



DEPARTMENT OF THE NAVY

CRANE DIVISION
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N00164.AR.000825

NSWC CRANE

5090.3a

9-12-2003

IN REPLY REFER TO:

5090/S4.7.1

Ser 095/3315

U.S. Environmental Protection Agency, Region V
Waste, Pesticides, & Toxics Division
Waste Management Branch
Illinois, Indiana, and Michigan Section
ATTN: Mr. Peter Ramanauskas (DW-8J)
77 West Jackson Blvd.
Chicago, IL 60604

Dear Mr. Ramanauskas:

Crane Division, Naval Surface Warfare Center (NSWC Crane) submits the Final RCRA Facility Investigation (RFI) Report response to comments (RTC) and change pages for Solid Waste Management Units (SWMUs) 4 (McComish Gorge), 5 (Old Burn Pit), 9 (Pesticide Control Area-R150 Tank), and 10 (Rockeye). Two copies are presented in enclosure (1). The permit required Certification Statement is provided as enclosure (2).

NSWC Crane point of contact is Mr. Thomas J. Brent, Code 09510, telephone 812-854-6160.

Sincerely,

JAMES M. HUNSICKER
Director, Environmental
Protection Department
By direction of the Commander

Encl:

- (1) SWMUs 4, 5, 9, & 10 Final RFI Report RTC & Change Pages
- (2) Certification Statement

Copy to:

ADMINISTRATIVE RECORD
SOUTHNAVFACENCOM (Code ES32) (w/o encl)
IDEM (Doug Griffin)
TTNUS (Ralph Basinski) (w/o encl)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

James R. Henrich
SIGNATURE

Environmental Protection Department Manager
TITLE

9/12/03
DATE

5090
Ser 095/3315

12 Sept 2003

The letter Ser 095/3315 was for the
submittal of the response to comments and
updated pages for the Final RFI (Risk
Assessment) Report MCG, OBP, PCA, & RKI.
The pages have been incorporated into the
previously submitted Final Report dated
5/29/02.

SWMUs 4, 5, 9, & 10 RFI Report RTC & Change Pages

Table 1: RFI Report change Page Instructions for SWMUs 4, 5, 9, & 10

Attachment 1: Response to Comments for SWMUs 4, 5, 9, & 10 dated July 16, 2003

Attachment 2: Sections 4.0, 5.0, 6.0, and 7.0 change pages for the RFI Report for SWMUs 4, 5, 9, & 10 dated September 2003

Attachment 3: Revised Tables for the RFI Report for SWMUs 4, 5, 9, & 10 dated September 2003

ATTACHMENT 1

Response to Comments for SWMUs 4,5,9, and 10
July 16, 2003

**RESPONSES TO U.S. EPA REGION 5 COMMENTS (JULY 16, 2003)
ON
NAVY RESPONSES (April 3, 2003) TO U.S. EPA REGION 5 COMMENTS (September 3, 2002
and February 14, 2003)
ON
DRAFT RFI REPORT (May 2002)
FOR
NSWC CRANE SWMUs 4 (McCOMISH GORGE), 5 (OLD BURN PIT), 9 (PESTICIDE
CONTROL/R-150 TANK AREA), AND 10 (ROCKEYE)**

GENERAL COMMENTS

1. Upon review of the Navy's response to human health risk assessment comments for the SWMU 4, 5, 9, 10 RFI, Mario has one remaining issue. It has to do with the reply to General Comment 1.

The original EPA comment is virtually identical to comments on the other recently submitted RFI reports (e.g., OJT/LSC HHRA SC-3) yet the Navy's response for the SWMU 4, 5, 9, 10 RFI is different than the responses submitted for the other reports. We request that the SWMU 4, 5, 9, 10 report be revised as was done for the other RFI reports (e.g. OJT/LSC Response to Comment HHRA SC-3: A qualitative discussion, which identifies constituents that exceed risk-based screening levels but were eliminated from the risk assessment based on comparison to site-specific levels, has been added to the RFI report as Section 7.5.3.)

Response to General Comment 1:

Because of some uncertainty regarding General Comment 1, TtNUS contacted EPA for further clarification in July 2003, and received the following response from Mr. Peter Ramanauskas:

"Gentlemen,

We've looked over the changed text in response to GC-1 discussed below. As noted earlier, there appears to have been some confusion caused by the text in the response to comments themselves. The changes made to the RFI text is acceptable; however, we would recommend some changes to the tables. In Section 6.6.3.2. for example, insert a column containing NSWC basewide background concentrations and remove the "PRG" from the "Literature Background" column. This would help show that Crane basewide background is indeed similar to values found in the literature.

