	Issue	Discussion	Resolution
SC73	Minor text revision: cite TSCA as a regulation, not a guidance on page 2-16	No discussions held on this issue.	Navy agrees to make this change.
SC139	Permits for wetlands alteration under a CERCLA action	EPA states that permits are not needed for wetlands alteration under a CERCLA action	Navy concurs with discussion.
SC147	Comment stated that alternative 4 was not an effective or permanent remedy.	EPA notes that Alternative 4 (soil cover and LUCs) leaves soil in place that may be leaching contaminants. Navy notes that groundwater results do not indicate leaching. EPA notes that leaching standards do not need to be met in the saturated zone. EPA is concerned about leached contaminants getting to the sediment.	Soil in vadose zone does not exceed state GB leachability criteria. If soils leach slightly causing MCLs to be exceeded, that is part of the MCLs issue, not a leaching issue. If GW does not show contaminants are leaching, then the sediment would not be affected. This will be clarified in the revision.
SC157	Suggests natural attenuation needs to be evaluated	EPA states that limited action does not meet groundwater standards (MCLs) so it isn't protective and does not meet ARARs.	During the conf call 7/28/09, EPA stated the previous response is acceptable.
SC166, 182, 183	Text revisions regarding discharge of water to a POTW	No discussion, EPA requests their suggested revision be incorporated.	Navy agrees to make this change.
SC188, 192, 193, 194	Comments regarding the need for protectiveness from groundwater	Discussed 7/28/09. EPA states that clarifications suggested in the previous responses are acceptable.	Resolved 7/28/09 using original comment response.
SC212d, SC213, SC215, SC230, SC231	Requests ARARs to be added, clarifies RIDEM ARARs.	Navy agreed to add some but cautioned that some do not appear to be appropriate. EPA made the request again and clarified RIDEM ARARs in electronic mail 6/5/09.	The ARARs & interpretations cited in the electronic mail from R. Lim to P. Kulpa dated June 5, 2009 are acceptable. RIDEM has not disputed this interpretation.
SC214	Water pollution control regulations are ARARs	EPA clarified that water pollution control regulations are relevant and appropriate for sediment monitoring.	Navy agrees to make this change.

Comment No.	Issue	Discussion	Resolution
SC216	ARARs for Petroleum	There are no ARARs for petroleum because it is not within the jurisdiction of CERCLA	Navy agrees with EPA suggestion, this will be clarified.
SC217	Text revisions regarding impacts from the remedial actions.	Navy is concerned that language is too strong and prescriptive. Navy suggested footnoting portions of the ARARs tables showing that this is an EPA statement. EPA is uncertain why a footnote is needed	Navy agrees to make revisions as appropriate for the context of the document.
SC218, 225, 226	RCRA is a location specific ARAR (R&A) if waste is left in place.	EPA states that RCRA is relevant and appropriate if contamination is left in place above residential risk levels (email 8/31/09). Navy stated site is not a landfill (9/16/09) EPA suggested RCRA is relevant but not appropriate. Navy stated that they have land use control principals that include enforcement, inspection and reporting requirements for sites where waste is left in place.	RCRA is not a location specific ARAR. RCRA is an action-specific ARAR for alternatives that generate waste. LUCs would address contaminants present above residential criteria that remain after remedial action.
SC220	Text revision	EPA repeats the request.	Navy agrees on revision, with some clarifications.
SC227, 228, 233, 234	ARAR comments on POTW discharges as well as CAA and NESHAPs.	EPA considers these ARARs for the site. Repeats request 4/23/09. No discussion held.	Navy does not believe these are necessary, but will make revisions.
SC240 - 245, 247,	Various issues, all regarding ARARs	Discussed 7/28/09	Resolved at call 7/28/09 - refer to draft minutes from that call.
248 – 260a, 261 - 269a, 268f - 270a	These are all repeat comments from other issues above.	Discussed 8/12/09. Some comments rescinded, previous responses to others were found to be acceptable, and others were agreed to have clarifications added	Navy considers these resolved in accordance with discussions 8/12/09 and other issues listed above.

ATTACHMENT B
DISCUSSION ON APPLICABILITY OF MCLs
DRAFT REVISED FEASIBLITY STUDY
OLD FIRE FIGHTING TRAINING AREA (DECEMBER 2007)
NAVAL STATION NEWPORT, NEWPORT RHODE ISLAND

Reference EPA April 15, 2008 comments: SC6, 31, 37, 44, 61, 69, 76, and 159.

Theses comments on this Draft Revised FS Report reflect the EPA's position that groundwater PRGs should be set to MCLs, as Rhode Island doesn't have an approved CSGWPP.

During a discussion related to this topic held on June 24, 2009 regarding Site 08, NUSC Disposal Area Site, NAVSTA Newport , EPA stated that groundwater remediation at federal facilities will be required to return usable groundwater to beneficial use. EPA's position is based on the EPA memorandum with subject "Summary of Key Existing EPA CERCLA Policies for Groundwater Restoration" dated June 26, 2009 (OSWER Directive 9283.1-33OSWER Directive 9283-33).

The Navy disagrees that OFTTA Site FS groundwater PRGs should meet MCLs. PRGs should be risk-based considering current and future land use. It is not reasonable to anticipate that the groundwater underlying the site would be a future drinking-water source based on an evaluation of site-specific factors as discussed below.

Potential for groundwater supply development - Given that municipal drinking water supply systems are well established on Aquidneck Island it is unlikely that the groundwater at the Site would be ever developed in the future as a potable water source. Drinking water is supplied to Coasters Island by the City of Newport's Water Division. Newport Water draws its raw water supply from nine surface reservoirs and treats it at one of two water treatment facilities located on the island. Its distribution system services Newport, Middletown and a small section of Portsmouth.

Potential to contaminate another potable water source - The groundwater flow direction at the site is generally south to north, and discharges to Narragansett Bay, bounding the site on three sides. Therefore, there is no potable water source downgradient of the site.

Vulnerability of the groundwater to contamination – Overburden groundwater at the site is hydraulically connected to the ocean waters of Narragansett Bay, and those waters lie within a distance of between 0 and 600 feet from the extremities of the site. Saline conditions (salinity greater than 10,000 ppm) were noted in two wells under steady state conditions during 2004 sampling (MW-2S, and MW-10S) within 20 feet of the shoreline. Wells further inland did not show saline conditions under a steady state condition, but pump tests have not been conducted to determine the yield or production prior to salt water intrusion.

On the land side, groundwater is influenced only by the other developed portions of Coasters Island. Influence of bedrock water from other portions of Aquidneck Island into the overburden at the site is not evaluated. However, because the site is downgradient of other GB groundwater use areas occupied by metropolitan and industrial areas, and releases in those upgradient areas would not be held to MCLs, but to GB criteria. Therefore groundwater flowing into the site is susceptible to contamination from those upgradient properties. Aquifers susceptible to contamination generally should not be developed for potable water supply.

Historic use of groundwater - There is no known former use of the site as a groundwater source nor is it currently used as a groundwater source.

Jurisdictional control - The OFFTA site is located on Federal property under jurisdictional control of the Navy. As the caretaker of the property, the Navy exercises administrative control over the property use, including groundwater use and development, through its base master plan. The Navy controls the Site physically by security fences and patrols, and will monitor use restrictions through the five year review process under CERCLA. This jurisdictional control and monitoring of the property will adequately prevent future unauthorized use of the Site groundwater for drinking water purposes.

The groundwater under Coasters Island has been classified as GB by RIDEM. Groundwater classified as GB may not be suitable for drinking water without treatment because of known or presumed degradation. Even if MCLs were met, the State may not allow potable use of the groundwater due to this classification: Although Rhode Island does not have an approved CSGWPP in place, they still have regulatory authority over their own water supplies and under the current classification, RIDEM is unlikely to allow development of a drinking water source in this area.

Summary: The Navy understands the EPA's regulatory objective of return usable groundwaters to their beneficial uses wherever practicable. However, such use is not practicable at this site due to the factors cited above. Also, "the NCP requirement to meet MCLs" will not apply because the Site groundwater is not a current or potential source of drinking water, and therefore in accordance with guidance a risk-based approach for setting groundwater PRGs should be followed.

Navy Response to RIDEM Evaluation of Response to Comments on the Draft Revised Feasibility Study (December 2007)
Old Fire Fighting Training Area
Naval Station Newport
RIDEM Evaluation of Response to Comments Dated February 2, 2009

3. Section 2.1.4.1, Chemical Specific Applicable or Relevant and Appropriate Requirements. Page 2-3, Whole Section

Please note in the appropriate table that the following RIDEM Regulations are ARARs

State of Rhode Island Oil Pollution Control Regulations,
Addresses releases of oil to the waters of the State.

State of Rhode Island Underground Storage Tank Regulations 2007
Addresses both operation of, and releases from, underground storage tanks that held petroleum products and hazardous materials.

State of Rhode Island Above Ground Storage Tank Regulations
Addresses both operation of, and releases from, above ground storage tanks.

State of Rhode Island Solid Waste Regulations 2004
Addresses disposal of construction debris and solid waste and associated remediation/monitoring.

State of Rhode Island Groundwater Regulations 2005
Establishes numerical and narrative standards for the protection of groundwater and discharges to surface water, establishes technical requirements for the installation of groundwater monitoring wells

State of Rhode Island Rules and Regulations for Hazardous Materials Management 2007
Requirements for transportation and disposal of waste from the site (includes hazardous waste and special waste in the soil and/or sediments). Requirements for storage of hazardous waste adjacent to the bay. Requirements for waste left in place, landfill closure and monitoring

State of Rhode Island Underground Injection Control (UIC) Program 2004
Addresses the investigation, remediation of UICs.

