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LETTER AND U S NAVY RESPONSE TO U S EPA REGION I COMMENTS REGARDING
DRAFT STUDY AREA SITE EVALUATION FOR SITE 11 TANK FARM 3 NS NEWPORT RI
01/13/2011
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Project Number G02710

Mr. Robert Lim, Remedial Project Manager
U.S. EPA Region I
5 Post Office Square, Suite 100
Mailcode: OSRR07-3
Boston, Massachusetts 02109-3912

Reference: CLEAN Contract No. N62470-08-D-1001

Subject: Response to Comments on Draft SASE
IR Site 11, Tank Farm 3
Naval Station Newport, Rhode Island

Dear Mr. Lim:

On behalf of Mr. Roberto Pagtalunan, US Navy NAVFAC, I am providing to you the response to USEPAs September 29, 2010 comments on the Draft Study Area Site Evaluation (SASE) for the site referenced above.

If you have any questions, please do not hesitate to contact me at 978-474-8445.

Very truly yours,

Dabra I. Seiken, CG, PG
Project Manager

Enclosures

cc: R. Pagtalunan, NAVFAC (w/encl. -1)
G. Jablonski, RIDEM (w/encl. -1)
G. Glenn, TtNUS (w/o encl.)
P. Golonka, Ganett Fleming (w/encl. -2)
D. Moore, NAVSTA (w/encl. -1)
Site File (c/o G. Wagner TtNUS -1 CD)
File 112G02170 (8.0 w/encl.), 3.1 (w/o encl.)

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**NAVY RESPONSES TO U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
COMMENTS (DATED SEPTEMBER 29, 2010)
DRAFT STUDY AREA SCREENING EVALUATION (SASE) FOR TANK FARM 3
NAVAL STATION NEWPORT, RHODE ISLAND**

Navy responses to the EPA comments on the Draft SASE, Tank Farm 3, Naval Station Newport, Rhode Island (July, 2010) are presented below. The EPA comments are presented first (in italics) followed by Navy's responses.

GENERAL COMMENTS

1. *Please note that EPA uses 0-1 foot as surface soil to assess residential/commercial exposures while RIDEM considers surface soil to be 0-2 feet deep. EPA also defines subsurface soil to be from 1 foot to the water table or 10 feet depth. In the SASE, surface soil samples were collected from ground surface to less than or equal to 2 feet and subsurface soil samples were collected from 2 feet or greater, but not specified to the depth of water table or 10 feet. This is not consistent with EPA practice.*

Response: General Comment No. 3 is noted.

2. *Based on table 6-1, the Navy suggests close out for Category 1 Area. Another recommendation could be removal of the soil exceeding RIDEM criteria for TPH.*

Response: Comment noted. Also see response to General Comment No. 3.

3. *For AOC 001, the only area that falls within Category 1 for CERCLA regulation, however the only analytical data that are available are for petroleum hydrocarbons, measured as GRO and DRO. EPA considers this to be data gap and future sampling for CERCLA contaminants is required to provide the legal basis for a site decision. Moreover, it is not clear how big the AOC 001 is, but six surface soil samples and two subsurface soil samples appear to be insufficient to characterize and make decision on the area.*

Response: Other than the soil samples analyzed for TPH that the EPA mentions in this comment, there were soil samples analyzed for compounds other than TPH. Two soil borings were also advanced in the vicinity of AOC 1. In November 1997, soil boring GZ-301, located downgradient of AOC 1, was advanced. One soil sample was collected from the 0.2-2.2 ft bgs depth interval and was analyzed for TPH TVPH and VOCs. In March 1997, soil boring GZ-332, located up gradient of AOC1, was advanced. One soil sample was collected from the 5-6 foot sample interval and analyzed for TPH, VOCs, and PAHs. Analytical results indicated that all results were below RIDEM ICDEC. While work has been done to characterize AOC001 contamination, Navy agrees to collect additional soil samples for further characterization of this AOC.