*Thanks!
Pete"*

As indicated in the response from Mr. Ramanauskas, the RFI Report was revised as was done with the OJT/LSC RFI Report and the revised discussions and additional tables for SWMUs 4, 5, 9, and 10 were completed according to U.S. EPA comments. Therefore, no additional revisions were made to this RFI Report based on General Comment 1.

In regard to the additional comments contained in Mr. Ramanauskas' response, the "PRG" has been removed from the "Literature Background" column in the tables in Sections 5.6.3.3, 6.6.3.2, and 7.6.3.2 (The table in Section 4.6.3.2 was originally correct). However, it is not feasible to add a column containing NSWC basewide background concentrations, as recommended in Mr. Ramanauskas' response. This is because the background concentrations for NSWC Crane were determined for different soil types and this would be difficult to summarize in a single table. Therefore, the additional column has not been included in the tables.

SPECIFIC RFI COMMENTS

5. Section 2.6.2, Soil Sampling: The response appears to adequately address the original comment. For SWMU 4, NSWCrane has provided adequate discussion of, and references to, the additional soil sampling locations within the RFI Report. For SWMU 5, NSWCrane indicates that no additional samples were collected, based on field activities. However, it is suggested that the RFI Report be revised to indicate, as stated in the response, that "there was insufficient evidence of disposal activities to warrant sampling at the provisional locations."

Response to Specific Comment 5:

The following text has been added to the end of the first bullet of Section 5.2, Site Investigation in the RFI Report:

"As detailed in the final paragraph of Section 3.2.1 of the Field Sampling Plan located in Attachment A of the RFI Work Plan, potentially up to four additional soil sample locations were proposed for SWMU 5. This provisional soil sampling was proposed as a way to refine the northern boundary of the site based on a site reconnaissance. During the site reconnaissance there was insufficient evidence of disposal activities to warrant sampling at the provisional locations."

8. Section 4.2, Site Investigation: The response does not appear to adequately address the original comment. Regardless of whether groundwater data indicates the presence of explosives, there is documented explosives contamination in the soil at SWMU 4. If, as the Navy's response indicates, explosives were eliminated from further consideration as detailed in the third paragraph of RFI Work Plan Section 5.4.1., why are 2,4-dinitrotoluene and 2,6-dinitrotoluene identified as "Detected Chemicals of Interest" in Section 5.4.3. of the work plan from which a list of analytes was to be developed? U.S. EPA understands that the historical levels detected were well below PRGs for residential soils and were only detected in 1 of 9 sample locations at greater than 2 feet below ground surface. However, the results were above migration to groundwater screening values. Revise the RFI Report to provide rationale for why the Navy believes explosives are adequately delineated using additional information available from the Phase II Soils Release Assessment for McComish Gorge dated September 1998 and why they would not be expected to present a human health risk. U.S. EPA understands that risk concerns from groundwater at this SWMU will be addressed under the CMS.

Response to Specific Comment 8:

The Work Plan is correct as written and the analyses in question were conducted, but the results were inadvertently omitted from the report. The analyses for 2,4-dinitrotoluene and 2,6-dinitrotoluene in soils yielded no detectable concentrations of either compound. The missing data have been added to the Appendix Tables E-1-1 and E-1-2 of the RFI Report. Because the addition of this data to the appendix tables has no effect on COPC selection or other data interpretations, no other changes were made to the report.

9. Section 4.2, Site Investigation (Surface Water and Sediment): The response appears to adequately address the original comment. However, it is suggested that the RFI Report indicate that the sample was not located at the same location as proposed in the RFI Work Plan because "NSWCrane anticipated, based on the relatively small size of this area (less than 100 feet in diameter), that one sample located anywhere within the confines of the feature would yield representative results of the area of interest."

Response to Specific Comment 9:

The following text has been added to the end of the fourth bullet [beginning with "Surface water (5) and sediment (16)"] in Section 4.2:

"Based on the relatively small size of this area (less than 100 feet in diameter), one sample located anywhere within the confines of the feature would yield representative results of the area of interest. The field crew identified the actual sample locations and this field siting of the sample locations caused sample 04SW/SD04 to be shifted from the location depicted in the Work Plan. This slight shift in the sample location is within acceptable field approximation standards and the results obtained met the original intent of the sampling approach."

10. Section 4.4.3, Groundwater: The response appears to adequately address the original comment. Based on the information presented in Figure 4-5 of the RFI Report and based on the additional text added to the RFI Report, it appears that, at the time of the RFI investigation, monitoring well 04-01 was considered an appropriate upgradient location. It is suggested, however, that any future monitoring of the wells include an appropriate evaluation of the continued suitability of monitoring well 04-01 as an "upgradient" location.