State of Rhode Island Water Quality Regulations 2006
Addresses illicit releases from storm water discharges on the site

Response: RIDEM is requested to review the request with USEPA who also has requested revisions to the ARARs tables as shown in their comments. In particular, the remediation regulations are included but RIDEM Groundwater regulations would not be accepted by EPA as ARARs based on their comments. Because the regulatory agencies are at odds with these requests, the Navy is inclined to stand on the existing interpretations of these laws and regulations as described in the FS report.

RIDEM Evaluation of Response: The NCP, CERCLA and the FFA clearly allow for the State regulations to be incorporated as ARARs. In accordance with this regulatory requirement, the State regulations have been employed as ARARs in the other Feasibility Studies, Proposed Plans, Record of Decisions, Removal Actions, etc. at the various sites on the Navy base. In recognition of these regulatory requirements, and as agreed to under the FFA, please

incorporate the cited regulations in this and other sections as requested in this and other comments.

Navy Response to Evaluation: On June 5, 2009 the EPA's legal department provided a review of RIDEM's requested ARARs changes. The Navy will incorporate the ARARs changes into the FS based on EPA's legal interpretation of RIDEM's requested changes.

4. **Section 2.1.4.3, Action Specific Applicable or Relevant and Appropriate Requirements. Page 2-5, Whole Section**

Please note in the appropriate table that the following RIDEM Regulations are applicable

State of Rhode Island Water Quality Regulations 2006
Addresses dredging and construction of revetments in the marine environment. Regulates point and non-point discharges.

State of Rhode Island Rules and Regulations for Dredging and Management of Dredged Material 2003
Establishes requirements for dredging and handling/disposal of dredge spoils.

State of Rhode Island Underground Injection Control Program 2004
Addresses the operation of UICs.

Response: RIDEM is requested to review the request with USEPA who also has requested revisions to the ARARs tables as shown in their comments. In particular, the remediation regulations are included but RIDEM Groundwater regulations would not be accepted by EPA as ARARs based on their comments. Because the regulatory agencies are at odds with these requests, the Navy is inclined to stand on the existing interpretations of these laws and regulations as described in the FS report.

Evaluation of Response: See comment 4.

Navy Response to Evaluation: See Comment 3.

5. **Section 2.1.4.1, Chemical Specific Applicable or Relevant and Appropriate Requirements. Sediments, Page 2-4,**

The report notes that there are no federal standards regarding sediments at the site. The report should state that the RIDEM Site Remediation Regulations as amended 2004 are applicable to the sediments.

Response: The comment is noted. Further explanation from the reviewer is needed as to how RIDEM wishes these regulations applied. The FS provides for risk based calculation of cleanup goals, which is standard process under CERCLA, and allowed under RIDEM regulations.

RIDEM Evaluation of Response: The intent of the comment was simply to have the document note that RIDEM regulations are applicable to the sediments. In the response the Navy agrees that the Site Remediation Regulations are applicable. Accordingly please simply modify the report to state that that the Site Remediation Regulations are applicable.

Navy Response to Evaluation: The report will be modified to state that under Section 9.02, remedial objectives must be proposed for sediment that are consistent with uses of surface water and sediment in the impacted area, and consistent with policies & regulations of the RIDEM Division of Water Resources.

10. Section 2.6, Proposed PRGs, Page 2-18, Table 2-14

The primary contaminant at the site is TPH. The proposed PRGs in Table 14 do not include TPH in any of the media. As the limited number of VOCs and SVOCs tested at the site cannot be substituted for TPH, please modify the table to include TPH for soil, sediment and groundwater.

Response: EPA requests that TPH not be included because TPH is not addressed under CERCLA (refer to EPA Comment No. 30). The Navy has historically addressed TPH as an ancillary contaminant during removal actions conducted, and removed it as necessary. The remedial actions that are evaluated in the FS would address risk from TPH as well as the CERCLA contaminants. So in this manner TPH will be addressed, though it is not described in the document.

RIDEM Evaluation of Response: The Navy notes that historically they have conducted remedial investigations, and removal actions for TPH. At this site, however, the EPA has requested that TPH not be listed as a contaminant of concern as it is not a CERCLA waste. The source of release at this site is petroleum, the main contaminant of concern is petroleum and the other contaminants of concern are petroleum related. It does not make sense to conduct a remedial action at a site which does not directly address the source of the contamination and the primary contaminant of concern. Further, the State regulations require that the TPH criteria, as well as, the SVOC or other appropriate criteria be met. Accordingly, as required by the regulations, as stipulated in the FFA and as clearly applicable at a petroleum site, please modify the document to include the TPH criteria.

Navy Response to Evaluation: The Navy continues in its position that the remedial actions that are evaluated in the FS would address risk from the hazardous components of TPH as well as the CERCLA contaminants. So in this manner TPH will be addressed, though it is not described in the document as a COC.

11. Section 2.6, Proposed PRGs, Page 2-18, Table 2-15

The selected PRGs do not include RIDEM Remediation Regulations as amended in 2004 residential standards as actionable. Please be advised that assuming that the regulatory agencies accepted a remedial action which incorporated an environmental land use restriction being placed on the site the residential criteria are still actionable. That is, exceedance of residential criteria requires an action, specifically the placement of an ELUR. Therefore, please modify Table 2-15 to stipulate that the residential criteria are actionable. In addition, the table must include TPH as an actionable requirement.

Response: In regards to the residential use, it is agreed that an ELUR will be placed in NAVSTA Newport's Basewide Instruction for Land Use in order to prevent future residential use of the property. This language will be included in the document. Regarding TPH, please refer to the response to Comment 10 above.

Evaluation of Response: It appears that the Navy will include the requested statement that the RIDEM Remediation Regulations are actionable. Please confirm. In regards to petroleum issues please see Comment 10.

Navy Response to Evaluation: As indicated above the report will be modified to include a statement that an ELUR will be placed in NAVSTA Newport's Basewide Instruction for Land Use in order to prevent future residential use of the property. See response to Comment 10 concerning TPH.

12. Section 2.3.2, Groundwater, Page 2-20.

This section lists the proposed PRGs for groundwater. During the removal action free product was observed on the groundwater. Therefore the PRGs should include free product and TPH. In addition, as contamination was observed in areas where wells were not present the PRGs should be modified to include any analytes that were detected in the groundwater during the removal action.

Response: Please refer to the response to Comment 10 above. PRGs are comprehensive of contaminants detected and it is not appropriate to revise them unless new information is developed.

Evaluation of Response: In regards to TPH please see Comment 10. In regards to the nature and the extent of contamination the Navy has stated that it is not appropriate to modify the list of contaminants of concern unless new information is present. As the Navy is in agreement with the State's position, that is the list of COC may be modified if new information is present, please review the new information from the recent removal and modify the document as necessary.

Navy Response to Evaluation: Data from the removal action does not reflect any new information regarding the contaminants or their concentrations that would indicate a need for revision of the groundwater PRGs.

13. Section 2.3.3, Sediment, Page 2-21.

This section of the report should note that free product was observed in the sediment adjacent to the discharge pipes from the oil water separators. In addition, as TPH is the main contaminant of concern at the site, TPH should be included as a PRG for sediment. At other sites in lieu of a site specific PRG a value of 500 ppm has been employed.

Response: Please refer to the response to Comment 10 above.

Evaluation of Response: It appears that based upon EPA requests the Navy does not want the report to address the observed petroleum contamination in the sediments. As noted in Comment 10, petroleum is the main source of contamination at the site and is the main contaminant of concern; therefore it does make sense to address this release in the sediments. Please modify the report as originally requested.

Navy Response to Evaluation: Please refer to the response to Comment 10 above.

14. Section 2.3.3.1, Sediment COC for Ecological Risk, Page 2-21, 2nd Paragraph.

This section of the reports implies that the observed sediment contamination may not be site related. During the most recent removal action two discharge pipes from the oil water separators were found on the beach. The discharge pipes still contained an oily material; further, the sediments in the immediate vicinity of the discharge pipes emitted free product when disturbed. The report should also note that free product, which required the use of absorbent pads for removal was found in the soils adjacent to the beach and adjacent to the storm water out fall pipe. The report should note the above in this and other appropriate sections and at a minimum state that the contamination observed in the sediment is from site related sources and possibly off site sources.

Response: Regarding TPH, please refer to the response to Comment 10 above. Regarding sediment PAHs and TPH, the text is correct as presented.

Evaluation of Response: The Navy has stated that as petroleum is not a CERCLA contaminant of concern, observations made concerning the petroleum found in the sediments at the

discharge pipe from the oil water separators will not be included in document, nor will statements be made concerning the source of contamination in the sediments. This exemplifies the problem of the stance that non-CERCLA contamination will not be addressed in the document. In this case an obvious potential source of contamination, an oil water separator discharge pipe, with signs of petroleum contamination at the discharge point is not addressed in the report. Whether a contaminant is a CERCLA contaminant or non-CERCLA contaminant it must be discussed and addressed in the report.

Navy Response to Evaluation: The original comment above notes concern about the statement that the PAHs in sediment are not site related. The follow up comment cites concern about not including discussions about petroleum. Regarding the first comment, the text will be clarified that some of the PAH contamination detected in the sediments is likely a combination of site-related and non site-related sources. As evidence that the PAH contamination is at least partially site related, past discoveries of petroleum at the site will be stated. Regarding the follow-up comment, refer to the response to Comment 10 above.

