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U S NAVY RESPONSES TO COMMENTS FROM REGULATORS ON DRAFT PROPOSED
REMEDIAL ACTION PLAN OPERABLE UNIT 4 (OU4) NSY PORTSMOUTH ME
2/13/2013
U S NAVY

**RESPONSES TO MEDEP COMMENTS DATED OCTOBER 27, 2012
DRAFT PROPOSED REMEDIAL ACTION PLAN FOR OPERABLE UNIT 4
PORTSMOUTH NAVAL SHIPYARD, KITTERY, MAINE**

General Comment:

The Maine Department of Environmental Protection (MEDEP) has completed its review of the subject document. MEDEP agrees with the Navy's recommendations of Alternatives MS01-03, MS0304-03, MS12A-04 and MS12B-03 to address contaminated sediment at OU4 and to provide long-term risk reduction. Each of these alternatives requires complete excavation of contaminated sediment with off-yard disposal. We also agree with the Navy's recommendations of No Further Action for MS-02, MS-05, MS-06, MS-07, MS-08, MS-09, MS-10, MS-11, MS-13 and MS-14. In addition, we have the following comments.

Response: Comment noted.

1. **Comment:** Human Health and Ecological Risks. Please add figures of conceptual models to the PP.

Response: The conceptual site model figure for OU4 that is provided in the Second Five-Year Review Report (Tetra Tech, May 2012) will be included in the proposed plan (in the Site Background section).

2. **Comment:** Because there will be no 5-year reviews or any monitoring following removal of contaminated sediment it is imperative that there be very high confidence in the delineation of extent of contamination. Likewise, confirmation sampling must be sufficient enough to have very high confidence that all IR-related contaminated sediment has been removed.

Response: Additional sampling, including confirmation sampling, for the selected remedies would be determined as part of the remedial action documents, which would be provided for review and comment to the regulators. The sampling would be conducted to make sure that contaminated sediment is removed such that the remedial action objective (RAO) and cleanup levels are met for MS-01, MS-03, MS-04, and MS-12. Text will be added to the description of the preferred alternatives to clarify that requirements for sampling would also be specified in the remedial action documents. Please see the specific text revisions for the preferred alternatives section provided after the Navy's responses to USEPA comments.

3. **Comment:** Site Characteristics, p. 5. "The offshore area of OU2 is rocky and there is not sufficient sediment to cause ecological risk. In addition, the Round 11 monitoring results showed that the COC concentrations have decreased to acceptable levels. Therefore, there is no longer an ecological risk at this monitoring station." At MS-11 Station 3 lead consistently exceeded its PRG in Rounds 1-7 and copper exceeded its PRG in Rounds 2, 3, 4 and 7. It is inappropriate to use the results of one round of sampling as evidence that no unacceptable ecological risk is present and should not be included as such. However, the statement that there is not sufficient sediment to cause ecological risk is true and is appropriate justification. In addition, the minimal amount of fine-grained sediments at MS11 further supports the conclusion of no unacceptable ecological risk, since contaminants are typically more closely associated with fine-grained sediments.

Response: The text will be revised based on MEDEP's comment to provide more clarity on the condition of sediments at the monitoring station and types/amounts of chemicals of concern (COCs) present. The text will be reworded to read as follows:

“For MS-11, copper, lead, and nickel are the COCs that resulted from past erosion of soil from the OU2 shoreline. The offshore area of OU2 is rocky and there is **a minimal amount of fine-grained sediment at MS-11; therefore, there is** not sufficient sediment to cause ecological risks. In addition, the Round 11 monitoring results showed that the COC concentrations have decreased to acceptable levels. Therefore, there is no longer an ecological risk at this monitoring station. **In the one location where a small amount of sediment was found, concentrations of copper, lead, and nickel exceeded ecological risk levels in two to six of the seven sampling rounds prior to installation of the shoreline erosion controls. Concentrations of the COCs were less than ecological risk levels in the one round of sampling at MS-11 conducted after placement of the shoreline erosion controls (Round 11).**”

4. **Comment:** Summary of Remedial Alternatives, p. 8. “Based on the results of the Round 11 Interim Offshore Monitoring Program sampling...no further action is required for MS-11.” Please remove the reference to Rd 11 results as justification for no further action at MS11 and use the small amount of sediment and the general lack of fine-grained sediment as supporting evidence instead. See Comment 3.