Response to Specific Comment 10:

The Navy agrees with this comment; therefore, any future monitoring of the wells will consist of an appropriate reevaluation of the continued suitability of well 04-01 as an upgradient well. No changes have been made to the RFI Report regarding this comment.

SPECIFIC ECOLOGICAL RISK ASSESSMENT COMMENTS

23. Section 3.4.2.4.1, Assessment Endpoints: The response does not appear to adequately address the original comment. During the October 9, 2002 teleconference, it was agreed that food chain modeling for upper trophic receptors (i.e., hawk and fox) would be conducted in the SERA for persistent, bioaccumulative, and toxic (PBT) chemicals. However, it does not appear that this information has been provided in the response to comments. The discussion in Sections 4.7.7, 5.7.7, 6.7.7 and 7.7.7 does not provide the requested information. Revise the RFI Report to include food chain modeling for upper trophic level receptors.

Response to Specific Comment 23:

Although the Navy agreed to conduct food-chain modeling for upper trophic receptors (i.e., hawk and fox) in the October 9, 2002 teleconference, it was subsequently agreed in a November 15, 2002 phone call between TtNUS (Aaron Bernhardt) and TechLaw (Robyn Blackburn) that the Navy could provide a qualitative discussion of the potential risks to the carnivores in the ERA. U.S. EPA may then choose to conduct food-chain modeling if they determine that there is a need based on the presence of bioaccumulative chemicals. Also, in a phone call between TtNUS (Aaron Bernhardt) and TechLaw (Matt Lary) on August 20, 2003, TechLaw indicated that if there are no PBTs, or the PBT concentrations are less than the EDQL, then food-chain modeling to upper trophic level receptors is not necessary. Also, if the PBTs are detected infrequently or at low concentrations, then food-chain modeling to upper trophic level receptors may not be necessary. The sections added to the uncertainty analysis section for each of the SWMUs, as presented in the response to comments dated September 3, 2002, detail the reasons why food-chain modeling for upper trophic level receptors was not conducted for SWMUs 4, 5, 9, and 10. Therefore, food-chain modeling to upper trophic level receptors will not be conducted as part of the ERA and no additional changes will be made to the ERA based on this comment.

26. Section 4.7.5.1 Terrestrial Plants and Invertebrates: The response does not appear to adequately address the original comment. It is clearly understood that uncertainties are associated with the calculation of the ecological effects quotients (EEQs) for plants and soil invertebrates, and that ecological data quality levels (EDQLs) were used for the initial screening. However, EEQs based on alternative benchmarks were used in the assessment and should be provided for the plant and soil invertebrate endpoints. Any uncertainties associated with this

approach should be discussed in the Uncertainty Section. Revise the RFI Report to include the information requested.

Response to Specific Comment 26:

The maximum EEQs for each alternate benchmark will be added to the surface soil, sediment, and surface water alternate benchmark tables for SWMUs 4, 5, 9, and 10. Note that a surface soil alternate benchmark table was not prepared for SWMU 10 because energetics were the only chemicals retained as COPCs for plants and invertebrates and the toxicity data for those chemicals is better explained in the text versus a table.

The following text has been added as a second paragraph regarding uncertainties in using alternative benchmark guidelines in Sections 4.7.7.3, 5.7.7.3, 6.7.7.3, and 7.7.7.3, respectively for each SMWU.

"Several alternative benchmark values were used to gain a better understanding of the relationship between the maximum concentration values of the selected COPCs to the overall ecological assessment of the site. There is some uncertainty involved when using these alternative benchmarks. For example, the Canadian Soil Quality Guidelines, which are used as alternative benchmarks for both plants and invertebrates, are based on effects to either plants or invertebrates and thus, differentiation of risk to plants versus risk to invertebrates cannot be made using the Canadian guidelines. The endpoints for the Dutch values, which are also used as an alternative benchmark for both plants and invertebrates, are based on ecosystem risks. The ORNL values are separated into guidelines for plants and guidelines for invertebrates. However, the values are limited to only a few chemicals."

27. Section 4.8, Conclusions: The response appears to partially address the original comment. The revision of the discussions in Sections now numbered 4.7.6.1 through 4.7.6.4 do justify and enhance the discussion of the SERA. However, the risk characterization conclusions should include an overall picture of risk based on hazard identification, dose response and exposure characterizations. It is necessary to state how many EEQ exceedances occurred, for what areas and the size of those areas. While it is not intended that the Conclusions Section repeat all information provided in previous sections, justification should be provided for the conclusion reached. For example, if it is stated that risk is expected to be low for a certain receptor since the impacted area is small and there were only a small number of EEQ exceedances, then the size of the area and frequency of EEQ exceedances should be provided as rationale for the conclusion.