4. *None of the figures shows all the AOCs as identified in the text. Either edit Figure 1-2 or add a new figure to provide a better understanding of their locations. All figures beginning at Figure 2-2 through 2-11 should be reviewed and corrected for consistency with the site plan and sample location plan (Figures 1-2 and 2-1). There are multiple discrepancies between Figures 2-2 through 2-11 and Figures 1-2 and 2-1. It is possible that drawing layers have been overlain incorrectly because the errors are related to orientation of features. The discrepancies are too numerous to detail; however, as an example, in Figure 2-2 GZ-301 is shown outside the fence, AOC 1 is shown east of the fuel line, GZ-303 is adjacent to AOC 1 in Figure 2-2 but not in Figures 1-2 and 2-1, and oil water separator #3 is not consistently located. Similar location consistency issues exist on the other figures noted.*

Response: There are site features for which coordinates are not available. Therefore, many of the site feature locations were approximated. An attempt to better reconcile the discrepancies is in progress, and updated figures will be provided in the draft final SASE report.

5. *This SASE does not contain any discussion of oil water separator #4 identified on Figures 1-2 and 2-1. Please provide a summary background for this separator and summarize any investigation associated with it to clarify why it has not been discussed and should not be considered for (further) investigation.*

Response: There is very little information available on this site feature. Many historical site maps do not show a structure labeled as OW #4, and there is some doubt as to whether this feature, as labeled, actually exists. A review of available reports shows that there is only one mention of OWS#4. In Section 6.6.2.3 of the Work Plan for Site Closure for Tank Farm 3 (TtFw, 2002) it states that, "oil/water separator #3 was disconnected and the piping re-routed to the new oil/water separator #4". No additional mention of this site feature was found during the file search; however, it does "appear" on some of the more recent site figures with no accompanying text description. Since there is very little information available, additional research and interviews will be made to try to obtain information about OWS#4.

6. *It appears that no samples have been collected and analyzed west of the dam where Lawton Brook discharges under Defense Highway and where contaminated water from the sand filter and oil water separator #3 discharged. If true, this is a data gap that needs to be corrected.*

Response: This is not considered a data gap because sampling and analysis of surface water and sediment in this area has been performed. These analyses were conducted in association with emergency responses, and are outlined below.

Surface water sampling was conducted in March 2004 when sheen was observed on the surface of Lawton Brook, near outfall #005. However, four surface water samples (LB-S1 through LB-S4) were collected from the area and analyzed for TPH DRO and GRO. Sample LB-S1 was taken on the downstream side of the culvert running under Defense Highway. Samples LB-S2 and LB-S3 were taken on the upstream side of the culvert. These two samples represent the collective runoff from Tank Farm 3 and Lawton Brook prior to entering the culvert. Sample LB-S4 was a sample of free phase product decanted from the sample collected near the boom where product had accumulated. Results indicated no detectable levels of hydrocarbons in the culvert nearest Tank Farm 3 (i.e., samples LB-S2 and LB-S3). TPH-DRO was detected at a concentration of 0.76 mg/kg in sample LB-S1, which was taken from the downstream side of Defense Highway. The product sampled in LB-S4 was fingerprinted and analysis indicates it was a kerosene range fuel with some gasoline range constituents. Neither kerosene nor gasoline was stored at the Site. In addition, a sheen or source of product was not identified at the Site. Finally, all of the USTs and piping had been closed several years prior. Due to these observations it was concluded that the source of sheen entering Lawton Brook near Defense Highway did not originate from Tank Farm 3.