Response: Information regarding the characteristics of sediment and COC concentrations is provided in Site Characteristics and the text will be reworded as provided in the Navy’s response to MEDEP Comment No. 3. Because there were exceedances of proposed cleanup goals at the time the OU4 Feasibility Study (FS) Report was first drafted, the Navy included evaluation of alternatives (no action and monitoring) for MS-11, even though there was not sufficient sediment to cause ecological risks at MS-11. However, for summary of remedial alternatives in the proposed plan, the text will be reworded to focus on the lack of sediment to support no further action for MS-11. The text will be revised as follows:

“MS-11 does not have sufficient sediment to cause ecological risk; therefore, no further action is required for MS-11. Although there are no current exceedances of proposed cleanup levels at MS-11, when the OU4 FS was first drafted in 2010., concentrations of copper, lead, and nickel in sediment were greater than the proposed cleanup levels. However, based on the results of the Round 11 Interim Offshore Monitoring Program sampling for OU4, concentrations of copper, lead, and nickel were less than the proposed cleanup levels at MS-11. Therefore, no further action is required for MS-11.”

5. **Comment:** Nine Evaluation Criteria, p. 11. Short-Term Effectiveness does not address the technical and administrative feasibility of implementing and alternative. Please correct this statement.

Response: The text for the short-term effectiveness criteria will be revised to read as follows, consistent with text provided USEPA guidance on Proposed Plans. “Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.”

6. **Comment:** Preferred Alternatives, p. 16. The paragraph discussing the proposed alternative for MS-12A should be updated to indicate that physical removal of sediment within the tidal area of Building 178 probably will not be necessary due to its removal during renovation of the building.

Response: The Navy prefers not to include discussion of the Building 178 planned sediment removal as part of the Building 178 renovation project because the Shipyard project does not affect the Navy’s preference for sediment removal and there is uncertainty in the schedule for

the project. The Navy prefers removal of the sediment regardless of whether the removal is part of the IR program or the Shipyard project. However, the Navy acknowledges that documentation of achievement of the RAO and cleanup levels for the portion of MS-12A within the Shipyard project area would be required as part of the IR program. Therefore, the Navy believes that the Record of Decision (ROD) is the appropriate place any sediment removal that occurs prior to completion of the ROD.

**RESPONSES TO NATURAL RESOURCE TRUSTEE COMMENTS
DRAFT PROPOSED REMEDIAL ACTION PLAN FOR OPERABLE UNIT 4
PORTSMOUTH NAVAL SHIPYARD, KITTERY, MAINE**

NOAA Comment Dated October 11, 2012

1. **Comment:** I looked over the Proposed Plan for OU-4 and after 20 years of study (and some frustration) I finally see the light at the end of the tunnel. The proposed plan takes care of the issues that NOAA is most concerned about and therefore provide you my approval of the plan.

Response: Comment noted.

USFWS Comment Dated October 25, 2012

1. **Comment:** Thank you for the opportunity to provide brief technical comments on the PNS Proposed Plan for OU4. As noted by NOAA, the Navy proposes to remediate the sites that have been of highest ecological concern for many years and are most in need of cleanup. Comprehensive removal and off-yard disposal of contaminated sediment will achieve the most protective remedy possible. As stated, contaminated sediment will be delineated prior to removal. However, there is no mention of post-excavation confirmational sampling to verify complete removal of contamination. Since the Navy is proposing not to include LUCs, O&M, LTM or Five Year Reviews for all sites, it would be most conservative to verify full attainment of site-specific RGs at depth. We are assuming that post-excavation elevations will be retained without thin-layer capping but it would be beneficial to clarify this for each alternative. Additionally, site-specific RGs are not discussed in the PP and would provide a more comprehensive portrayal of remedial benefits for each area.

Response: Sampling would be conducted as part of the remedial action to make sure that contaminated sediment is removed such that the RAO and cleanup levels are met for MS-01, MS-03, MS-04, and MS-12. The Navy intends to remove contamination without the need for LUCs, O&M, LTM, or Five-Year Reviews. A sentence will be added to the description of the preferred alternatives to indicate that requirements for sampling would also be specified in the remedial action documents. The specific COCs for each station will be noted in the text for the preferred alternatives. The proposed cleanup levels are provided in Table 1 on page 9 of the proposed plan. A reference to Table 1 will be added to the text. In addition, the text will be revised to indicate that the Navy proposes removal of sediment to meet the cleanup levels so that there will be no need for LUCs, O&M, LTM, or Five-Year Reviews for OU4. The revised text is provided after the responses to USEPA comments.

2. **Comment:** We are interested in pre-removal sampling design and results, remedial design and post-excavation confirmational results, as these issues evolve.

Response: USFWS will be included on the distribution of draft remedial action documents submitted to the regulators as part of the OU4 remedial action and associated sampling results.

**RESPONSES TO USEPA COMMENTS DATED JANUARY 3, 2013
DRAFT PROPOSED REMEDIAL ACTION PLAN FOR OPERABLE UNIT 4
PORTSMOUTH NAVAL SHIPYARD, KITTERY, MAINE**

1. **Comment:** Pg. 7. “Risks from ingestion of seafood were found to exceed regulatory guidelines, but the risk assessment could not differentiate whether the chemicals that cause the risk were from PNS sources or from other sources within the lower Piscataqua River. That is because the concentration of chemicals detected in seafood in the lower Piscataqua River was found to be equal to or lower than other areas of the coastal waters of Maine...” This issue needs clarification. Please elaborate on the basis of the human health risk determination vis-à-vis fish data. Are levels in fish below background? EPA will need to review this data.