15. Section 2.4.3, Remedial Action Objectives for Soil, Page 2-25

The report must state that the remedial objectives for the soil, independent of actions taken elsewhere for soil, will include the removal of all contaminated soil beneath, and in the immediate vicinity to the revetment. This is necessary as it will not be possible to remove these soils once the revetment is installed.

Response: The excavation of soil below the revetment would be an excavation of soil below the water table. As thoroughly discussed at the Tiger Team review in April 2006, the excavation of soil below the water table will not be conducted. This determination was made due to the lack of exposure, and because cleanup goals, whether they are risk based PRGs or RIDEM DECs, are not applicable to these deep soils. Only exceedances of UCLs would merit the removal of soil below the water table. Current information is that none exceed these values, now that the hot spot removal action has been completed.

Evaluation of Response: The Navy has cited the TIGER team's recommendations as reasons for not complying with the State's regulations. The TIGER team is not the regulatory agency overseeing the remedial investigation and remedial action at OFFTA. The TIGER Team is simply an internal Naval advisory committee and has no regulatory authority. The TIGER team did make recommendations for the OFFTA. The Navy is not bound by the TIGER team's position as it has elected not to implement certain recommendations. As an illustration, the TIGER team recommendation included removal of all subsurface structures, concrete, pipes, etc. This recommendation was not carried out. Therefore, please revise the document as requested.

Navy Response to Evaluation: The revetment design documents (Stone Revetment Replacement Design for Old Fire Fighting Training Area, Tetra Tech 2009) in Section 4.2.3 indicate that additional soil excavation may be required to remove TPH contaminated soil in addition to that required for the revetment construction. The action level for TPH has been set at 2500 mg/kg which corresponds to the Method 1 Industrial/Commercial TPH Direst Exposure Criterion specified in the RIDEM Remediation Regulations. It should be noted that this additional removal is not required under CERCLA, but the Navy is opting to conduct this additional effort because a permanent structure is being installed above these soils.

16. Section 2.4.1, Remedial Action Objections for Soil, Section 2.4.2, Remedial Action Objections for Groundwater, Section 2.4.2, Remedial Action Objections for Sediment, Page 2-25-27

Free product has been found in the various media at the site. Please include remediation of free product as a groundwater, soil and sediment objective.

Response: Please refer to the response to Comment 10 above. Free product is addressed in Appendix A of the report.

Evaluation of Response: See Comment 10

Navy Response to Evaluation: Please refer to the response to Comment 10 above. Free product at the site is addressed in Appendix A of the FS report.

17. Section 2.4.1, Remedial Action Objections for Soil, Section 2.4.2, Remedial Action Objections for Groundwater, Section 2.4.2, Remedial Action Objections for Sediment, Page 2-25-27

The remedial objective must include the removal of the discharge pipes from the oil water separator on the beach and on the land

Response: The drain collection and discharge piping to and from the oil water separators, as well as the separators themselves with associated soil and debris have all been removed as part of the hot spot removal action.

Evaluation of Response: The Navy has stated that as part of the "hot spot" removal action the discharge pipes from the oil water separators were removed. Based upon the Navy's response it appears that the agencies are in agreement in this issue with respect to the need to remove the pipes and associated contamination Please be advised that the pipes in question, which were corroded and compromised in a number of locations were plugged on the beach and near the oil water separator and that they were not removed. As such the document needs to be modified to include the removal of these pipes.

Navy Response to Evaluation: The revetment design drawings have been revised to indicate that remnant sections of discharge pipes found during the revetment construction will be removed and disposed of offsite (See Sheet C-2 note 2, Tetra Tech, 2009).

18. Section 2.4.1, Remedial Action Objections for Soil, Section 2.4.2, Remedial Action Objections for Groundwater, Page 2-25-27

The remedial objectives must include the removal of any underground storage tanks and associated piping.

Response: There are no known underground storage tanks present. Remaining piping that has been found has been evaluated and found to contain no oil within.

Evaluation of Response: All of the tank graves were not inspected, therefore, please includes a provision to inspect all tank graves. In regards to the piping, as noted in the original comments on the work plan inspecting one end of a pipe for the presence of oil will not allow one to ascertain if the pipe ever held oil or if a compromised occurred along the length of the pipe. Therefore, please modify the report as requested.

Navy Response to Evaluation: Based on available historical information along with observations made during investigations, removal actions, and construction activities no former UST are known to be present at the OFFTA Site. This conclusion is based on the following:

1. Historical drawings show seven USTs were formerly located on the former fire fighting training area facility at the time it was demolished in the mid 1970s (B&RE, 1998; TtNUS 2007).

2. The 1974 drawing for the former fire fighting school demolition requires that all structures within the contract limits be demolished. The seven former USTs were located within the

contract limits and therefore were most likely removed when the facility was demolished in the mid-1970s.

3. Test pits excavated at six of the seven former UST locations conducted during the 1997 Source Removal Evaluation (TtNUS, 1998) and 2008 Removal Action (TtNUS, 2008) did not uncover evidence of tanks systems remaining at those locations.

4. Two investigations conducted at the portion of the OFFTA Site south of Taylor Drive, have not uncovered any evidence of any former UST system(s) (TtNUS, 2001; TtNUS 2006). In addition, no discovery of remnant UST system(s) was reported during the construction activities for the SWOS Applied Instruction Building on this portion of the OFFTA Site.

All of the major components of the former fuel related infrastucture at the OFFTA Site have been removed, although fragments of fuel distribution systems that may contain residual oil staining may be present. It is believed that only small fragments of these utilities could possibly remaindue to the various removal activies which have occured at the OFFTA Site, and therefore, these possible fragments are not critical to site cleanup operations under CERCLA.

20. Section 2.4.2, Remedial Action Objections for Groundwater, Page 2-26. 4 th Paragraph

The report states that contaminants in the soil are not migrating to groundwater. Since the removal action was initiated this was found not to be the case as measurable free product was observed. Please remove this statement and note that contaminants at the site are being mobilized by groundwater.

Response: The ability to generate a free product through excavation of soil at the site is clearly described on page 1-12 and in appendix A. During the removal action, sheens were generated by breaking up the soil matrix in a similar fashion as has been found in the past. However, after pumping the standing water out of the excavation, the sheens did not return, further demonstrating that the petroleum is confined within the soil matrix. The text is therefore correct as written.

Evaluation of Response: The Navy has noted that after a period of pumping free product was no longer observed in the test pits given credence to the position that the free product was dislodged during the construction of the test pits. It is well known that when free product is removed from a well it may take hours, days, weeks or even months before free product returns to the well. Free product may also be observed during certain water table elevations and or seasons and not during others. Further, considering the proximity of the observed free product to the beach, the direction of groundwater flow, the fact that free product was found on the beach and the fact that a clay lenses or other barriers was not found in the area prohibiting groundwater flow, it does not make sense to state that contaminated groundwater on the site is not affecting the adjacent sediments. Therefore please address the comment as requested.

Navy Response to Evaluation: The report will be clarified that for the most part contaminants in the soil are not being mobilized to the groundwater, however, sheens of petroleum related contaminants have been observed when the soil matrix was disturbed.

21. Section 2.4.2, Remedial Action Objections for Groundwater, Page 2-26. 4 th Paragraph

The report notes that the RAO for groundwater were developed using Site Remediation requirements. Please be advised that RAO must also meet the requirements of the Groundwater Regulations (numerical standards such as MCLs as well as, narrative standards, non degradation, impacts to surface waters, etc) the Water Quality Regulations, the Underground Storage Tank Regulations and the Oil Pollution Control Regulations. Please include a statement indicating that the RAO must meet the above regulations.

Response: Please refer to the responses to other comments in this response summary.

Evaluation of Response: See comments dealing with applicability of State regulations.

Navy Response to Evaluation: Please refer to the response to Comment 3 above.

23. Section 2.4.3, Remedial Action Objectives for Sediments, Page 2-27

The report must state that the remedial objectives for the sediment, independent of actions taken elsewhere for the sediments, will include the removal of all contaminated sediments beneath and in the immediate vicinity to the revetment. This is necessary as it will not be possible to remove these sediments once the revetment is installed.

Response: Please refer to the response to Comment 15, above.

Evaluation of Response: See response to Comment # 15.

Navy Response to Evaluation: Please refer to the response to Comment 15, above.

24. Section 3.2.2.2, Limited Action, Land Use Control/Deed Restrictions, Page 3-6.

"However, anytime the Navy retains control of the property (in this case the Navel Station Newport Public Works Department) enforces any and use control necessary, an ELUR is not required and RIDEM has no jurisdiction."

Please be advised that the State of Rhode Island Site Remediation Regulations does not release or relinquish enforcement powers for land use restrictions to any entities whether they are private or public. All land use restrictions are enforceable and come under the jurisdiction of the Rhode Island Department of Environmental Management. Please remove the above sentence and any other similar citation throughout the report and clearly state that RIDEM has the authority to monitor and enforce land use restrictions.

Response: The land use instructions will be issued by NAVSTA, as discussed at previous RPM meetings. As these restrictions are developed the Navy and EPA will work with RIDEM on the detail. Annual inspections of sites where restrictions are provided will be conducted.