The second time when this area was sampled was in 2008, as part of the Lawton Brook emergency response. An emergency response was undertaken due to the observation of sheen at Lawton Brook. The DESC completed petroleum-related investigation and response action for Outfall #005. This response was completed under the direction of RIDEM's Office of Emergency Response (OER). As documented in the Emergency Response Completion Report, a section of pipe chase starting at Outfall #005 and continuing 300 feet to the south (along the northbound lane of Burma Road) was removed. Response actions also included removal of soil from beneath the excavated chase as well as removal of rip rap and soil surrounding the ring drain at outfall #005. During excavation, soil was evaluated for petroleum contamination using a combination of visual/olfactory evidence and field screening/testing methodologies. A photo ionization detector (PID) was utilized to field screen for total organic vapor, and PetroFLAG field test kits were used to test for petroleum hydrocarbons. Excavation continued until observation

and field screening/ testing results indicated that clean material had been reached. Confirmatory soil samples were also collected from the base and sidewalls of the excavation. Any PetroFLAG result exceeding 500 mg/kg was evaluated in conjunction with field observations and jar headspace measurements. Where additional excavation was deemed necessary, samples were analyzed in the laboratory for TPH [GRO/DRO]. Once impacted media was excavated, the ring drain outfall area was reconstructed. Subsequently, there were no observances of product or sheen from the outfall. Results of samples collected in the vicinity of the Outfall #005 were below the 500 mg/kg cleanup criteria.

Also of note, during the emergency response action, a major release of aluminum sulfate (alum) sludge by the Portsmouth Water Department temporarily stopped the emergency response work at Lawton Brook and severely impacted the brook and its outlet to Narragansett Bay. The Portsmouth Water Department indicated that the activity that caused the release had occurred on numerous occasions (i.e., quarterly). As such, any future sediment or surface water sampling conducted in the brook may be impacted by these releases of alum sludge.

7. *There is no indication in this SASE that sediment in Lawton Brook has ever been sampled. Based on the presence of site-related contamination in the brook surface water, this represents a data gap that needs to be addressed before the site can be closed.*

Response: There is no site-related contamination in Lawton Brook surface water (see response to Specific Comment # 1). In addition sediment in Lawton Brook has been sampled. Therefore, there is no data gap. A history of sediment sampling and analysis is provided below.

RIDEM requested that sediment sampling be collected at the outfall as part of the addendum to the Tank Farm 3 Work Plan dated October 2007. Sediment sampling planning was discontinued due to the Lawton Brook emergency response activities conducted in 2008, and the alum sludge discharges (see response to General Comment #6) observed coming from the Lawton Valley reservoir.

However, to update the sampling data, Navy agrees to collect limited additional samples of sediment at Lawton Brook.

SPECIFIC COMMENTS

1. *Page 2-3, Section 2.1.2 - Although this section summarizes the information from a completed report, some of the information presented is not correct. The last sentence in the third full paragraph on the page states that chlorinated VOCs and TVPH were not attributed to operations at the site but to an offsite source. This statement needs to be recognized as incorrect because TVPH could certainly be attributed to site operations based on the presence of multiple GRO detections at the site.*

Response: The statement is not recognized as incorrect, for the following reasons. The TVPH detection in SW-2 was noted by the laboratory to be “a single compound not indicative of a volatile petroleum pattern”. The TVPH detection in SW-3 was not qualitatively identified because it was detected at a concentration below the method quantitation limit. However, it is reasonable to expect this low concentration of TVPH to be the same compound as the TVPH detection in SW-2. In addition, the surface water samples were analyzed for TPH which was not detected. The VOCs detected in surface water samples were all chlorinated. Chlorinated VOCs are not associated with the fuels stored at the site. The overall evidence is that there are no site-related contaminants in the surface water. The report will be expanded to include the information in this response to specific comment 1.

2. *Page 3-6, Section 3.4.1, 5th Para, Last Sentence – Beginning of sentence is incomplete. “Coastal sites such as ? exist...”*

Response: The sentence will be completed.