This is further supported by the document, Policy for Risk Characterization at the U.S. Environmental Protection Agency, March 1995 (available online at), which states "Risk characterization is the summarizing step of risk assessment. The risk characterization integrates information from the preceding components of the risk assessment and synthesizes an overall conclusion about risk that is complete, informative and useful for decision makers." Revise the RFI Report to include a complete Conclusions Section that provides information on both the final decision for the SWMU, along with clear rationale supporting that decision.

Response to Specific Comment 27:

Section 4.8, Conclusions, of the RFI Report has been extended to include a more defined overall picture of risk based on hazard identification, dose response, and exposure characterizations, including clarification of EEQ exceedences.

28. Section 5.8, Conclusions: The response appears to partially address the original comment. The revision of the discussions in Sections now numbered 5.7.6.1 through 5.7.6.4 do justify and enhance the discussion of the SERA. However, the risk characterization conclusions should include an overall picture of risk based on hazard identification, dose response and exposure characterizations. It is necessary to state how many EEQ exceedances occurred, for what areas

and the size of those areas. While it is not intended that the Conclusions Section repeat all information provided in previous sections, justification should be provided for the conclusion reached. For example, if it is stated that risk is expected to be low for a certain receptor since the impacted area is small and there were only a small number of EEQ exceedances, then the size of the area and frequency of EEQ exceedances should be provided as rationale for the conclusion.

This is further supported by the document, Policy for Risk Characterization at the U.S. Environmental Protection Agency, March 1995 (available online at [http://www.epa.gov/risk/policy/policy.htm](#)), which states "Risk characterization is the summarizing step of risk assessment. The risk characterization integrates information from the preceding components of the risk assessment and synthesizes an overall conclusion about risk that is complete, informative and useful for decision makers." Revise the RFI Report to include a complete Conclusions Section that provides information on both the final decision for the SWMU, along with clear rationale supporting that decision.

Response to Specific Comment 28:

Section 5.8, Conclusions, of the RFI Report has been extended to include a more defined overall picture of risk based on hazard identification, dose response, and exposure characterizations, including clarification of EEQ exceedances.

29. Section 6.8, Conclusion: The response appears to partially address the original comment. The revision of the discussions in Sections now numbered 6.7.6.1 through 6.7.6.4 do justify and enhance the discussion of the SERA. However, the risk characterization conclusions should include an overall picture of risk based on hazard identification, dose response and exposure characterizations. It is necessary to state how many EEQ exceedances occurred, for what areas and the size of those areas. While it is not intended that the Conclusions Section repeat all information provided in previous sections, justification should be provided for the conclusion reached. For example, if it is stated that risk is expected to be low for a certain receptor since the impacted area is small and there were only a small number of EEQ exceedances, then the size of the area and frequency of EEQ exceedances should be provided as rationale for the conclusion.

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Response to Specific Comment 29:

Section 6.8, Conclusions, of the RFI Report has been extended to include a more defined overall picture of risk based on hazard identification, dose response, and exposure characterizations, including clarification of EEQ exceedances.

30. Section 7.8 Conclusions: The response appears to partially address the original comment. The revision of the discussions in Sections now numbered 7.7.6.1 through 7.7.6.4 do justify and enhance the discussion of the SERA. However, the risk characterization conclusions should include an overall picture of risk based on hazard identification, dose response and exposure characterizations. It is necessary to state how many EEQ exceedances occurred, for what areas and the size of those areas. While it is not intended that the Conclusions Section repeat all information provided in previous sections, justification should be provided for the conclusion reached. For example, if it is stated that risk is expected to be low for a certain receptor since the impacted area is small and there were only a small number of EEQ exceedances, then the size of the area and frequency of EEQ exceedances should be provided as rationale for the conclusion.

This is further supported by the document, Policy for Risk Characterization at the U.S. Environmental Protection Agency, March 1995 (available online at [http://www.epa.gov/risk/policy.htm](#)), which states "Risk characterization is the summarizing step of risk assessment. The risk characterization integrates information from the preceding components of the risk assessment and synthesizes an overall conclusion about risk that is complete, informative and useful for decision makers." Revise the RFI Report to include a complete Conclusions Section that provides information on both the final decision for the SWMU, along with clear rationale supporting that decision.

Response to Specific Comment 30:

Section 7.8, Conclusions, of the RFI Report has been extended to include a more defined overall picture of risk based on hazard identification, dose response, and exposure characterizations, including clarification of EEQ exceedences.