Evaluation of Response: The Navy has indicated that they will work with RIDEM and the EPA on the details of the ELURs. As such, it appears that the Navy is in agreement with the comment. Therefore, as part of the process of working on the details, please remove the above sentence and any other similar citation throughout the report and clearly state that RIDEM has the authority to monitor and enforce land use restrictions. Be advised that the Office of Waste Management cannot approve this or any other document, which states that this Office has no regulatory authority over any ELURs that are to be placed on a site as part of the remedial effort.

Navy Response to Evaluation: The Navy agrees that under the FFA the Navy must allow access to sites to monitor and enforce LUCs. The Navy will revise the text in question to reflect this position. The manner is which the LUCs are to be enforced will be addressed in the ROD.

26. Section 3.2.2.6, Treatment, Aerobic Biodegradation, Page 3-25.

The report has evaluated exsitu biodegradation using a process, which entails pumping the groundwater and then treating the groundwater in bioreactors. These bioreactor pump and treat processes are limited by a number of factors including the concentration of the contaminants in the groundwater. Further, it does not address contaminants, which may be in the unsaturated zone.

In lieu of exsitu biodegradation involving pump and treat please evaluate in situ biodegradation. This approach, which is commonly applied at petroleum-contaminated sites, includes a variety of processes, which range from simple injection of air and nutrients to bio venting.

Response: In situ treatment is screened in Table 3-3 and discussed in the text as required. No groundwater alternative will address the unsaturated zone, consideration of technologies for soils is presented on Table 3-1.

Evaluation of Response: The Office of Waste Management considered insitu treatment a viable alternative. It is recommended that the Navy further evaluate insitu treatment beyond that presented in the report.

Navy Response to Evaluation: This section of the report will be expanded to discuss in situ biodegradation processes such as bio venting, however, based on a review of this technology it is anticipated that in situ biological treatment of soil will be not be carried forward in the FS. Ex situ biodegradation was eliminated in Section 3.2.2 of the Revised FS report. The primary reasons cited in the report for eliminating the ex situ will be the same reasons to eliminating the in situ technologies. These reasons are discussed at the end of Section 3.2.2 on Page 3-25 of the draft Revised FS report. The key statements in this section are that aerobic degradation may be less effective for PAHs and residual, weathered petroleum in site soil, and that metals are not destroyed in the process, and high metals concentrations may be toxic to microorganisms.

The literature concerning in situ biological treatment of petroleum related products indicate that this treatment will more readily treat the lighter components (such as BTEX). In a report from the Air Force Center of Environmental Excellence (Bioventing Performance and Cost Results from Multiple Air Force Test Sites, AFCEE, 1996) it notes that BTEX fraction was removed preferentially compared to TPH. The report also notes that BTEX compounds are the most mobile and toxic components found in most fuels and are the focus of risk-based fuel remediation projects. It should be noted that BTEX compounds were not identified as COCs for OFFTA, possibly because these compounds have already degraded. The remaining petroleum components at OFFTA have been identified as weathered. Heavily weathered hydrocarbons are very difficult to degrade and have low toxicity as cited in Adams, et al, 2006. (Biodegradation and Detoxification of Soil Contaminated with Heavily Weathered Hydrocarbons, 13th International Environmental Petroleum Conference, 2006). This paper presents results of a study of the degradation of contaminated soil near the gulf of Mexico,. The conclusion of the study was that the very weathered hydrocarbons investigated in the study were essentially nonbiodegradable or only to a slight degree.

27. Section 3.2.2.6, Treatment, Aerobic Biodegradation, Page 3-25.

Please evaluate exsitu biodegradation of excavated soils. In this process contaminated soils are excavated and then treated by a variety of biodegradation process, such as windrows, phytoremediation, etc. The Navy contains significant land holdings at Tank Farm 5, which is ideally suited to these processes (if the land in Tank Farms-4 is not excessed they can also be used for this process).

Response: Biological remediation options for soil are presented on Tables 3-1 and 3-3.

Evaluation of Response: It does not appear that application of the exsitu techniques as noted in the above comment has been performed. Please evaluate exsitu techniques as noted in comment.

Navy Response to Evaluation: As discussed on August 26, 2009 in relation to Comment 35, Tank Farm 5 will not be considered for use as a location to remediate contaminated soil from OFFTA due to Navy policy to not use another site for treatment.

28. Section 3.2.2.6, Treatment, Aerobic Biodegradation, Page 3-25.

Please include an evaluation of phytoremediation, specifically the use of trees to treat petroleum and metal contamination in the saturated and unsaturated zone.

Response: Biological remediation options, including phytoremediation are presented on Tables 3-1 and 3-3.

Evaluation of Response: The report notes that phytoremediation is not retained due to depth of root system and needs to harvest and replant the phyto agents. Please be advised that phytoremediation is currently being performed using trees. Desired root system depth is obtain through normal and/or deep planting of trees, Harvesting, proper disposal and replanting are not warranted as the phyto agent is trees. Therefore, please modify the report to include retention of phytoremediation options.

Navy Response to Evaluation: Consideration of phytoremediation as a technology to reduce site contaminants has been proposed at OFFTA through the comment and response process on the FS. Site contaminants are primarily organics associated with hydrocarbons and metals of which lead is the most prevalent. The PAHs are the most prevalent organic compounds detected and they have been identified as COCs in the soil and sediment. Although not identified as a COC for OFFTA, TPH is considered an ancillary contaminant at OFFTA which will be addressed when the risk based COCs are also addressed.

Petroleum hydrocarbons are one of the main classifications of contaminant that have been researched with respect to the effectiveness of phytoremediation. Therefore much of the discussion of the effectiveness of phytoremediation at OFFTA is made with respect to petroleum hydrocarbons.

Based on a review of available literature and site-specific conditions, it is concluded that that successful application of phytoremediation for COCs at the OFFTA site presents several challenges which once considered in aggregate warrant the technology being screened out of the FS. These are discussed below:

Site Limitations
The OFFTA site is not ideally suited for phytoremediation since the anticipated future land use of the majority of the site will be a parking lot. The remaining portion that would be available to phytoremediation planting would be a relatively thin band of vegetation between the revetment and the proposed parking areas (buffer strip). This band of vegetation may be able to intercept some contaminants moving in the groundwater toward the shoreline but would not be effective for the majority of the site. Buffer strips might be limited to easily assimilated and metabolized compounds (EPA, 2001). Examples of these types of compounds include nutrients and soluble contaminates which are not the primary contaminants at OFFTA.

Based on observations of the previous vegetation at the site, it appears that the prevailing winds at the site stunted the growth of trees. Although antidotal, these observations would suggest that vigorous growth of trees for phytoremediation should not be expected at the site along the shoreline.

Phytoremediation Processes
Phytoremediation encompasses several different mechanisms including phytoextraction, phytovolitization, phytodegradation, rhizodegradation rhizofiltration, phytostabilization, and

hydraulic control. Given the proximity of the site to Coasters Harbor, hydraulic control via phytoremediation is not practicable because the harbor would provide a near infinite source of water at the edge of the site. Of the other mechanisms only Rhizodegradation and phytostabilization do not rely on uptake of the contaminant into the plant.

In general uptake of hydrocarbons into plants, although possible, is not expected in great quantities given the compounds' chemical properties, including high molecular weights, relatively low solubilities in water and hydrophobic nature (Hutchinson 2003 as cited in EPA 2006). Therefore, Rhizodegradation and Phytostabilization are the most likely phytoremediation mechanisms applicable to the organic contaminants at OFFTA. Phytostabilization takes advantage of the changes that the plant induces in the soil chemistry which may induce adsorption of the contaminant to the plant root or cause metals to precipitate onto plant roots. This mechanism has been successful for addressing metals in soils (EPA 2006). Rhizodegradation refers to the breakdown of contaminants in the rhizosphere. Weathered hydrocarbons appear to be more resistant to rhizodegradation, and the vegetation may have a phytostabilization effect instead of breaking down the contaminant. Similarly, larger PAHs continue to present a challenge in their recalcitrance, and more research will be required to develop effective phytoremediation techniques. (EPA, 2006). The hydrocarbons at OFFTA have been shown to be weathered and the PAH COCs are large therefore it does not appear likely that phytoremediation of TPH at OFFTA would be successful. With regard to phytoremediation of petroleum hydrocarbons, performance data available from fewer than half the sites found a significant difference between vegetated plots and unvegetated plots (EPA 2006).

Summary
The future land uses at OFFTA would limit the area for phytoremediation to a buffer strip between the planned parking lots and the proposed revetment. A buffer strip is unlikely to be effective in capturing the site contaminants. In addition, given the weathered nature of the petroleum contamination at OFFTA, phytoremediation of TPH contamination would be met with limited success. Phytostabilization of the petroleum and metals contamination may be possible but given the other site constraints, phytoremediation will not be considered further in the FS.

This information will be included in the revised FS report.

29. Section 3.4.4.2, Limited Action, Intuitional Controls, Page 3-48.

"The intertidal and subtidal areas are the property of the State of Rhode Island, so any actions to restrict access or activities must be coordinated with the State."

Please be advised that a responsible party is not able to place land use control on property that they do not own. Approval of the property owner must be obtained for the land use control. Therefore please modify the above as follows:

The intertidal and subtidal areas are the property of the State of Rhode Island, so any restrictions on the property must be approved by the State. Further, reporting requirements and/or actions to restrict access or activities must be approved by, and coordinated with, the State.