3. *Page 4-1, Section 4.1 - This section does not include a subsection for surface water. Site related contaminants (TVPH) were detected in site surface water; however, no follow up sampling was conducted to identify the specific chemical contaminants present. The absence of a state criterion for TVPH and chemical-specific analysis is not sufficient reason to omit surface water as a potentially-contaminated medium. Please add a subsection for surface water.*

Response: A surface water subsection will be added to the text.

4. *Page 4-4, Section 4.2.3 – Similar to our comments on the OFFTA Feasibility Study, EPA notes to the Navy that RIDEM’s groundwater classification system is not recognized by the EPA, therefore EPA’s SDWA MCLs should be used to evaluate groundwater data.*

Response: Section 4.2.3 will be updated to include EPA’s SDWA MCLs.

5. *Page 4-9, Section 4.3.3 - Please explain the statement in the last sentence regarding who regulates Category 3 areas. The list of contaminants identified in this paragraph contains all CERCLA contaminants unless associated with virgin petroleum, which PCBs are not. What is the basis for dismissing CERCLA authority for a PCB release?*

Response: As discussed in the November 17, 2010 Remedial Project Manager’s meeting, the EPA believes the investigation of this PCB release should be performed under CERCLA authority. Navy agrees to perform this work under CERCLA authority.

6. *Page 4-9, Section 4.3.3 - Given the limited extent of the sampling at AOC 20 and the concentrations detected, it is apparent that the magnitude and extent of PCB contaminated soil has not been defined. Further sampling will be required to better characterize the area.*

Response: Navy agrees to perform more soil sampling in order to further characterize the extent of PCB contamination.

7. *Page 5-9, Section 5.2.1 - While it is acknowledged, as stated in this section, that SVOCs readily adsorb to soils and have a low leaching potential, it should also be noted that most of the carcinogenic PAHs have a very low risk-based soil screening concentration. For example, the ORNL risk-based SSL for benzo(a)pyrene is only 3.5 micrograms per kilogram which is much lower than the reporting limit for the analyses performed for this site. Also, the MCL of 0.2 micrograms per liter is much lower than the groundwater reporting limit for the analyses performed for this site.*

Response: Specific Comment No. 7 is noted.

8. *Page 5-10, Section 5.2.2 - It is also acknowledged, as stated here, that PCBs are nearly insoluble in water and strongly sorb to soil. However, it should be noted that the ORNL SSLs for Aroclors are also very low (5 to 10 µg/Kg) as is the MCL for total Aroclors (0.5 µg/L). The soil Aroclor concentrations far exceed the SSLs and little to no sampling of groundwater for PCBs has been conducted at this site. So while PCBs are relatively immobile, no data has been collected to demonstrate that they haven't migrated from soil to groundwater.*

Response: It is acknowledged that drinking water standards and risk-based screening values for PCBs are low. Please note that groundwater sampling for PCBs has been conducted in AOC 20. In January 1995, one groundwater sample was collected from monitoring well GZ-314, located in the vicinity of AOC 20, and submitted to an analytical laboratory for PCB analysis. PCBs were not detected in groundwater. This data indicates that PCBs have not migrated from soil to groundwater. The groundwater data verifies the conceptual site model that indicates that there is a very low likelihood for PCBs to migrate from soil to groundwater. This section will be updated to add details regarding PCB analytical results in groundwater.

9. *Page 5-11, Section 5.4, 2nd Para – Please provide further basis for the attribution of chlorinated VOCs to a nearby industrial site.*

Response: Lawton Brook is bounded on the west by an industrial facility. The chlorinated VOCs detected in Lawton Brook are commonly used solvents in industrial settings. Chlorinated VOCs were not used or stored on Tank Farm 3. Chlorinated VOCs were not detected in site groundwater, soil or sediment. Clearly, the chlorinated VOCs detected in surface water did not come from Tank Farm 3. Therefore, there must have been an off-site release that impacted Lawton Brook.

10. *Page 6-3, Section 6.2.1 - Other primary sources not listed include the two oil water separators (#3 and #4) and associated BSW lines and the waste oil storage tank associated with the oil water separator.*

Response: The text will be amended to list these as possible sources.