Response: The Navy agrees that the language needs to be clarified to indicate that the levels of COCs in fish are similar to or less than background levels. The following provides the text revised text under Human Health Risks for the Proposed Plan.

“Based on the results of the HHRA, risks for ingestion of sediment, dermal contact with sediment, and ingestion of surface water were less than regulatory guidelines. Based on studies within the Piscataqua River, concentrations of chemicals in seafood causing potentially unacceptable risks around PNS were generally similar to or less than concentrations in background samples or in other coastal waters of Maine. Although the potential risks for ingestion of seafood around PNS exceeded regulatory guidelines, the Agency for Toxic Substances and Disease Registry (ATSDR) Public Health Assessment (PHA) for PNS concluded that adults and children consuming fish or shellfish, or wading in the surface water and sediment are not likely to experience adverse health effects from the levels of chemical in those media. For these reasons, human health risks were found to be acceptable and human health was not considered in the FS. No monitoring station locations require remedial action based on human health risks.”

The data have been provided to USEPA as part of USEPA review of documents for Portsmouth Naval Shipyard environmental restoration sites. Specific documents that include the data are the May 1994 HHRA for Offshore Media (NIRIS N00102 Document No.000229) and October 1998 Phase I/II Offshore Data Comparative Analysis (NIRIS N00102 Document No. 000606). The data from these reports, along with data from other sources were evaluated in the ATSDR Public Health Assessment for Portsmouth Naval Shipyard (Final Public Health Assessment NSY Portsmouth, Agency for Toxic Substances and Disease Registry, November 2007, available on ATSDR website or NIRIS N00102 Document No. 002465). The Navy will provide EPA with a summary of these reports specifying which tables in these documents provide the information.

2. **Comment:** Pg. 8, *Remedial Action Objectives*. The RAO should be rewritten to read: “eliminate unacceptable risk to ecological benthic receptors exposed to COCs in sediment.”

Response: As discussed by the Navy and regulators, the wording of the RAO will be revised to read as follows: “Eliminate unacceptable risk to ecological benthic receptors exposed to site-related COCs in suitable sediment habitats.”

3. **Comment:** *Pg. 16, ¶ 4.* In describing the details of the proposed excavation alternatives, the text states that the alternatives “would include excavation of sediment at each monitored station to a depth defined for each area...” “Depth defined for each area” should be followed by “that leaves contaminants at levels at or below the cleanup levels.”

Response: The text for the Preferred Alternatives will be revised based on regulatory and Natural Resource Trustees’ comments on the draft Proposed Plan. The Navy proposes to add “to meet the RAO and cleanup levels” to the sentence as provided in the text revisions at the end of these responses to comments (see the first paragraph).

4. **Comment:** *Pg. 11.* In the section entitled “What are the nine evaluation Criteria” the text states that nine criteria are “CERCLA mandated.” It is more accurate to say that they are “NCP mandated.”

Response: The text will be revised to delete “CERCLA-mandated.”

5. **Comment:** *Pg. 1.* The text states that the proposed plan “has been prepared in accordance with federal law...” The proposed plan and related documents have examined only the laws covered by the FFA. The text should more correctly read: “has been prepared in accordance with the Federal Facility Agreement for the Portsmouth Naval Shipyard.”

Response: The Navy proposes to revise the text to be “in accordance with federal law and the Federal Facility Agreement for Portsmouth Naval Shipyard.”

6. **Comment:** *Pg. 2.* The text states that the operable unit was developed by reviewing past documents, investigation off shore media....” “Offshore media may be difficult for a layman to understand and might be changed to something that is simpler to understand.

Response: The text will be revised to as follows: “investigating offshore media (surface water, sediment, and biota)” to specify what media.

7. **Comment:** *Pg. 3.* The document states “The Navy and EPA ...could even select remedies different from that proposed in this Plan.” Please amend the sentence to read: “...after appropriate additional opportunity for public comment.”

Response: The text will be revised as requested.

8. **Comment:** *Pg. 5* The text states that “the monitoring program showed that concentrations of COCs...were less than levels that indicate an ecological risk.” EPA suggests replacing “less than” with “below.” This language also appears on page 7 and in several places in the document.

Response: Typically “less than” is used when discussing numerical relationships, whereas “below” is typically used when discussing positional relationships. Therefore, when discussion concentrations in relation to risk levels or cleanup levels, the Navy prefers to use the term “less than.”