Response: This will require additional discussion at a later time. While the Navy does not disagree with the statements above, the restriction of access to a shoreline is generally the job of the upland land owner. In the strictest sense, the comment is correct that the State is the landowner of land under water, but therefore placement of the land use restriction would be the State's obligation, and it might not be the obligation of the Navy to provide one for the State's approval. Details on the ELUR can be addressed in the ROD stage.

Evaluation of Response: The Navy has noted that the above may be addressed in the Record of Decision (ROD). The function of the Feasibility Study is to evaluate different remedial alternatives including the feasibility that the alternative is applicable. A ROD is a document which presents the selected and approved remedial alternative. As such discussion concerning the applicability is ELUR is addressed in the Feasibility Study. Therefore please modify the report as noted above.

Navy Response to Evaluation: The Navy and RIDEM agree that land use controls must me imposed as part of this alternative and that the owner must approve the land use controls. During discussions between the Navy and RIDEM in July 2009 was agreed that RIDEM would verify that the State is the property owner for the intertidal and subtidal areas of state.

31. Section 4.2.4, Soil Alternative 4, Soil Covers and LUCs, Page 4-6.

Please be advised that at all locations a soil cap must meet the requirements set forth in the Site Remediation Regulations as amended in 2004 (minimum of two feet of clean soil, combination of soil and concrete/asphalt, etc). Please modify the report accordingly.

Response: The cap proposed includes geotextile and a two foot layer of soil materials. This conceptual design is intended to meet the RIDEM objectives. Please advise if there is a shortcoming.

Evaluation of Response: In regards to a soil cap there are yearly reporting requirements which must be factored into the cost analysis (a report must be submitted every year for regulatory approval documenting the condition of the cap and that it has not been compromised, etc.).

Navy Response to Evaluation: Annual inspections have been included in Appendix I Alternative 4 Operations and Maintenance cost assumptions. The body of the report will be clarified that inspections and maintenance of the soil cap are required elements of this alternative.

32. Section 4.2.4, Soil Alternative 4, Soil Covers and LUCs, Page 4-6.

A soil cap will not address leachability issues; therefore the report must evaluate a geomembrane cap at the site.

Response: Groundwater data collected does not indicate a leachability problem from soil at the site.

Evaluation of Response: Free product has been observed in the water table and contamination has been observed on the beach. State's leachability standards have been exceeded. Further, VOCs, SVOCs and metals have been detected at concentrations exceeding MCLs. Therefore, as leachability has been documented at the site please modify the report as requested.

Navy Response to Evaluation: the Navy does not believe that applicable leachability standards have been exceeded at OFFTA for the following reasons:

- The FS does not address leachability criteria for TPH as described in Comment 10.
- Leachabiltiy standards for soil apply to vadose zone soils only.
- GB Leachability standards are applicable to the site, based on state groundwater classifications
- GB Leachablity standards are appropriate for comparison if LUCs are included to restrict use of land to industrial/commercial.
- GB leachability standards are not exceeded at the site vadose zone soils (Table 2-17 of the FS report).

While there is some evidence that leaching is occurring or has occurred in the past due to the groundwater concentrations cited in the evaluation of the response, it is the Navy's position that the surficial aquifer at OFFTA is not and will not be a drinking water source in the future. RIDEM has classified this area as a GB aquifer. According To Rhode Island Groundwater Classification and Groundwater Standards, groundwater classified GB may not be suitable for drinking water use without treatment due to known or presumed degradation. Therefore any indication of possible leaching in excess of GA criteria is not applicable.

It is acknowledged that remedy must also be protective of leaching to groundwater to the surface water and sediments. The most recent round of sediment sampling has shown that the sediment concentrations are below PRG levels. These sample results show that leaching to the surface water and sediments are not occurring at a rate that is causing an unacceptable risk.

Given that the surficial aquifer at OFFTA is not a drinking water source and that the latest sediment sampling is not showing an unacceptable risk, the incorporation of a geomembrane cap in to the remedy is not warranted.

34. Section 4.2.4, Soil Alternative 4, Soil Covers and LUCs, Page 4-6.

The proposal to create a parking lot on the site will result in additional storm water discharge into the contaminated sediments and the eel grass bed. The report must include an evaluation of this impact.

Response: The comment is noted. Refer to the response to Comment 33 above. Because the parking lot is not a part of the remedial action, it does not need to be evaluated in this report. The CRMC determination for that project (separate from the remedial action for the site) will evaluate acceptability of the parking lot.

Evaluation of Response: The Navy has stated that the parking lot is not part of the remedial action and that it is only described as a point of interest. As such, the comment has been addressed and the Office of Waste Management will not consider the parking lot to be component of the remedial action.

Navy Response to Evaluation: The Navy concurs with RIDEM's evaluation of the response.

35. Section 4.4.2, Soil Alternative 2, Removal, Ex Situ Treatment, Backfill, Page 4-15.

Please evaluate solvent extraction and soil washing employing the treatment facility at Tank Farm # 5.

Response: The treatment facility at Tank Farm 5 is not available in the time frame of the expected project. Package (trailer mounted) treatment systems would be brought to the site if this technology is selected for remedial action.

Evaluation of Response: Please indicate why the treatment building at Tank Farm # 5 will not be available during the expected time frame for the project.

Navy Response to Evaluation: Based on discussion between RIDEM and the Navy on August 26, 2009, it was decided that the previous response is acceptable.

36. Section 4.4.2, Soil Alternative 2, Removal, ExSitu Treatment, Backfill, Page 4-15.

Please evaluate the use of Tank Farm # 5 or the other tanks farms for the biodegradation of the excavated soils, (windrows, phytoremediation, etc). This alternative should be evaluated using

processes that either entails backfilling with treated soils from the site, or backfilling with off site fill and use of the treated soils elsewhere on the base, such as the tank farms.

Response: The technologies cited are evaluated without regard for space required.

Evaluation of Response: A review of the document reveals that the Navy has not adequately evaluated the various phytoremediation technologies (see previous comments). Please modify the report as requested.

Navy Response to Evaluation: As discussed on August 26, 2009 in relation to Comment 35, Tank Farm 5 will not be considered for use as a location to remediate contaminated soil from OFFTA due to Navy policy to not use another site for treatment. With respect to the use of phytoremediation for OFFTA soil, please refer to the Navy's response to RIDEM's Evaluation of Comment 28.

37. Section 4.4.2, Soil Alternative 2, Removal, ExSitu Treatment, Backfill, Page 4-15.

Please evaluate. as a possible alternative, insitu phytoremediation of soils at the site.

Response: This technology is screened out on the last page of Table 3-1.

Evaluation of Response: See previous comments.

Navy Response to Evaluation: Please refer to the Navy's response to RIDEM's Evaluation of Comment 28.

38. Section 4.4.3, Soil Alternative 3, Removal, Disposal and LUC, Page 4-19.

For all removal options please evaluate, including cost, removal to 500 ppm, 1000 ppm and 2500 ppm TPH. At a number of sites removal actions are coupled with other remedial techniques. Therefore, please evaluate limited removal in conjunction with other remedial actions such as oxidation, biodegradation, phytoremediatiion, etc.

Response: Remedial technologies available are screened in Tables 3-1 and 3-3 accordingly. The text considers coupling technologies together if they are considered effective.

Evaluation of Response: Given the nature of the contamination at the site is common for Feasibility Study to evaluate combination of remedial techniques. As an illustration, a removal may be conducted to remove soils to a specific TPH criteria, 2500 ppm, 1000 ppm etc. This is followed by insitu biodegradation, oxidation, phytoremediation, etc. to remove the remaining concentrations. These combinations have been found to be more cost effective and effective then the individual remedial alternatives by themselves. The Feasibility Study has not evaluated removal actions in conjunction with other remedial techniques. Therefore, please modify the report as requested.

Navy Response to Evaluation: With respect to TPH contamination, please see response to Comment 10. With respect to phytoremediation please see the response to comment 28. With respect to biodegradation and oxidation please see the response to Comment 26.

39. Section 4.4.3, Soil Alternative 3, Removal, Disposal and LUC, Page 4-19.

As a cost saving measure, please evaluate disposal of contaminated soils in one of the tanks in Tank Farms 1-3.

Response: Landfilling contaminated soil from this site at another site has not been evaluated. If the State is serious about allowing such an action to take place, it should be posed to the EPA and discussed at another time.

Evaluation of Response: The Navy has stated they will comply with the States comment if the regulatory agencies would consider the proposals. In the past the Office of Waste Management has suggested that the Navy evaluate whether contaminated soil from the Melville North Landfill and/or the Derecktor Shipyard site could be disposed of at the McAllister Point Landfill. The EPA was receptive to this proposal and the Navy conducted this evaluation to fruition with the result that soils were placed at McAllister Point Landfill

Navy Response to Evaluation: As was discussed in the August 26, 2009 conference call the Navy has no interest in moving contaminated soil from one Site at the Naval Station to another on the station due to management concerns and the potential future uses of the properties.

40. Section 4.4.3, Soil Alternative 3, Removal, Disposal and LUC, Page 4-19.

As a cost saving measure, please evaluate use of the soil in a petroleum batching facility.

Response: This is essentially an immobilization technology. This is evaluated on Table 3-1.

Evaluation of Response: The Navy has stated that bringing the soils to an asphalt plant is essentially the same as an immobilization technology. In terms of implementation, time, and cost, transporting soils to an asphalt batching plant is not the same as immobilizing soils on site. Therefore, please evaluate sending the soils to an asphalt batching plant.