11. *Page 6-4, Section 6.2.2 - Please supplement the first paragraph on this page to acknowledge that only limited sampling around the sand filter was conducted and only for DRO GRO parameters and no confirmation samples were collected following the removal of contaminated soil.*

Response: The text will be updated to describe the sampling and analysis completed in this area or to refer to a section that describes the sampling and analysis.

12. *Page 6-4, Section 6.2.3 - Please edit the first sentence in the third paragraph in this section to read; "Although LNAPL has not recently been detected at the site,"*

Response: The text will be updated as suggested.

13. *Page 6-8, Section 6.3 - a) Please correct the second sentence on this page to state that the*

former burn pit previously contained soil with elevated concentrations of TPH. Presumably it no longer does.

Response: The text will be corrected.

b) The contention in the discussion of the Category 1 Area that any remaining contaminated soil is about 13 feet below ground surface is not correct and needs to be edited. Most of the contaminated soil previously detected was found two feet below the top of the burn pit which is now apparently six feet below current grade. However, only limited sampling and analysis was performed so contaminated soil potentially exists anywhere along the unexcavated soil along the top of the burn pit. Further, the broken inlet pipe may not be an anomaly and other damaged pipes may also have released contamination at the burial depth of the pipes.

Response: Navy agrees to conduct additional soil sampling to better define the extent of contamination at AOC 001. Also, see response to General Comment No. 3.

The depth of the areas of known contamination remaining on site has not been clearly documented. Depending on the sources used, fill material present over the burn pit measured anywhere from 5 to 10 feet thick, and it is assumed that the excavation was brought back to the pre-existing grade after remedial activities were completed. The depth of the samples collected from the contaminated zones was either 2.0 feet (TF-001-S1-2.0) or 2.5 feet (TF3-001-S3-2.5) below the top of the pit walls. Therefore, the zone of known contamination could exist anywhere between 7 and 12 feet below ground surface. The text will be edited to reflect this uncertainty.

c) EPA does not concur that AOC 1 should be closed out given the limited amount of sampling and analysis that has been conducted at this AOC. Without additional soil sampling to confirm the absence of a source area for CERCLA contaminants, and investigation of the discharge piping and sampling of the soil beneath the discharge piping at any damaged locations identified, a comprehensive groundwater sampling program and LUCs would be required for both the burn pit and the discharge piping, assuming the discharge piping is on Navy property.

Response: Additional soil sampling and analysis will be performed. Also, see response to General Comment No. 3.

14. Page 6-9, Section 6.3 - a) *What is the basis for disregarding CERCLA authority for a PCB release?*

Response: As per EPA's request, additional investigation / remediation will be performed under CERCLA authority. Also, see response to Specific Comment No. 5.

b) The magnitude and extent of PCB contamination has not been defined for AOC 20 so EPA does not concur that this AOC can be closed out with the available data.

Response: Additional soil sampling will be performed. Also, see response to Specific Comment No. 6.

15. Figure 2-1 - Please clarify why AOC 20 is shown north of the electrical transformers (shaded area) when the samples containing PCBs were located immediately adjacent to the transformers.

Response: The figure will be updated. Also, see the response to General Comment #4.

16. Figure 2-4 - This figure is intended to show details of sampling locations for Tank 34 but it also shows AOC 20. However, this is the only depiction of AOC 20 presented in Figures 2-2 through 2-11; there is no detail figure for it. Please add another figure detailing the sampling locations for AOC 20 relative to the transformers.

Response: The requested figure will be added.

17. *Figure 2-9 - According to the field notes and photos in Appendix A, the inlet to the sand filter was on the south end where sample TF3-001-S3-2.5 was collected; therefore, the sand filter is oriented incorrectly in this figure. Please correct that.*

Response: The figure will be updated. Also, see response to General Comment #4.