TEXT REVISIONS FOR PREFERRED ALTERNATIVES SECTION

Based on the regulatory and Natural Resource Trustees' comments on the September 2012 Draft Proposed Plan for OU4, the following provides the proposed text revisions for the text on Page 16, Paragraphs 4 through 7 of the September 2012 Draft Proposed Plan, regarding the preferred alternatives for OU4.

***“The Navy proposes removal of contaminated sediment to reduce concentrations of COCs for MS-01 (PAHs), MS-03 (copper), MS-04 (copper and PAHs), MS-12A (lead and PAHs), MS-12B (lead) to cleanup levels (see Table 1 on Page 9) to meet the RAO. The Navy proposes to remove contamination such that LUCs, O&M, monitoring, inspection, and Five-Year Reviews would not be required as part of implementation of these remedies. The proposed MS-01, MS-03 and MS-04, MS-12A, and MS-12B alternatives (Figures 4, 5, 6, and 7) would include excavation of sediment at each monitoring station to a depth defined for each area to meet the RAO and cleanup levels, dewatering of excavated sediment, and disposal in an off-yard landfill. For MS-12A, the alternative would include excavation of offshore sediment (outside of Building 178) and within the intertidal area of Building 178 (see Figure 6). The remedial action documents would specify the requirements for dredging, dewatering, and disposal. Sampling would be conducted to make sure that contaminated sediment is removed such that the RAO and cleanup levels are met, and the remedial action documents would specify the requirements for sampling.*”**

Alternatives MS01-03, MS0304-03, and MS12B-03 are preferred over the other alternatives for these monitoring stations because they provide the Navy's preferred balance between long-term effectiveness for current and planned future industrial use of the site, implementability, and cost. Alternatives MS01-03, MS0304-03, and MS12B-03 would remove contaminated sediment at each respective monitoring station and prevent potential exposure to ecological receptors, rather than relying on natural attenuation to gradually decrease COC concentrations, as provided under Alternatives MS01-02, MS0304-02, and MS12B-02. The additional cost of Alternatives MS01-03, MS0304-03, and MS12B-03, as compared to the costs of MS01-02, MS0304-02, and MS12B-02, are warranted because of the significantly greater protection they provide in the long-term. It is anticipated that Alternatives MS01-03, MS0304-03, and MS12B-03 would achieve cleanup goals a year or more before the respective alternatives MS01-02, MS0304-02, and MS12B-02.

~~The proposed alternative for MS-12A (Figure 5) would include excavation of offshore sediment (outside of Building 178) to a depth defined for the areas, dewatering, and disposal in an off-yard landfill. Physical removal of sediment within the intertidal area of Building 178 would be included for MS-12A. The remedial action documents would specify the requirements for dredging, dewatering, and disposal.~~

Alternative MS12A-04 is preferred over the other alternatives because it provides the Navy's preferred balance between long-term effectiveness for current and planned uses of the monitoring station, implementability, and cost. Alternative MS12A-04 would remove contaminated sediment from the monitoring station and prevent potential exposure to ecological receptors, rather than relying on natural attenuation to gradually decrease COC concentrations. The removal of sediment would also prevent any future migration of contaminated sediment from the intertidal area inside Building 178 to the offshore area without the need for placement and long-term O&M of a containment barrier. Alternative MS-12A-02 would not include any direct removal of contamination, and would rely on natural processes to gradually decrease COC concentrations. It is anticipated that Alternatives MS12A-03 and MS12A-04 would achieve cleanup goals a year or more before **Alternative** ~~the alternatives~~ MS12A-02. Alternative

MS12A-04 requires a significantly greater cost than Alternative MS12A-02, and a slightly lesser cost than Alternative MS12A-03.

Overall, the Navy prefers excavation of contaminated sediment over the ~~Monitored Natural Recovery~~ **monitored natural recovery** alternatives because excavation will actively reduce concentrations in the offshore sediment to less than cleanup levels in a shorter time with greater confidence in achievement of the RAO. Onshore removal actions have been conducted to eliminate the source of contamination to the offshore from IRP sites and reduction in concentrations of COCs at the various monitoring stations has been observed over the course of the interim offshore monitoring program. However, residual concentrations of COCs in sediment in portions of these four monitoring stations remain at levels that are a potential ecological risk. Excavation of **contaminated** sediment **to meet** ~~with COC concentrations greater than~~ cleanup levels at MS-01, MS-03, MS-04, and MS-12, and no further action for MS-02, MS-05, MS-06, MS-07, MS-08, MS-09, MS-10, MS-11, MS-13, and MS-14 would result in no further risks associated with Site 5 and the OU4 AOCs, thereby resulting in unlimited use and unrestricted exposure for OU4 and removal of OU4 from the IRP. With the implementation of the final remedies for OU4, interim offshore monitoring will be discontinued.”