Navy Response to Evaluation: As was discussed in the August 26, 2009 conference call, The Navy does not feel that evaluation of using the contaminated soil is appropriate in the FS concerns were raised concerning testing and tracking of the soil once it has been left the Navy's control.

41. Section 4.4.3, Soil Alternative 3, Removal, Disposal and LUC, Page 4-19.

In regards to off site disposal, the report must evaluate the amount of soil, which can be sent to a landfill as daily cover in lieu of waste, as this would greatly reduce disposal costs.

Response: Soil Alternative 3 is costed to include disposal of most soil as non-hazardous, and though it is not explicitly stated, includes disposal as daily cover if available. The actual disposal would be conducted as inexpensively as possible. This will be clarified.

Evaluation of Response: The Navy has stated that deposal as daily cover will be clarified in the text. Please also modify the cost estimate to include this disposal option.

Navy Response to Evaluation: When the FS is revised, vendors will again be contacted to determine the prevailing rates of disposal of soil with contaminant levels similar to OFFTA soil. The ability to dispose of the soil as daily cover will depend on the timing of when the soil is available and if the landfill can handle and stockpile large volumes of daily cover.

A recent budgetary quote (for an unrelated project) only showed a $5 per ton difference between disposal of soil as daily cover versus disposal as non-hazardous soil. Given the uncertainty if the soil could be used as daily cover due to the timing of the project and the relatively small difference in cost, only one cost will be developed for the FS. A more detailed estimate of cost would be appropriate at the RD/RA stage of a project.

42. Section 4.4.3, Soil Alternative 3, Removal, Disposal and LUC, Page 4.19.

Old Fire Fighter Training Area is primarily contaminated with TPH, (certain areas also contain lead). The estimated volume of soil requiring removal at the Old Fire Fighter Training Area is approximately 62,000 cubic yards. The estimate cost for this option is approximately eighteen million dollars. Melville North Landfill contain metals, such as lead which exceeded TCLP, asbestos, PCBs, TPH, SVOCs, radioactive waste, etc. The approximate volume of contaminated soil, which required removal at the Melville North Landfill, was 100,000 cubic yards. The approximate cost to remove and dispose of this soil, including dredging of nearby sediments, was approximately eight million dollars. Both sites were similar in regards to proximity to water and depth of contamination. Please evaluate the cost estimates to ascertain the reason for the discrepancies in the cost of the projects.

Response: Comments on cost should be made given an understanding of the complications at the site, which are described in Appendix I. A large portion of the cost for excavation at this site is interruption and replacement of utilities in Taylor drive, and road and parking lot removal and replacement. Another portion is contingency, which allows for unforeseen circumstances encountered that may never come about. Please review Appendix I carefully. No revision is appropriate.

Evaluation of Response: In response to the State's concern with respect to cost the Navy has noted that a large portion of the cost estimate is the relocation of utilities and road and parking lot removal and replacement. In regards to the parking lot the Navy was aware of the contamination at this location before the installation of said lot. They elect to move forward with the construction of the parking lot at their own risk. The Navy elected to take this course of action despite the fact that adequate parking was available elsewhere in the immediate vicinity. As such, the Navy cannot factor the cost associated with the parking lot into the cost estimate. Please be advised that even if the cost for the parking lot/road is included the estimates are still too high). Therefore, please modify the cost estimate for the site.

Navy Response to Evaluation: As was discussed in the August 26, 2009 conference call, RIDEM had an independent consultant review the cost estimates for remediation for OFFTA. RIDEM indicated during that conference call that based on that evaluation they thought they cost should be significantly less. RIDEM agreed to provide this evaluation to the Navy. The Navy will review the evaluation and consider changes to the cost estimate when it receives their evaluation. In the meantime, the cost estimates will remain to support the document.

43. Section 4.4.4, Soil Alternative 4, Soil Cover and LUCs, Page 4.23.

Please modify the cost to include yearly inspection and reporting requirements for the ELURs, as well as yearly inspections by RIDEM. Also groundwater-monitoring costs must be biannual for a period of thirty years.

Response: Costs for ELUR will be considered and incorporated. Biannual monitoring is a matter for discussion under the LTM work plan after the ROD is completed.

Evaluation of Response: The Navy has indicated that annual groundwater monitoring is not included in the option as this is performed in the Long Term Monitoring Plan after the ROD is complete. The ROD lays out the remedial action to be implemented. The Long Term Monitoring Plan lays out the details of the monitoring program. The function of the Feasibility Study is to evaluate the various remedial alternatives including their cost. Long term monitoring is part of the remedial alternative and associated cost. Accordingly this option must include an estimate for the cost associated with groundwater monitoring and annual inspections

Navy Response to Evaluation: It should be noted that the monitoring frequency in the FS is only used to be able to compare various alternatives and is not really intended to be the

proposed sampling plan for the project. The sampling plan would be developed at a later date. The draft FS assumed that monitoring would be annual for 5 years and then once every 5 years there after for a period of 30 years. RIDEM has commented that long term monitoring of OFFTA must be Biannual for 30 years which matches in agreement with the RIDEM solid waste management regulations, however, the Navy disagrees that the solid waste landfill regulations are an ARAR for the OFFTA site because the site was never used as a landfill and only contains residual contaminated soil from past operations at this site.

44. Section 4.4.4, Soil Alternative 4, Soil Cover and LUCs, Page 4.23.

Please include an evaluation and the cost for the installation of a geomembrane cap over the site.

Response: Please refer to the response to comments 31 and 32.

Evaluation of Response: Please refer to evaluation for Comments 31 and 32.

Navy Response to Evaluation: As was discussed in the August 26, 2009 conference call, a geomembrane cap would not be highly effective because much of the contamination is already in the saturated zone the level of which is primarily controlled by the adjacent bay. Based on that conference call RIDEM indicated it would consider that rational for not including a geomembrane cap.

45. Section 4.4.4, Soil Alternative 4, Soil Cover and LUCs, Page 4.26.

A total O&M cost of $16,000 dollars for monitoring and maintaining a cap and a revetment over a thirty-year period appears low. Please review the cost estimates.

Response: O&M of the revetment is not included and will be added.

Evaluation of Response: The Navy has stated that they will include a maintenance cost for the revetment. Please also review and revise the cost for the cap and associated monitoring.

Navy Response to Evaluation: As was discussed in the August 26, 2009 conference call, the Navy explained that the $16,000 cost included in the FS was an annual cost that would occur every year over the 30 lifetime evaluated in the FS. RIDEM indicated that was acceptable.

47. Section 4.5, Comparative Analysis of Soil Alternatives, Overall Protection of Human Health and the Environment, Compliance with Applicable or Relevant and Appropriate Requirements, Page 4.27.

These sections of the report contain an typographical error in that it notes Alternative 4 will meet ARARs and provide overall protection of human health and the environment Please remove this statement and state that this alternative will not meet RIDEM Site Remediation Chemical Specific ARARs, (leaching) and accordingly not provide protection of human health and the environment

Response: Please refer to the response to Comment 31, above.

Evaluation of Response: Please refer to Evaluation for Comments 31 and 32 above.

Navy Response to Evaluation: Please refer to the response to the evaluation of Comment 32.

48. Section 5.2.2, Groundwater Alternative 2, Limited Action, Page 5-2.

The report assumes that groundwater monitoring would be annually for years 1-5 and then every five years for years 5-30. Please be advised that biannual monitoring would be required for a period of thirty years. Please revise the report accordingly.

Evaluation of Response: Please refer to Evaluation for Comment 43 above.

Navy Response to Evaluation: Please refer to the response to the evaluation of Comment 43.

50. Section 5.2.3, Groundwater Alternative 3, Extraction and ExSitu Treatment, Page 5-3.

Please evaluate use of the existing treatment building in Tank Farm # 5 for batch treatment of groundwater from the site. Also please consider use of this system for exsitu treatment of excavated soils.

Response: Tank Farm 5 is not expected to be available for treatment of water.

Evaluation of Response: The Navy has stated that Tank Farm 5 Treatment Facility is not expected to be available for this remedial effort. It appears that the aforementioned treatment facility has been dismantled. Please confirm.

Navy Response to Evaluation: The treatment building at Tank Farm 5 has been removed and is therefore not an option of exsitu treatment of contaminated soil.

51. Section 5.2.3, Groundwater Alternative 3, Extraction and ExSitu Treatment, Page 5-3.

Please evaluate the use of phytoremedaition for groundwater at the site.

Response: These technologies are evaluated in Table 3-3

Evaluation of Response: Please refer to evaluation of response to comments which deal with this issue.

Navy Response to Evaluation: Please refer to the response to the evaluation of Comment 28.

52. Section 5.2.3, Groundwater Alternative 3, Extraction and ExSitu Treatment, Page 5-3.

Please include an evaluation of both biological and chemical insitu treatment.

Response: These technologies are evaluated in Table 3-3

Evaluation of Response: Please refer to evaluation of response to comments which deal with this issue

Navy Response to Evaluation: Please refer to the response to the evaluation of Comment 26.

53. Section 5.5.2, Groundwater Alternative 2 Limited Action, Page 5-11, 3 rd Paragraph

This section of the report states that based upon a flushing model certain organic contaminants will be reduced in the groundwater. The report must also state whether this process will affect the metal contaminants found at the site. In addition, as the groundwater discharges to the bay the report must note that groundwater will continue to contaminate the adjacent sediments.

Response: The flushing model is presented in Appendix K. Removal of metals through flushing is anticipated to be 676 years.

Evaluation of Response: The Navy has stated that flushing of metals will take 670 years. Although not stated it is assumed that this will be noted in the above cited section of the report. Please confirm.

Navy Response to Evaluation: The time for the metals to be flushed from the site will be cited in the main body of the text of the FS.

54. Section 5.5.2, Groundwater Alternative 2 Limited Action, Page 5-15.

Please revise the cost table to state that groundwater monitoring will be biannually for a period of thirty years (solid waste is present at the site).

Response: The term for monitoring will be reviewed and revised as needed. Frequency should be determined at the LTM work plan stage, after the ROD.

Evaluation of Response: Please refer to evaluation of response to comments which deal with this issue.

Navy Response to Evaluation: Please refer to the response to the evaluation of Comment 43.

55. Section 5.6, Comparative Analysis of Groundwater Alternatives. Page 5-21.

The report should note that compared to active remediation, limited action would require increased sediment and groundwater monitoring as waste is left in place

Response: The need for monitoring will be reviewed and clarified if needed. However, the magnitude of the effort should be determined at the LTM work plan stage, after the ROD.

Evaluation of Response: Please refer to evaluation of response to comments which deal with this issue

Navy Response to Evaluation: Please refer to the response to the evaluation of Comment 43.

57. Section 6.2.2, Sediment Alternative 2, Limited Action, Page 6-3.

The report should stipulate that there would be a ban on the collection of both shellfish and lobster from both the intertidal and subtidal area.

Response: RIDEM has previously objected to institution of a shellfishing ban at NAVSTA. The Navy does not believe that for this site, a ban is needed based on the risks calculated for shellfish ingestion. Additional discussions are warranted on this subject.

Evaluation of Response: The Navy has noted that RIDEM has objected to bans with respect to shell fishing further, an unacceptable risk does not exist. Please be advised that an unacceptable risk does exist for the consumption of shellfish. Further, RIDEM would be in support of bans until remedial actions address contamination at the site.

Navy Response to Evaluation: The Navy maintains that based on the most recent sediment sampling at OFFTA, the sediment concentrations do not justify the need to impose a ban on shellfishing. Alternative 2 includes monitoring to assure continued protectiveness to this receptor.

58. Section 6.2.2, Sediment Alternative 2, Limited Action, Page 6-3.

The report should include a provision for the collection of tissue samples as part of the monitoring requirements

Response: Details of the monitoring program can be determined through the process to develop a work plan for LTM, and based on the language in the ROD. No revisions to the plan at this point are recommended.

Evaluation of Response: Please refer to evaluation of response to comments which deal with this issue

Navy Response to Evaluation: Details of the monitoring program can be determined through the process to develop a work plan for LTM, and based on the language in the ROD. A notation will be included in the FS that tissue sampling/monitoring may be required when the monitoring program is developed.

59. Section 6.2.2, Sediment Alternative 2, Limited Action, Page 6-4, Paragraph 1.

The report states that monitoring for ecological risk would continue, as a single round is not sufficient to demonstrate that the contaminants no longer pose a risk. Accordingly, in addition to the monitoring stations proposed for human health risk, areas, which previously exceeded ecological risk, must also be monitored.

Response: Details of the monitoring program can be determined through the process to develop a work plan for LTM, and based on the language in the ROD. No revisions to the plan at this point are recommended.

Evaluation of Response: Please refer to evaluation of response to comments which deal with this issue

Navy Response to Evaluation: As was discussed in the August 27, 2009 conference call the requested, level of detail is not usually included in the FS report but would be developed as part of the LTM plan.

60. Section 6.2.2, Sediment Alternative 2, Limited Action, Page 6-4, Paragraph 1.

Please be advised that both the intertidal and subtidal areas would have to under go monitoring under the Limited Action scenario. The report should be modified to include monitoring of both areas.

Response: Details of the monitoring program can be determined through the process to develop a work plan for LTM, and based on the language in the ROD. No revisions to the plan at this point are recommended.

Evaluation of Response:
Please refer to evaluation of response to comments which deal with this issue

Navy Response to Evaluation: As was discussed in the August 27, 2009 conference call the requested, level of detail is not usually included in the FS report but would be developed as part of the LTM plan.

62. Section 6.2.2, Sediment Alternative 2, Limited Action, Page 6-4, Paragraph 2.

The report notes that monitoring would be reduced from annually to once every five years if there were not a significant change in contaminant concentration. Monitoring is typically

reduced when there is a decreased in contaminant concentration. Therefore, please modify this section to state that monitoring will be reduced if there is a clear and consistent trend of decreasing concentrations of contaminants.

Response: The text is correct as written.

Evaluation of Response: The limited action is not designed to reduce contaminated concentration at the site. As such, it is unlikely that there will be a reduction in contaminate concentration which will warrant a reduction in monitoring. Therefore, remove the cited proposal to reduce monitoring in year five and simply note that monitoring results will be evaluated to see if a reduction is warranted. In regards to cost estimates, at a minimum, it should be based upon an assumption of annual monitoring for a period of thirty years. Finally be advised that the date will be evaluated to ascertain if seasonal effects are present. If the existing data is not sufficient to support this evaluation, then an initial year of quarterly monitoring may be necessary.

Navy Response to Evaluation: As was discussed in the August 26, 2009 conference call the text of they report will be changed to indicate that based on the results of the monitoring, the frequency of the monitoring will be evaluated for reduction at the five year review cycles.

63. Section 6.5.3, Sediment Alternative 3, Removal and Disposal , Page 6-15.

This section includes an estimate for the cost to dredge the site. The Navy plans to install a new revetment along the shoreline. As part of this installation process the Navy will be installing a Portadam. Dredging while this Portadam is installed will greatly reduce the cost of the dredging operation. Therefore, it is recommended that the location the Portadam be adjusted such that all of the areas, which need to be dredged, are enclosed in the Portadam (intertidal and if possible subtidal) the report must estimate the cost to dredge while the Portadam system is installed. Finally, as the Portadam will be installed for the installation of the revetment, the cost associated with the Portadam must not be included in the estimate cost to dredge.

Response: The projects may operate concurrently, and this would save money. However, it is due to lack of agreement on how to address sediment overall, it is unlikely that it can be arranged in that manner, and thus the costs are provided separately.

Evaluation of Response: The Navy has acknowledge that sediment removal conducted in conjunction with the installation of the Portadam when the revetment is being installed will saved money, however as both projects may not be done concurrently the cost estimate will be kept separate. As it is possible that both will be done concurrently and as this represents a substantial cost savings please modify the cost estimate to also include concurrent removal of sediments during the installation of the revetment.

Navy Response to Evaluation: As was discussed in the August 26, 2009 conference call it is very unlikely due to the availability of funding and lack of resolution of the selected remedy for OFFTA that the sediment remedy and the revetment construction could occur concurrently. Therefore separate cost estimates will not be provided.

64. Section 6.5.3, Sediment Alternative 3, Removal and Disposal, Page 6-15.

The report indicated that dredge spoils would be sent to a landfill. Please include a cost estimate for sending the spoils to the CAD cell.

Response: CAD Cell disposal is not anticipated to be available to the Navy for this material. Please refer to the response to comments to the Revised Draft Final FS for The Former Robert E. Derecktor Shipyard. Costs for CAD cell disposal are provided in that document if the RIDEM is truly interested in the subject.

Evaluation of Response: The Navy has stated that the CAD cell will not be available for this project. Please state why this is the case.

Navy Response to Evaluation: In a letter dated October 8, 2008, from the U.S.EPA to the U.S. Navy, the EPA stated that in order for the Providence Harbor CAD to be used for waste from a CERCLA site, it would have to be demonstrated that there is a long term monitoring program for the facility, similar to the requirements for land-based disposal facilities. Since no such O&M program is in place for this location, it would not be suitable.

65. Section 6.5.3, Sediment Alternative 3, Removal and Disposal , Page 6-15.

The report proposes dewatering on site. Similar to what was performed at McAllister Point Landfill, please include a cost estimate for dewatering using the system at Tank Farm # 5.

Response: Tank farm 5 is not anticipated to be available for the duration of this project. In addition, moving the material over the road to that location for staging and then re-handling would be cost prohibitive.

Evaluation of Response: The Navy has stated that transpiration of dredge material to Tank Farm 5 would be cost prohibitive. Considering the area available for dewatering, and the cost savings associated with long term gravity dewatering it is not clear why this would be cost prohibitive. In support of the Navy's postion it is assumed that the associated cost for both options has been calculated. Please submit said estimates in support of the Navy's position.

Navy Response to Evaluation: As discussed on August 26, 2009 in relation to Comment 35, Tank Farm #5 will not be considered for use as a location to remediate contaminated soil from OFFTA due to Navy policy to not use another site for treatment.

66. Section 6.5.3, Sediment Alternative 3, Removal and Disposal, Page 6-15.

The report proposes dewatering onsite. Similar to what was performed at the Melville North Landfill, please include a cost for dewatering using onsite infiltration ponds.

Response: The volume expected would not require infiltration ponds, but can be conducted on platforms or temporary containers at the site.

Evaluation of Response: The Navy has addressed the comment. Please be advises that with respect to onsite soils dewatering ponds similar to that employed at Melville North Landfill can be employed. Please revise the soil removal action to include onsite dewatering ponds.

Navy Response to Evaluation: As discussed on August 27, 2009 no change is response is required.

67. Section 6.5.3, Sediment Alternative 3, Removal and Disposal
Page 6-15.

The estimate cost to dredge 800 cubic yards is $1,043,325. This is approximately $1300 per cubic yard. Accounting for contingencies and factors inherent in Feasibility Study (plus/minus error range) this estimated cost still exceeds the cost for dredging performed by the military at other sites, such as Melville North Landfill, McAllister Point Landfill, Allen Harbor Landfill, etc. Please review the cost estimate.

Response: Dredging, backfill, transportation, and disposal costs (with dewatering and treatment of water) along with management costs, work plans, completion reports, review cycles needed, is actually $521,499. The present worth cost of $1,043,325 includes potential contingency costs

(unforeseen complications), as well as thirty years of monitoring sediment. The reviewer is directed at Appendix L for the breakdowns of cost items.

Evaluation of Response: The Navy has noted that the cost of $1300 per cubic yard includes contingencies and monitoring, (the actual cost is $531 per yard for dredging). This dredging cost is still high. Please review cost for dredging.

Navy Response to Evaluation: The costs for dredging and disposal of dredge spoil will be revisited to ensure that they are reasonable.

68. Tables 2-1-2-3, 4-3-6-12, ARARs.

Please add the following RIDEM Regulations as ARARs for soils, groundwater and sediments at the site.

Chemical Specific

Requirement: State of Rhode Island Oil Pollution Control Regulations
Citation: Chapters 46-12, 42-17.1 and 42.35 of the General Laws of Rhode Island
Status Applicable
Synopsis of Requirement Addresses releases of oil into the waters of the State.
Action to be Taken to Attain ARAR Remedial efforts will be designed to insure that releases to waters of the State have been addressed.

Requirement: State of Rhode Island Underground Storage Tank Regulations
Citation: Rules and Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials DEM-OWR-UST-08-07
Status Applicable
Synopsis of Requirement Addresses investigation and remediation of underground storage tanks.
Action to be Taken to Attain ARAR Remedial efforts will be designed to insure USTs and associated piping /structures are no longer present and releases from the USTs and associated structures comply with regulations.

Requirement: State of Rhode Island Solid Waste Regulations
Citation: Solid Waste Regulations Number 1 General Requirements DEM-OWR-SW-04-01 as amended 1997, 2001, and 2004
Solid Waste Regulations Number 2 Solid Waste Landfills, effective date 1997
Status Applicable
Synopsis of Requirement Addresses disposal of construction debris and solid waste and associated remediation and monitoring.
Action to be Taken to Attain ARAR Remedial efforts must comply with remedial and monitoring requirements of the regulations.

Requirement: State of Rhode Island Site Remediation Regulations
Citation: Rules and Regulations for Investigation and Remediation of Hazardous Materials Releases DEM-DSR-01-03, as amended 1996, 2004
Status Applicable
Synopsis of Requirement Addresses investigation and remediation of hazardous materials into the environment. Establishes standards for soil (direct contact and leachability), groundwater and sediments.
Action to be Taken to Attain ARAR Remedial efforts must comply with investigation, remediation and monitoring requirements of the regulations.

(Note the tables incorrectly state that the regs are for non-NPL sites. Please remove this statement from the table).

Requirement: State of Rhode Island Rules and Regulations for Hazardous Materials Management
Citation: Rules and Regulations for Hazardous Materials Management DEM-OWM-HW-01-07 as amended, 1984,1986,1987,,1988,1992,2001,2002,2005,2007
Status Relevant and Appropriate
Synopsis of Requirement Requirements for transportation and disposal of waste from the site (includes hazardous waste and special waste in the soil and/or sediments). Requirements for storage of hazardous waste adjacent to the bay. Requirements for waste left in place, landfill closure and monitoring
Action to be Taken to Attain ARAR Remedial efforts must comply with waste transportation and disposal requirements of the regulations. Remedial action must ensure that hazardous waste in the soil does not migrate into the environment. Requirements for waste left in place, landfill closure and monitoring

Requirement: State of Rhode Island General Permit for Strom Water Discharge from Small Municipal Separate Strom Sewers and Industrial Activities of Eligible Facilities Operated by Regulated Small MS4s RID040000
Citation: General Permit for Strom Water Discharge from Small Municipal Separate Strom Sewers and Industrial Activities of Eligible Facilities Operated by Regulated Small MS4s 2003
Status Relevant and Appropriate
Synopsis of Requirement Requirements operation of storm water discharges at the site.
Action to be Taken to Attain ARAR Remedial efforts must insure that there are no illicit discharges of contaminated groundwater into storm water at the site.

Requirement: State of Rhode Island Discharge Elimination Permit Industrial Activity RID050000
Citation: General Permit for Strom Water Discharge from Industrial Activities
Status Relevant and Appropriate
Synopsis of Requirement Requirements operation of storm water discharges at the site.
Action to be Taken to Attain ARAR Remedial efforts must insure that there are no illicit discharges of contaminated groundwater into storm water at the site.

Requirement: State of Rhode Island Discharge Elimination Permit Industrial Activity
Citation: General Permit for Strom Water Discharge from Industrial Activities RID050000
Status Relevant and Appropriate
Synopsis of Requirement Requirements operation of storm water discharges at the site.
Action to be Taken to Attain ARAR Remedial efforts must insure that there are no illicit discharges of contaminated groundwater into storm water at the site.

Requirement: State of Rhode Island Discharge Elimination Permit Storm Water Discharge Associated with Construction Activity
Citation: General Permit for Storm Water Discharge from construction activities. September 2003
Status Relevant and Appropriate
Synopsis of Requirement Requirements for storm water discharge during construction activities.
Action to be Taken to Attain ARAR As necessary, construction activities storm water discharge must meet these requirements.

Requirement: State of Rhode Island Water Quality Regulations

Citation: State of Rhode Island Water Quality Regulations, 2006 In accordance with Chapters 42-35,46-12, 42-17-1 of the Rhode Island General Laws
Status Applicable
Synopsis of Requirement Establishes numerical and narrative standards the remedial effort must obtain. Establishes requirements for any discharge from a treatment facility on the site
Action to be Taken to Attain ARAR Remedial efforts must meet the requirements of the regulations; any discharge from a treatment system must meet the requirements of the regulations.

Location Specific

Requirement: State of Rhode Island Water Quality Regulations
Citation: State of Rhode Island Water Quality Regulations 2006 In accordance with Chapters 42-35,46-12, 42-17-1 of the Rhode Island General Laws
Status Applicable
Synopsis of Requirement Addresses all activities on the coast, including, but not limited to dredging and construction of revetments.
Action to be Taken to Attain ARAR Remedial efforts with respect to dredging and revetment construction must comply with requirements of the regulations.

Requirement: State of Rhode Island Water Quality Regulations, Rules and Regulations for Groundwater Quality
Citation: Water Quality Regulations, Rules and Regulations for Groundwater Quality 2005
Status Applicable
Synopsis of Requirement Establishes numerical and narrative standards for groundwater quality, surface water impacts, as well as, technical requirements for monitoring wells.
Action to be Taken to Attain ARAR Remedial investigation, actions and monitoring must comply with requirements of the regulations

Requirement: State of Rhode Island Coastal Resources Management Council Regulations
Citation: Coastal Resources Management Council Regulations
Status Applicable
Synopsis of Requirement Applies to all actions taken in the coastal zone..
Action to be Taken to Attain ARAR CRMC approval is required for all actions taken in the coastal zone (includes land sediments and water).

Action Specific

Requirement: State of Rhode Island Rules and Regulations for Dredging and Management of Dredge Materials
Citation Rules and Regulations for Dredging and Management of Dredge Materials DEM-OWR-DR-02-03
Status Applicable
Synopsis of Requirement Addresses dredging activities and disposal of dredge spoils.
Action to be Taken to Attain ARAR Dredging must comply with the requirements of the regulations.

Requirement: State of Rhode Island Underground Injection Control Program
Citation State of Rhode Island Underground Injection Control Program 2004
Status Applicable

Synopsis of Requirement Addresses the investigation, remediation and operation of UICs.
Action to be Taken to Attain ARAR Any UICs at the site must be investigated and remediated in accordance with the requirements of the regulations. Any remedial activity involving operation of UICs must comply with the requirements of the regulations.

Requirement: State of Rhode Island Water Quality Regulations
Citation: : State of Rhode Island Water Quality Regulations 2006 In accordance with Chapters 42-35,46-12, 42-17-1 of the Rhode Island General Laws
Status Applicable
Synopsis of Requirement Deals with point discharges from any treatment system and non-point discharges from groundwater.
Action to be Taken to Attain ARAR Remedial efforts must comply with requirements of the regulations

Response: RIDEM and USEPA need to meet and resolve the ARARs that are applicable to the site. Appropriate revisions will be made when that effort is completed.

RIDEM Evaluation of Response: Comment has been addressed. Please be advised that the draft final version of this document cannot be submitted until these issues are resolved.

Navy Response to Evaluation: Please see response to Comment 3.

69. Tables 2-6, 2-7, 2-9, 2-10, 2-14, 2-15, 2-16. 2-19, 2-20

These tables contain PRGs for contaminants in the sediments, which are site related. As TPH is also a site related contaminant, and as a site specific PRG for TPH has not been developed, please employ a value of 500 ppm for TPH in the sediment.

Response: Please refer to the response to Comment 10 above.

Evaluation of Response: Comment has been addressed. Please be advised that the draft final version of this document cannot be submitted until these issues are resolved.

Navy Response to Evaluation: Please see the response to Comment 10.